Request For Proposal (RFP)

FOR

Selection of Service Provider for Supply, Commissioning & Maintenance of the Integrated Dashboard for Real Time Data Monitoring and Analytics of Emission, Ambient Air, Effluent and River Water Quality Monitoring in Punjab

RFP No. PSCST/EOI/010

(October, 2019)



Punjab State Council for Science & Technology

MGSIPA complex, Institutional Area, Sector-26, Chandigarh-160019

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SCHEDULE OF EVENTS

| Name of work | RFP for Selection of Service Provider for Supply, Commissioning & Maintenance of Integrated Dashboard for Real Time Data Monitoring and Analytics of Emission, Ambient Air, Effluent and River Water Quality Monitoring in Punjab |
|--|---|
| Date of Start of RFP document download | 25.10.2019 |
| Date of End of RFP document download | 07.11.2019 |
| Last date for receipt of requests for clarifications | 07.11.2019 |
| Pre –Bid meeting | 07.11.2019 1500 Hrs |
| Date of uploading of clarification on PSCST website | 09.11.2019 |
| Last Date & Time for receipt of Bids | 15.11.2019 1500 Hrs, |
| Time and Date of Opening of Technical Bids | 15.11.2019 1530 Hrs |
| Tender Document fee and Mode of payment | Through Demand Draft for an amount of Rs. 1500.00 from Nationalized bank in favour of "Punjab State Council for Science & Technology", payable at Chandigarh |
| Amount of EMD and Mode of payment | Rs. 2,00,000.00 (Rs. Two Lakhs only) in the form of DD from Nationalized bank in favour of "Punjab State Council for Science & Technology", payable at Chandigarh |
| Performance security(PBG) | 10% of the Project cost |
| Performance security validity period | One year from the date of submission or successful completion of the project, whichever is later. |
| Bid validity period | Minimum 120 days from the date of opening of bid |
| Project period | 60 days from Issue of LoI (Refer section 2.4) |
| Period of signing contract | Within 02 weeks from the date of dispatch of LoI. |
| Conditional Bids | Not acceptable and also liable for Forfeiture of the EMD. |

LIST OF ABBREVIATIONS

CPCB Central Pollution Control Board

PPCB Punjab Pollution Control Board

DECC Directorate of Environment and Climate Change

PSCST Punjab State Council for Science and Technology

RO Regional Office

PPCB, HO Head Office, PPCB

RFP Request for Proposal

OEM Original Equipment Manufacturer

PBG Performance Bank Guarantee

Lol Letter of Intent

SP Service Provider

SLA Service Level Agreement

DEFINITIONS

BID

The bids submitted by the prospective Bidders in response to this Request for Proposal Document issued by PSCST.

• BIDDER

Bidding Firm / Company that has submitted a Bid in response to this Request for Proposal Document.

• REQUEST FOR PROPOSAL

This Document being issued to the prospective Bidders, inviting their Bids.

• RESPONSIVE BIDDER

Responsive Bidder is the bidder whose bid is found responsive after evaluation of the Bid as outlined in Section 3.7.

1.0 INTRODUCTION

1.1 BACKGROUND

The Department of Environment & Climate Change (DECC) has prepared detailed Action Plans for clean air and clean rivers for its implementation in a time bound manner. One of the key challenges in ensuring clean air and clean water is the monitoring of the quality of air, quality of river waters and industrial and domestic effluents being treated at CETPs/ ETPs and STPs. The Action plan has envisaged installation of online continuous monitoring systems for air, water and waste apart from installation of CCTVs.

Whereas, the devices have been installed in various industries & treatment facilities and additional devices have been proposed/are under installation for real time monitoring of the air, quality of river water and industrial and domestic effluents being treated at CETPs/ETPs and STPs. There is a need for a unified interface to monitor the data from these devices for which IoT based environmental monitoring system need to be developed.

The monitoring of huge amount of data is extremely important for the management insights and identification of risks and behavior and can be extremely useful in making enforcement and regulatory policies, effective intervention and other enforcement related issues.

Punjab State Council for Science & Technology, under the aegis of Department of Science Technology & Environment, Punjab is facilitating Research and Innovation in the State. The Council is providing technical support for the implementation of action plans for control of air and water pollution in the State as well as waste management.

DECC has authorized Punjab State Council for Science & Technology (PSCST) as the implementation agency on its behalf. The NGT monitoring committee in its 5th meeting held on 23.07.2019 had approved the engagement of IT partner for development of Integrated Dashboard for Real Time Data Monitoring and Analytics of Ambient Air Quality, Emission, Effluent and River Water Quality Monitoring System.

1.2 THE PROPOSED ASSIGNMENT

PSCST proposes to develop Integrated Dashboard for Real Time Data Monitoring and Analytics of Ambient Air Quality, Emission, Effluent and River Water Quality Monitoring

System. The system will provide Data Analytics, Alerts, Dashboards and Customized Report Generation to monitor the pollution levels across state of Punjab. It is estimated that the system once commissioned, will be capable of monitoring approximately 5,000 devices (real time analyzers) from approximately 3000 industries, Ambient Air Monitoring Stations, Sewage treatment Plants, CETPs, River Water Quality Monitoring Stations besides Real time monitoring data from CCTVs being installed on STPs, CETPs, etc over the next 3 to 5 years to monitor air and water quality. This will involve continuous data collection from various devices remotely stationed in the industry and collection of the data at a central monitoring station at PSCST Office or any other location as directed. The software should have dashboard, alerting and reporting capabilities to suit regulatory requirements and necessary alert systems based on the selected user configurable thresholds for various pre-defined parameters (range of 3 to 16 parameters depending on the samples monitored). The real time data should be sampled minimum on a per minute basis but should have a user defined flexibility to change the sampling time-frame.

Currently, there are around 120 CEMS (Continuous Emission Monitoring Stations) already installed by Industries and the software should capture data from these CEMS as well. The data generated will be stored and archived at data center. However, the same should be made accessible to CPCB through valid controls and authorization.

The Intellectual Property Rights (IPR) of the software will be solely of PSCST and all the technical know-how, information, source code, data and any other information generated during development and implementation of the software will be permanent property of PSCST.

1.3 REQUEST FOR PROPOSAL

The Council invites proposal for Selection of Service Provider who shall undertake scope of work in conformity with the RFP.

1.4 VALIDITY OF PROPOSAL

The proposal shall be valid for a period of not less than 120 days from the proposal due date.

1.5 **COMMUNICATIONS**

All communications including the submission of proposal should be addressed to:

Senior Engineer

Punjab State Council for Science & Technology, MGSIPA Complex, Sector-26,

Chandigarh-160019

The official website of the Council is www.pscst.gov.in from which the copy of RFP can be downloaded by due date.

1.6 **SCHEDULE OF ACTIVITIES**

| Sr. | ACTIVITY | Date |
|-----|--|---|
| No. | | |
| 1 | Date of Start of RFP document download | 25.10.2019 |
| 2 | Date of End of RFP document download | 07.11.2019 |
| 3 | Last date for receipt of requests for clarifications | 07.11.2019 |
| 4 | Pre-bid meeting | 07.11.2019, 1500 Hrs |
| 5 | Date of uploading of clarification on PSCST website | 07.11.2019 |
| 6 | Last date & time for receipt of Bids | 15.11.2019, 1500 Hrs |
| 7 | Time and Date of Opening of Technical Bids | 15.11.2019, 1530 Hrs |
| 8 | Presentation by the bidders on their project implementation and support methodology with proposed schedule of activities | To be communicated to the bidders, separately |

In order to enable PSCST to meet the target dates, Bidders are expected to respond expeditiously to clarifications, if any, requested during the evaluation process. PSCST shall adhere to the above schedule to the extent possible. PSCST, however, reserves the right to modify the same. Intimation to this effect shall be given to all Bidders.

2.0 DETAILS OF PROPOSED ASSIGNMENT

2.1 **OBJECTIVE OF THE RFP**

- (i) To establish a real time online monitoring dashboard system for monitoring the Effluent, Emission, Ambient air and River water quality parameters from various industries and public locations located across Punjab.
- (ii) To acquire accurate and high integrity real time measurements of the effluent, emission, Ambient air and River water quality parameters directly from the analyzers installed at the industry site and public locations without any intermediate conversions, logics or changes.
- (iii) To detect exceedance of monitored parameters for the prescribed standards and provide real time alerts on the same.
- (iv) To provide a multi-client open architecture platform that supports any analyzer (make and model) and on a single integrated Central database system which supports all type of communication between the industry and the regulator.
- (v) To provide a unified web based access controlled platform accessible over the web.

2.2 **SCOPE OF WORK**

2.2.1 General

- (i) The basic requirement is for establishing continuous online monitoring systems is to have a universal format of connectivity that can accept real time data from any installed analyzers (make or model) in the industry. Industry should be able to choose any analyzer make and model that is as per the Central Pollution Control Board guidelines for monitoring the River water quality, effluent, ambient and emission parameters, the existing investment in the equipment by the industry can be utilized.
- (ii) The system should be a highly scalable Internet of Things based system where the data acquisition software resides in Data logger devices installed in the industry site & public locations and the central software resides at the central location in the datacenter
- (iii) Provide a highly scalable system that can connect more than 3000 industries simultaneously in real time, besides data from other sources with a non-

- proprietary highly scalable backend database suitable for storing Time Series Data.
- (iv) The system should support multiple client software that are found suitable to the requirement and approved by PSCST, which can send data to the central server.
- (v) The central server software should expose authenticated Representational State Transfer (REST) based Application Programming Interface (API) for client software to transmit the data.
- (vi) The client data acquisition software should NOT be restricted to the requirement of static IP and should be able to connect to the server based on the exposed API.
- (vii) During collection and transmission, the platform should utilize digital encrypted communication (RSA/AES) to ensure authentic data is received and data origination location (GPS coordinates) and source signature are also verified by the software.
- (viii) The client data acquisition software should be able to transmit the data to server using minimal bandwidth (as low as 100 KBps) using existing site Broadband LAN/GPRS/GSM/LoRaWAN based connectivity.
- (ix) The software should provide reporting capabilities to display trend graphs, configurable alerts, tabular data, charts, wind-rose chart and data validation interface.
- (x) The software should provide two-way communication and have the ability to capture and display internal registers / protocols of the field instruments.
- (xi) The software should be capable of providing remote calibration of field instruments as per CPCB Guidelines
- (xii) The software application should have inbuilt ability to view the IP Camera (ONVIF compliant, 10x zoom, night vision, PTZ) without any kind of browser plug-in or Desktop software
- (xiii) The software should be able to control the IP camera and use the PAN, TILT and ZOOM functionality without any kind of plug-in for all ONVIF profile S compliant cameras.
- (xiv) The software should provide the ability to annotate the validated data with the industry comments and data quality codes. The annotations should be visible while viewing the data in the charts.

- (xv) The software also should provide ability to develop custom made ondemand reports with capabilities to export the data into PDF, CSV and Excel formats. The reports developed should be printable on any of the standard printers.
- (xvi) Entire Source code of the software should be provided to the PSCST and the PSCST should have the ability to review any specific module to validate the business logic and the data handling process. Strictly "NO" propriety software or code is allowed. The application source code including the real time data captured, processed and stored will remain the property of PSCST at all times.
- (xvii) The ability to generate the encryption keys for the Client Data Acquisition Software should be provided to the PSCST, so that the board can provide authorized keys to the individual sites for secured data transmission. There should not be any financial implication to PSCST for generation of such keys and it should be a software feature.
- (xviii) Publishing of data shall be at the PSCST end and should have necessary components inbuilt in the system to publish valid data only.
- (xix) Should have provision to share the database with the CPCB server database as and when required.
- (xx) The platform should support advanced Analytics on air modeling and be able to generate the following reports by default on the platform
 - a) Percentile Rose
 - b) Summary Profile
 - c) Quartile Analysis Report

2.2.2 Client Data Acquisition Software Requirements

Data Collection and Transmission Module

(i) The data collection and transmission module should directly connect to the installed analyzer and fetch the data directly from the analyzer without any intermediary software or conversions and without any PC or server. The software should have no editing provision for altering / correcting the data at the industry side.

- (ii) No data shall be accepted as an output from OPC of Server or DCS or any other intermediate software at Industry side.
- (iii) The data collection and transmission module should encrypt the data with unique client specific encryption key (industry provided) to ensure authentic data transfer from the industry to the central server. Only encrypted and authenticated data shall be received by the Central Server Module.
- (iv) During internet connectivity failure or a communication issue with the central server, the data collection and transmission module should store the encrypted data locally for minimum 3 months and retransmit when the transmission can be restored. Any such delayed transmission should be identifiable at the regulator side using data quality codes.
- (v) The data collection and transmission module should wait for acknowledgement from the server and should retransmit the data if no acknowledgement is received within the timeout period of ONE (1) minute.
- (vi) The data collection and transmission module should support remote analyzer configuration. The data collection and transmission module should accept remote analyzer configuration commands and update the analyzer configurations with the set value.
- (vii) Each measurement should be associated with the data quality code inferred while data collection and the data quality code should be transmitted along with the data. The data quality code should indicate analyzer failures, analyzer communication failures etc.
- (viii) Software should support reading analyzer configuration and report the configuration changes to the central server. Any configuration changes done at the site should have audit trail and reported to the regulator for approval in the form of workflow.
- (ix) The data collection and transmission module should accept commands for calibration (auto and manual) and able to perform calibration of the analyzer locally.
- (x) The data collection and transmission module should be able to collect the data directly from the analyzer with a minimum scan interval of 10 seconds.

- (xi) Data collection and transmission shall be minimum 1 minute or other mean average period selectable by user.
- (xii) The data collection and acquisition software should collect and encrypt the data locally on the industry site.
- (xiii) The data collection and transmission module should communicate the status every 1 minute to the central server even when no analyzer is connected or when analyzer is faulty with appropriate data quality code.
- (xiv) The data collection and transmission module should auto-restart on failure or on machine reboots.
- (xv) The data collection and transmission module should be able to transmit the data over Broadband /LAN /Wi-Fi /GPRS/ GSM/LoRa WANetc.
- (xvi) The data collection and transmission module should support any analyzer, make and model based on the configuration and protocol specific extensions.
- (xvii) The data collection and transmission module should be customizable to support any specific protocol required.
- (xviii) Data collection and transmission module should be able to support protocol extension hooks and API.
- (xix) The Central Server should publish an open Application Programming Interface (API) to support different client side software. Any vendor supplying the data collection and transmission module should comply with the API. The client side software requirement shall be demonstrated at PSCST. Data transmitted only from such demonstrated and proven client software will be accepted by the Central Server Module.

2.2.3 Central Server Software Requirements

PSCST side software

- (i) The Central Server Module should provide backend processing services for transmitted data and a highly scalable backend database capable of storing timeseries data acquired from the industry site.
- (ii) The database should be able to support data storage and query for 15 years of data collected from all the industry sites with minimum of 1-minute interval.
- (iii) The database should be scalable to support 5,000+ concurrent connections and should be able to store and process more than 100 Terabyte of data.

- (iv) The Central Server Module should have pre-configured threshold limits for the various monitored parameters based on the industry type as per the Central Pollution Control Board directives for each of the industry types.
- (v) The Central Server Module should support remote configuration of the industry site parameters from the PSCST.
- (vi) The Central Server Module should generate automated alarms and alerts based on parameter exceedance, data connectivity failure, analyzer failures, etc.
- (vii) The Central Server Module should be able to identify delayed data published from the industry site due to network connectivity failures and mark those data separately from the live connected data.
- (viii) The Central Server Module should be able to send pre-configured template based SMS and Emails for alerts and alarms generated based on the configured rules. This feature should be a built- in capability of the Central Server Module and not external application software.
- (ix) The Central Server Module should have facility to transfer data to other server at DECC/PPCB end at periodic interval for data backup and recovery requirements.
- (x) The Central Server Module should be able to generate report on alarms/events and exceedance with industry wise consolidation and period wise say weekly, monthly, annually etc.
- (xi) The Central Server Module should provide automatic notification to the industry site and PSCST inbox for all new notifications and action items like fixing communication issues, analyzer problems etc.
- (xii) The Central Server Module should be able to support data encryption and security at the server side. The data received from the site should be decrypted and data authenticity ensured.
- (xiii) The Central Server Module should be able to collect data from the industry sites even when one of the central server is down and thus provide redundancy.
- (xiv) The Central Server Module should be able to identify which client software and version send for specific data and capture the IP address from which the data was sent for audit purposes.

- (xv) The central server module should be available 24/7 for 365 days for data collection. The system should provide automated redundancy so that industry site should be able to continuously send the data.
- (xvi) The Central Server Module should support data export and data receipt in ISO 7168 format.
- (xvii) The Vendor should provide the central server software. The Central Server Software should be a web based system that will do all the data processing and storage management.
- (xviii) Database specification for Regulator side software:

| S. No | Specifications | |
|----------|------------------------|--|
| 1 | Software | Highly scalable database capable of storing time- series data like Kiaros (Cassandra), Open TSDB (Hbase), Influxdb or similar. |
| 2 | Storage | Minimum 100 TB |
| 3 | Concurrent connections | Support minimum of 5,000 concurrent corrections |
| 4 | Availability | High availability with 99.95% availability |
| 5 | Latency | < 5 seconds for standard site specific query |

2.2.4 **Dashboard Interface Requirement:**

a) General Requirements:

- (i) To view, generate default report, analyze the collected data and collaborate with industry for various exceedance and failures.
- (ii) The **Dashboard Interface** Module should provide a User Interface presented in the browser should be very user friendly and intuitive following the best practices in web based user interface design.
- (iii) The User Interface should be supported on major browsers like Internet Explorer, FireFox, Chrome, Safari etc. The user interface should support rendering on a Tablet, smart phones which supports these browsers.

b) Configuration Management

- (i) The Dashboard Interface module should provide the user interface to configure the site, monitoring station, analyzers, calibrator and measured parameters. The detail screens for site configuration, monitoring station configuration, analyzer configuration and parameter configuration should be available.
- (ii) The Dashboard Interface module should have list of supported analyzers make and model for the major analyzers used in the Industry.
- (iii) The Dashboard Interface module should support grouping of industry sites, industries across geographic dimensions like District, City, etc. and other custom attributes (like industry type) selected by the regulator.
- (iv) The Dashboard Interface module should allow configuration of analyzer parameters, channels etc. for a particular site.

c) Alerts and Alarms

- (i) The Dashboard Interface module should provide an interface to view and list all alarms and alerts. There should be a filter to view only new alerts and alarms.
- (ii) The Dashboard Interface module should provide an interface to acknowledge the alarms and alerts to industry and regulator. Once acknowledged, the alarms and alerts should disappear from the list.

d) Remote Calibration

- (i) The Dashboard Interface module should support configuration of remote calibration of the analyzer
- (ii) The Dashboard Interface module should have the ability to provide the various manual/online calibration sequences, schedules for remote calibration and reports.
- (iii) The Dashboard Interface module should support calendar view of all the automated calibration schedule and sequence.

e) **Security**

(i) The Dashboard Interface module should have facility for role based access to data for different roles as assigned in the system.

- (ii) Each industry should be able to view and generate default reports for the data generated for their industries based on the access provided.
- (iii) The Dashboard Interface module should support configurable user authentication
- (iv) Levels to support different roles for Head office, Region offices and industry site access
- (v) The Dashboard Interface module should support creating and managing new users and their access levels.

f) Data Validation

- (i) The Dashboard Interface module should provide user interface for data validation and approval. The regulator should be able to select a particular time range and approve/reject the data with proper comments.
- (ii) The Dashboard Interface module should support manual and automated data validation and approval workflow to review the various industry site data and approve by providing appropriate comments based on the data quality.
- (iii) The Dashboard Interface module should provide ability to annotate the data with the specific events/comments provided by the industry such as maintenance schedules, breakdown, analyzer fault etc.
- (iv) Open API should support ISO 7168 Format.

g) Collaboration and Workflow

- (i) The software should support Collaboration between the industry site and regulator by providing a built in workflow feature and an inbox feature. This feature should be a built-in functionality of the central server module and the web interface module and not additional software running separately to ensure that there is integration with the reporting module.
- (ii) Whenever there is any exceedance or analyzer failure or analyzer connectivity failure, an action item should be generated in the industry site inbox. The industry site personnel should be able to update with the corrective actions and comments. These comments/reasons should show upon the graphs when the data for that particular period is viewed.

- (iii) Industry site should be able to inform the regulator of different maintenance events (site maintenance, site breakdown, analyzer breakdown etc.) using workflow feature of the Dashboard Interface Module.
- (iv) The system should automatically generate events and inbox messages based on the exceedance thresholds and alerts configured.
- (v) The system should provide the history of communication between the industry site personnel and the regulator for specific events/workflows.
- (vi) The various events like communication failures, analyzer failures, exceedance etc. and corresponding reasons should be available for reporting. There should be standard reports for viewing industry level statistics for communication failures, analyzer failures, power failure, exceedances etc.

h) Reports

- (i) The Dashboard Interface module should support standard reports for each industry site based on the exceedance threshold, hourly average, and monthly average etc.
- (ii) The Dashboard Interface module should have both default reports and also reports generatable by the end user as per requirements.
- (iii) The Dashboard Interface module should be able to support different data quality code and report data based on representativeness and data quality. Statistical significance of data should be reportable in respect to data density.
- (iv) The Dashboard Interface module should generate report on approved and validated data. There should also be a capability to see the raw data collected from industry site within the reports.
- (v) The Dashboard Interface module should be able to generate wind rose and pollution rose based on the wind data collected from the various sites.
- (vi) Grouping area wise Industries and selecting one meteorological station in that group should generate reports of pollution rose and wind rose details.
- (vii) The Dashboard Interface module should have capability to compare, group sector wise industries, analyzers and generate report (text, numeric and graphical).
- (viii) The Dashboard Interface module should support ability to export the reports data to csv, pdf and text file as and when required.

- (ix) The Dashboard Interface module should have provisions to accommodate printers of different model and make.
- (x) The Dashboard Interface module should support ability to develop custom reports by the regulator based on the data analysis requirements. The report generated should be both graphical and tabular form.
- (xi) The software should be able to select the data quality code, the data representativeness, the time window and the site specific parameters for generating reports.
- (xii) The Dashboard Interface module should provide daily status of each industry site and provide metrics on data quality and representativeness.
- (xiii) The Dashboard Interface module should provide ability to generate custom reports.
- (xiv) Report should be able to calculate differential data from two parameter reading and show the trend of differential data. This feature is required for temperature difference measurements and alerting.
- (xv) Should have feature to make calculations on raw data obtained from analyzer and generate alerts and reports.
- (xvi) The Dashboard interface module should provide custom reporting capabilities to support regulator's present and for future requirements.
- (xvii) The reports should have the capability to show both raw data and approved/validated data.
- (xviii) There should be a provision to create custom charts from the Dashboard Interface Module. There should be a support to add new charts and dashboards as per the requirements.
- (xix) Should provide optional features such as to connect the data to display board of the Industry for public display.

i) Live Status

(i) The Dashboard Interface module should support real time view of the data from all the industry sites for all the parameters configured for monitoring.

- (ii) The Dashboard Interface module should support geo-location of the industry using specific latitude longitude or as per cartographic coordinates overlay on a map and present information of industry, parameters connected and present value either graphically or numerically display.
- (iii) The software should be able to show the status of each of the sites in a geographic map and should show alerts and alarms based on system failures and parameter exceedance.

2.3 **CLIENT RESPONSIBILITIES**

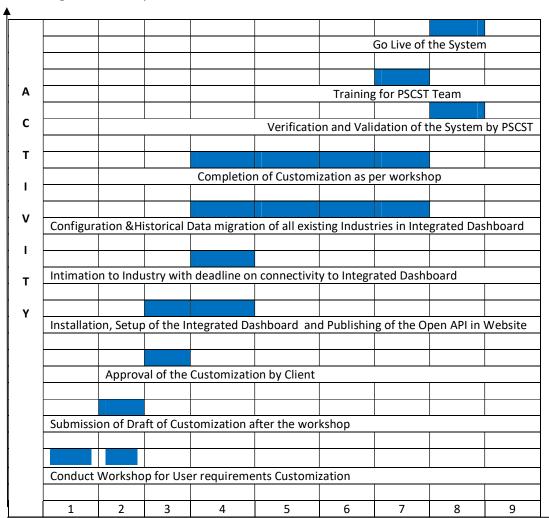
Client will provide the following infrastructure to the selected successful Bidder:

- (i) Server Hardware to host the software. PSCST will provide the virtualized environment in state hosted datacenter either physically or on cloud.
- (ii) 20 Mbps Bandwidth as available currently with PSCST.

2.4 **EXECUTION TIMEFRAME**

The Service Provider will be given a period of sixty days from the date of LoI for completion of the project.

The following is the work plan that needs to be adhered to:



TIME FRAME (In Weeks)

3.0 INSTRUCTIONS TO APPLICANTS

3.1 **GENERAL**

All Bidders should note the following:

- (i) Bids received after the scheduled time will not be accepted by PSCST under any circumstances. PSCST will not be responsible for any delay for any reason whatsoever.
- (ii) Bid once submitted will be treated, as final and no further correspondence will be entertained on this. No Bids will be modified after the deadline for submission of Bids.
- (iii) Bids that are incomplete in any respect or those that are not consistent with the requirements as specified in this Request for Proposal or those that do not contain the Covering Letter and other documentation as per the specified formats may be considered non-responsive and may be liable for rejection.
- (iv) Strict adherence to formats, wherever specified, is required. Non-adherence to formats may be a ground for declaring the Bid non-responsive.
- (v) All communication and information should be provided in writing and in the English language only.
- (vi) The metric system shall be followed for units.
- (vii) The price quotations for the bid should be denominated in Indian Rupees.
- (viii) All communication and information provided should be legible, and wherever the information is given in figures, the same should also be mentioned in words.
- (ix) Arithmetical errors will be rectified as follows -
 - (a) If there is a discrepancy between the unit price and the total price that is obtained by multiplying quantities, the unit price will prevail.
 - (b) In case of discrepancy between grand total obtained by adding various line item totals & the grand amount stated in words, the grand total will be recalculated and the same will be taken as correct.
 - (c) The price bid will be treated as inconsistent & non-responsive, in case if more than one type of discrepancy is observed in the price bid. Such price

- bid/s will be rejected summarily and considered as intentional misrepresentation and the EMD will be forfeited.
- (x) PSCST reserves the right to seek additional information from the Bidders, if found necessary, during the course of evaluation of the Bid. Non-submission, incomplete submission or delayed submission of such additional information or clarifications sought by PSCST, may be a ground for rejecting the Bid.
- (xi) The Bids shall be evaluated as per the criteria specified in this RFP Document. However, within the broad framework of the evaluation parameters as stated in this Request for Proposal, PSCST reserves the right to make modifications to the stated evaluation criteria, which would be uniformly applied across all the Bidders.
- (xii) The Bidder should designate one person ("Contact Person" and "Authorized Representative and Signatory") authorized to represent the Bidder in its dealings with PSCST. The Acknowledgement of Receipt of Request for Proposal Document shall be signed by the "Contact Person" and "Authorized Representative and Signatory". This designated person should hold the Power of Attorney and be authorized to perform all tasks including but not limited to providing information, responding to enquiries, entering into contractual commitments on behalf of the Bidder etc. The Covering Letter submitted by the Bidder shall be signed by the Authorized Signatory and shall bear the stamp of the entity thereof.
- (xiii) The Bid (and any additional information requested subsequently) shall also bear the initials of the Authorized Signatory and stamp of the entity thereof on each page of the Bid.
- (xiv) PSCST reserves the right to reject any or all of the Bids without assigning any reason whatsoever
- (xv) Conditional bids may be summarily rejected.
- (xvi) Mere submission of information does not entitle the Bidder to meet an eligibility criterion. PSCST reserves the right to vet and verify any or all information submitted by the Bidder.
- (xvii) If any claim made or information provided by the Bidder in the Bid or any information provided by the Bidder in response to any subsequent query by PSCST, is found to be incorrect or is a material misrepresentation of facts, then the Bid will be liable for rejection and the Bid Security will be forfeited. Mere

- clerical errors or bonafide mistakes may be treated as an exception at the sole discretion of PSCST and if PSCST is adequately satisfied.
- (xviii) The Bidder shall be responsible for all the costs associated with the preparation of the Bid. PSCST shall not be responsible in any way for such costs, regardless of the conduct or outcome of this process.
- (xix) PSCST may, at its discretion, extend this deadline for submission of Bids by amending the RFP which will be intimated through PSCST website, in which case all rights and obligations of PSCST and bidder will thereafter be subject to the deadline as extended.
- (xx) Bids received from the bidders will be considered as deemed acceptance by the bidder of all the terms, conditions, scope and formats mentioned in the RFP. clarifications, suggestions, if any, should be sought / given during the pre-bid meeting.

3.2 PREPARATION AND SUBMISSION OF BIDS

- (i) Each bidder shall submit offer in three sealed envelopes A, B and C.
- (ii) All the three envelopes should be enclosed in a single outer envelope and submitted, at the address stated in the Schedule of events, superscribed as "RFP for Selection of Service Provider for Supply, Commissioning & Maintenance of the Integrated Dashboard for Real Time Data Monitoring and Analytics of Emission, Ambient Air, Effluent and River Water Quality Monitoring in Punjab" NOT TO BE OPENED BEFORE THE DUE DATE ON 15.11.2019 at 3.30 p.m.
- (iii) The envelope "A" shall contain earnest money and tender document fee. The envelope "A" shall be opened on 15.11.2019 at 3.30 pm in the presence of the bidders or their authorized representatives. Insufficient amount furnished as earnest money and tender document fee shall make the offer liable for rejection.
- (iv) The Envelop "B" shall contain all relevant technical documents as mentioned at Annexure II X. Non- submission of any of the documents may lead to rejection of the Bid / offers. Envelope "B" shall be opened only of those bidders who have submitted EMD and tender document fee of valid/specified amount. The envelope "B" shall be opened on 15.11.2019 at 3.30 pm.
- (v) Offers received in due time shall be evaluated technically by technical committee constituted by the Competent Authority, Punjab State Council for Science &

- Technology (PSCST). The Committee may invite the bidders for the demonstration of their capability, pertaining to software requirement, on a specified day.
- (vi) The envelope "C" shall contain financial offer as per format mentioned at Annexure XI –XII. The envelope "C' shall be opened only of those bidders who will be found suitable and recommended by the technical committee.

3.3 CRITERIA FOR MINIMUM ELIGIBILITY AND BID RESPONSIVENESS:

The Bidder should submit the EMD as stipulated in section 3.2. The Bidder shall fulfill the following Minimum Eligibility Criteria to participate in the bidding process.

| S. No. | Pre-Qualification Criteria Description | Supporting Documents to be submitted by the service providers |
|-----------|--|--|
| 1. | Legal Entity: Service provider must have registration under companies Act, 1956 and also registered with the Goods & Service Tax authorities and must have completed 5 years of existence as on Bid calling date. | Service provider should submit the following: a) RoC. b) Copy of GST registration Certificate. |
| 2. | Turnover: a. The Service Provider should have a minimum turnover of Rs. 10.00 crores from IT based project with Software Application Development and Maintenance, Real Time Data Analysis Tools during any of the last 3 financial year 2016-17, 2017-18 and 2018-19 or Cumulative turn-over should be at least 30 Crores during the last 3 financial year. | Service provider should submit any of the following: a) Copies of Certified audited Balance sheet / Profit & Loss statement of the company for the last 3 years |
| | b. Service provider should have positive net profit after tax during each of the last three financial years namely 2016-17, 2017-18 and 2018-19. Note: Turnover in areas other than mentioned above shall not be considered for evaluation | Service provider should submit any of the following: Copies of Certified audited Balance sheet / Profit & Loss statement of the company for the last 3 years |

| 3. | Relevant Past Experience | Service provider should |
|----|---|--|
| | The Service provider should have similar experience in Supply & maintenance of Environment Related Central Software and | submit the following: a) Copies of Work orders. |
| | Dashboards in Central Govt. Dept /State Govt Dept/ PSUs. The service provider should have implemented at least 1 relevant project worth Rs. 10 lakhs or above or two projects worth Rs. 5 lakhs or above. Copies of work orders claiming expertise in above areas (Work orders in the last 2 financial years i.e. 2017-18 and 2018-19) in support of claim. | b) Copies of Performance Certificates about successful completion/ operation of the system |
| 4. | The Bidder should be ISO 9001 certified for quality of development of data related software. | Copies of the Certificates to be enclosed |
| | The Bidder should have ISO 27001 certification for Information Security Management | |
| 5. | Manpower Deployment The Service provider should have minimum 40 IT Professionals as full time employee on last date | Service provider should furnish the PF Statement of the company for the last 1 year |
| | of submission of bid. For this purpose, the term 'IT professional' means a person with a graduate degree or a higher qualification in Electronics/ Computer/ IT from a recognized university employed by the company. | Service provider should submit the self- certification by the authorized signatory along with CVs of the professionals. |
| 6. | Blacklist The Service provider should have no record of being blacklisted by any Central/state Government, Ministry or Agency for breach of Contractual Conditions | Service provider should submit Self declaration that the service provider is not black listed and is not in any legal disputes |
| 7 | The service provider should also not be entangled in any legal disputes with any Govt. / PSU body | Self-Declaration Certificate to be enclosed in the bid duly signed by the authorized signatory on its company letter head. |

| 8. | The service provider should have prior experience working on highly scalable large scale databases suited for storing time-series data | Service provider should provide credentials for handling large volume data and data security by providing correspond work orders |
|-----|--|---|
| 9. | The service provider should have experience in hosting the services at NIC domain or any of the State data center or PSU data center with approved security audit report | Service Provider should provide details of the application hosted and security audit certification or no vulnerability clearance. |
| 10. | The service provider should have experience in developing Mobile application development and should have deployed at least 2 Mobile Application in Play store and iOS App Store for Central Govt. Dept /State Govt Dept/ PSUs. | Service provider should submit the details of the mobile application and proof of production usage |

3.4 **TECHNICAL BID – Envelope 'B'**

- (i) The technical bid should be in line with the requirements of PSCST as in Annexure II –X along with other requisite documents as per eligibility criteria as mentioned in section 3.3 and 4.3.
- (ii) The bid should explain proposed execution plan for undertaking the project as envisaged in the RFP document.
- (iii) The bid should also explain the manpower resources deployment plan, with candidates proposed. Proposed organization structure for the execution and support with escalation matrix needs to be given. CVs of the candidates for various roles should be given.
- (iv) The bid should have all relevant testimonials, so as to ensure they score maximum marks under the evaluation system defined in section 4.3.

3.5 **INFORMATION FORMATS**

Bidders are required to submit documents as per the following checklist -

| | Compliance to Minimum Eligibility Criteria and Technical Bid |
|--------------|--|
| Envelope 'A' | a) Covering Letter as per the format specified in Annexure -I. |

| | b) EMD as per section 3.2 | | |
|--------------|---|--|--|
| | c) Tender Document Fee as per schedule of events | | |
| | d) Attested copy of Power of Attorney. | | |
| Envelope 'B' | a) Covering Letter as per the format specified in Annexure -II. | | |
| Liivelope B | b) Documentary Proofs as testimony for Evaluation of Technical bids as per criteria listed in Section 3.3 and 4.3. | | |
| | c) Technical proposal highlighting: | | |
| | i. Company profile. | | |
| | ii. Proposed execution plan to undertake the assignment | | |
| | iii. Resources proposed to be deployed for PSCST with their skill sets and deployment plan (roles) for PSCST. CVs are to be attached. | | |
| | iv. Samples of templates to be used for reporting. | | |

3.6 FORMAT AND SIGNING OF PROPOSAL

- (i) The applicant shall provide all the information sought under this RFP. The Council would evaluate only those proposals that are received in the specified forms and complete in all respects.
- (ii) The proposal shall be typed or written indelible ink and signed by the authorized signatory of the applicant who shall initial each page, in blue ink. All the alterations, omissions, additions or any other amendments made to the proposal shall be initialed by the person(s) signing the proposal.

3.7 **RESPONSIVENESS OF BID**

The Bids submitted by Bidders shall be initially scrutinized to establish "Responsiveness". A Bid may be deemed "Non-responsive" if it does not satisfy any of the following conditions:

- (i) It is not received by the due time & date specified in the schedule of events. PSCST shall not be responsible for any delay in submission of the bids. The bids received after the due date for submission will not be opened.
- (ii) If valid EMD as stipulated in the RFP is not received by PSCST.
- (iii) It does not include sufficient information for it to be evaluated and/or is not in the formats specified.

- (iv) It is not signed and / or sealed in the manner and to the extent indicated in Section 3.6 of this RFP Document.
- (v) It does not conform to the terms and conditions mentioned in the RFP.

3.8 **ENQUIRIES & CLARIFICATIONS**

Enquiries, if any, should be addressed to:

Senior Engineer

Punjab State Council for Science & Technology, MGSIPA Complex, Sector 26, Chandigarh - 160019 Ph: 0172-2793300; pritpal.singh8@punjab.govt.in

All queries that are received on or before the date mentioned in schedule of events shall be addressed by PSCST in writing. PSCST shall aggregate all such queries, without specifying the source and shall prepare a response, which shall be uploaded on the website www.pscst.gov.in by the scheduled date as mentioned at page 6 of this document.

Request for clarifications received after the last date mentioned in schedule of events, will not be addressed. Decision of PSCST in the matter will be final. The prospective Bidders shall submit the queries only in the format given below:

| Sr. No | RFP Page No | RFP Clause No | Description in RFP | Clarification Sought | Additional Remarks (if any) |
|-----------|-------------|------------------|-----------------------|-------------------------|-----------------------------------|
| | | | | | |
| | | | | | |

3.9 **VALIDITY OF THE PRICE BID**

Each Bid shall indicate that it is a firm and irrevocable offer, and shall remain valid and open for a period of not less than 120 days.

Non-adherence to this requirement and other terms stipulated in the RFP document may be a ground for declaring the Bid as non-responsive. However, PSCST may solicit the Bidder's consent for extension of the period of validity if the Bidder agrees to reasonably consider such a request. The request and response shall be in writing. A Bidder accepting PSCST's request for extension of validity shall not be permitted to modify his Bid in any other respect.

3.10 FEES AND DEPOSITS TO BE PAID BY THE BIDDERS

(i) Fees for Request for Proposal (RFP) document

The bidder is required to submit bid document fee of Rs. 1500/- along with Earnest money as mentioned in Schedule of events.

(ii) Earnest Money Deposit (EMD)

Earnest Money deposit (EMD) for an amount of Rs. 2,00,000.00 (Rupees Two Lakh Only) to be submitted in the form of DD to PSCST, payable at Chandigarh. Bids of the bidders, who have not paid the EMD as stipulated in this RFP, will be rejected by PSCST as non-responsive. No exemptions to this clause will be allowed.

PSCST shall reserve the right to forfeit the Bidder's EMD under the following circumstances:

- (a) If the Bidder withdraws his Bid at any time during the stipulated period of Bid validity as per Section 3.9 (or as may be extended).
- (b) If the Bidder, for the period of Bid validity:
 - i. In PSCST's opinion, commits a material breach of any of the terms and/or conditions contained in the RFP Document and/or subsequent communication from PSCST in this regard and/or
 - ii. Fails or refuses to execute the LoI (in the event of the award of the Project to it) and/or
 - iii. Fails or refuses to furnish the Service Performance Guarantee within the stipulated time.
- (c) Any claim made or information provided by the Bidder in the Bid or any information provided by the Bidder in response to any subsequent query by PSCST, is found to be incorrect or is a material misrepresentation of facts.
- (d) In the event that any Bid is non-responsive or rejected after technical evaluation, the EMD of such Bidders shall be refunded.
- (e) The EMD of the successful Bidder will be returned only on submission of PBG that Successful Bidder will provide at the time of signing Order acceptance & the SLA.
- (f) EMD of the unsuccessful bidders will be returned after 60 days of award of contract.

4.0 EVALUATION PROCESS

The Bids of Responsive Bidders shall be evaluated in the following two steps:

4.1 STEP 1 – Technical Bid Evaluation (Envelope 'A' & Envelope 'B')

Envelope 'B' shall be opened only of those bidders who have submitted EMD and tender document fee of valid/specified amount. PSCST will evaluate the information submitted by the Bidder in Envelope 'B' of the Bid. Bids of only the responsive Bidders shall be considered for the subsequent technical evaluation. The evaluation criteria for assessment of the Technical Bid are described in Section-4.3. Bids shall be evaluated technically by technical committee constituted by the Competent Authority, PSCST. The Committee may invite the bidders for the demonstration of their capability, pertaining to software requirement, on a specified day.

4.2 STEP 2 – Price Bid Evaluation (Envelope 'C')

PSCST will only open Envelope 'C' of the Bid, viz: the Price Bid of those bidders who will be found suitable and recommended by the technical committee. The evaluation criteria for assessment of the Price Bid are described in Section - 4.5. The format for the Price Bid is specified in Annexure – XII.

A ranked list of Bidders based on the results of the evaluation, as detailed in Section - 4.5.3 of this Document, would be presented. The top ranked Bidder will be designated the Successful Bidder. PSCST is not bound to award a LoI to the lowest price bidder.

4.3 TECHNICAL BID EVALUATION CRITERIA & PROCESS

The Bidder shall necessarily submit Envelope B of the Bid Document, the Technical Bid detailing his credentials for executing this project and the highlights of the services proposed with respect to scope of work defined in the Bid Document and the benefits that would accrue to PSCST. The Technical Committee appointed for this purpose will do this evaluation. The Technical Bid will contain all the information required to evaluate the bidder's suitability to PSCST for the purpose of this project.

The guidelines for evaluation have been designed to facilitate the objective evaluation of the Technical Bid submitted by the bidder. The information furnished by the bidders in the technical bid shall be the basis for this evaluation. In case any of the information is not made available, the Committee will assign zero (0) marks to that item.

While evaluating the Technical Bid, PSCST reserves the right to seek clarifications from the Bidders. Bidders shall be required to furnish such clarifications in a timely manner. PSCST also reserves the right to seek additions, modifications and other changes to the submitted Bid. Bidders shall be required to furnish such additions/ modifications/other changes in a timely manner.

(i) Evaluation of Technical Bid

Technical Committee will evaluate the Technical Proposals of the service providers as per the following criteria:

| Sr. No. | Technical Parameter - Checklist | Max score |
|------------|--|--------------|
| I. | Past Experience & Turnover | 25 |
| 1. | The Bidder shall have relevant experience in Supply & maintenance of Environment Related Central Software and Dashboards in Central Govt. Dept /State Govt Dept/ PSUs. Projects with overall cost of 10 lakhs or more will be considered. • >1 Projects (20 marks) • 1 Project (10 marks) | 20 |
| 2. | Organization Strengths (Total Turnover for the last 3 years) Turnover up-to 10 cr (1 mark) Turnover up-to 30 cr (3 mark) Turnover more than 30 Cr (5 mark) | 5 |

| II. | Engagement Approach (bidder to elaborate) | 75 |
|-----|---|----|
| 1. | Software Feature: (10 Marks)Dashboard Capability | 20 |
| | Integration and Analytics capability of Ambient Air, Emission, Effluent & Ambient air and River water quality Data | |
| | Security Features | |
| | Data Validation Features | |
| | o Calibration Features | |
| | Workflow Features | |
| | Custom and Scheduled Report Feature | |
| | Data Handling System Methodology (5 Marks) | |
| | Project Plan covering specific activities of Development, Testing, Training plan, Rollout and Deployment (Max. 5 marks) | |
| 2. | Software Feature and demonstrate Live Camera integration capability without Plug-in with PTZ Controls and with history viewing capability from NVR | 10 |
| 3. | Live Demonstration of the capabilities of the Central Server Software demonstrating the following features. | 25 |
| | Acceptance of multi-client industry side software | |
| | Remote calibration of the Analyzer with Calibration logs and database | |
| | Real Time Alerts and SMS | |
| | Demonstration of Delayed Data Handling | |
| | Demonstration of Analyzer Diagnostics Capture in Real Time | |
| | Demonstration of Pre-build Reports and Custom Reports | |
| | Demonstration of Security Features for different logins | |
| | Demonstration of the Integrated Workflow for Industry Communication | |
| | Demonstration of Dynamic Limit for Mix Fuel Gas Scenarios | |

| | Demonstration of Normalization of Values for Gas Analyzers | |
|----|---|-----|
| 4. | Organization IT Technical Capability No of Full Time IT Professionals with relevant skills | 5 |
| | Minimum 40 IT Professionals with BE/BTech/MTech /MCA /PhD (3 Marks) | |
| | More than 40 IT Professionals with BE/BTech/MTech /MCA /PhD (5 Marks) | |
| 5 | Organization Environment Domain Expertise | 5 |
| | No of Full Time Environment Professionals with relevant skills | |
| | Minimum 1 Environment expert with minimum 10 years of Environment Domain experience with Masters or PhD degree (3 Marks) | |
| | More than 1 Environment expert with minimum 10 years of Environment Domain experience with Masters or PhD degree (5 Marks) | |
| 5. | Provide advanced Analytics using Integration of tools like Open Source R on the platform as a single application on all the data available in the platform. | 5 |
| 6. | Existing capability for Operation & Maintenance of central server based online monitoring system along with helpdesk operations O Minimum 2 Ongoing O&M Projects (3 Marks) | 5 |
| | More than 2 Ongoing O&M Projects (5 Marks) | |
| | Total (I +II) | 100 |

The bidders should be ready to make presentation to the bid evaluation committee on the offered solution during the technical bid evaluation. Bidders are required to focus on the parameters in the technical evaluation criteria. Each responsive Bid will be attributed a **technical score denoted by symbol "S(t)"**. The technical score shall be out of a maximum of 100 marks.

If in PSCST's opinion, the Technical Bid does not meet the minimum technical specifications & service requirements or is otherwise materially deficient / inconsistent in any other aspect; the Bid shall be declared Technically Evaluated & Non-Responsive and shall not be considered for further evaluation.

After technical evaluation, PSCST will rank the bidders in descending order of their technical scores with the top ranked bidder having the highest technical score. If any bidder is found to be technically inadequate to the requirements of PSCST, i.e. if the technical marks are lower than 70, then that bidder's bid would be deemed non-responsive for further evaluation and would not be considered further in the bidding process.

If in case, after technical evaluation, only one bidder is found to be responsive & eligible, i.e. if the technical marks of only one bidder are more than or equal to 70, the Council will decide an acceptable price band and open Price Bid of the only eligible bidder. If the price bid of the bidder falls within the price band specified by the Council, the bidder will be declared as the SUCCESSFUL BIDDER.

4.4 PRESENTATION BY BIDDERS

PSCST shall invite the Bidders to make a presentation, at their own cost and expenses, for their execution methodology. The schedule for the presentation along with date and time slot will be communicated to the bidder/s, by PSCST at a later date. The presentation has to be given by the proposed Project Manager for the assignment.

4.5 EVALUATION OF PRICE BID: ENVELOP 'C'

4.5.1 PRICE BID PARAMETERS

Bidders are required to offer their best prices for the services only in the format of the price bid given at Annexure-XII of this RFP document through Tender procedure explained in Section 3. Price offer in any other format will results into rejection of the bid and disqualification of the bidder from the evaluation process.

4.5.2 **EVALUATION OF PRICE BIDS**

The price bids of only technically successful bidders whose technical Bids have been awarded 70 or more marks by the Committee will be opened.

The evaluation will carried out if Price bids are complete and computationally correct. For the purpose of evaluation, only the Grand Total will be considered. Lowest Price bid (denoted by symbol "P (m)") will be allotted a Price score of 100 marks. The Price score will be denoted by the symbol "S (p)". The Price score of other bidders will be computed by measuring the respective Price bids against the lowest bid.

These Price scores will be computed as: S(p) = 100 * (P(m) / P) where P is the Price bid of the bidder whose Price score is being calculated. The Price score shall be out of a maximum of 100 marks.

4.5.3 COMPUTING THE FINAL SCORE AND RANKING

The composite score is a weighted average of the Technical and Price Scores. The weightage of the Technical vis-à-vis the Price score is 0.70 of the Technical score and 0.30 of the Price score. The composite score (S) will be derived using following formula:

$$S = (S(t) * 0.70) + (S(p) * 0.30)$$

Thus the composite score shall be out of a maximum of 100 marks.

The responsive bidders will be ranked in descending order according to the composite score as calculated based on the above formula. The highest-ranking vendor as per the composite score will be selected for the award of work. However in order to ensure that PSCST gets best solution in technical terms, PSCST reserves the right to enter into negotiation with bidder having highest technical score and place order with this bidder at a suitable price.

4.6 AWARD CRITERIA

Final choice of PSCST to award this project to a suitable bidder to execute this project shall be made on the basis of composite scoring arrived as per formula mentioned above. The bidder having the highest composite score will be declared the successful bidder.

In case there is more than one bidder having the highest composite score, the bidder having higher technical score will be declared as the successful bidder.

4.7 AWARD OF Lol

- (i) PSCST will award the contract to the Service Provider (SP) whose bid has been determined to be substantially responsive and has been determined as the best value bid provided further that the SP has demonstrated that it is qualified to perform services required for the project satisfactorily.
- (ii) Letter of Intent (LoI) stipulating the conditions under which the bid has been qualified as the Successful Bid shall constitute signing of the agreement. The signing of agreement will amount to award of contract and SP will initiate the execution of the work as specified in the agreement. At the same time as PSCST notifies the successful SP that its bid has been accepted, PSCST will send the SPs the proforma for contract, incorporating all agreements between the parties. Within 2 week's time, the successful SP shall sign and date the contract and return it to PSCST.

4.8 **SIGNING OF ORDER ACCEPTANCE**

The Successful Bidder would sign a copy of the Purchase / Work Order as a token of acceptance of the same.

5.0 PAYMENT TERMS

- 5.1 Following payment terms will be offered to the successful Bidder:
 - (i) Within 15 days of PSCST issuing the LoI, the Successful bidder will sign the Contract. The successful bidder at its cost, charges and expenses will submit a PBG for an amount equivalent to 10% of the value of the contract in favor of PSCST at the time of signing of the contract. The PBG shall be in the form of a guarantee/s of a Nationalized Bank acceptable to PSCST and shall be valid till the end of 15 months from the date of signing of contract.
 - (ii) PSCST will pay to the Solution Provider based on successful completion of milestones as follows:

Implementation of Dashboard

a. Completion of Installation of Software : 10%

b. Successful completion of UAT : 60%

c. Go Live of the Project : 20%

d. 3 Months of Successful operations after Go Live : 10%

Maintenance and Support of the System

- a. Payment for the Maintenance and Support cost to be released on Quarterly basis
- (iii) All payments will be made within 30 days of submission of invoice and after due scrutiny of the performance reports by PSCST or their appointed consultant and after deduction of penalties, if any.
- (iv) Penalties: For any delays beyond the stipulated timeframe of 1 month for the project delivery, the PSCST reserves the right to charge an LD (Liquidated Damages) at the rate of 1% of the total contract value for the delay of every week or part thereof, subject to a maximum of 10% of the total contract value.

6.0 OTHER TERMS & CONDITIONS

6.1 **INDEMNIFICATION**

The bidder hereby agrees and undertakes that, during the Term of the Contract, it shall indemnify and keep indemnified and otherwise save harmless, PSCST from any third party suits instituted against PSCST which are proved to be because of a direct consequence of the installation and / or use of equipment & services provided by the successful bidder.

The Successful Bidder shall indemnify PSCST against all losses and claims in respect of death or injury to any of their personnel, which may arise out of or in consequence of the execution of the project and remedying of any defects therein, and against all claims, proceedings, damages, costs whatsoever in respect thereof or in relation thereto

6.2 INTELLECTUAL PROPERTY RIGHTS (IPR)

All rights, title and interest of PSCST in and to the trade names, trademark, service marks, logos, products, copy rights and other intellectual property rights shall remain the exclusive property of PSCST and the solution provider shall not be entitled to use the same without the express prior written consent of PSCST. Nothing in contract including any discoveries, improvements or inventions made upon with/by the use of the service provider or its respectively employed resources pursuant to contract shall neither vest nor shall be construed so that to vest any proprietary rights to the service provider. Any development and or enhancements to the application software or reporting tools which may be developed as a part of contract, will remain to be property of PSCST and the Solution Provider will have no rights whatsoever on the same in terms of royalties or any other fees up on termination of this contract. The Service Provider shall handover all the source code, tools, flow-charts and any other material developed during the contract to PSCST on termination of the contract. Notwithstanding, anything contained in Contract, this clause shall survive indefinitely, even after termination of the Work Order.

6.3 **SAFETY CODE**

The Service Provider shall observe all necessary precautions for the safety of their staff. Sampling equipments and samples collected as per safety code and rules in force.

6.4 **COMPLIANCE WITH STATUTE, REGULATIONS**

The Service Provider shall conform in all respects, including by the giving of all notices and paying of all fees in accordance with the provisions of any Central or State Statute, Ordinance or other Law, or any regulation, or bye-law of any local or other duly constituted authority in relation to the execution of the contract.

6.5 **ASSIGNABILITY**

The successful bidder will not assign its rights, title or interest in the contract in favor of any third party without prior written consent of PSCST. PSCST reserves its rights to grant such consent on such terms and conditions, as it deems fits and proper. PSCST's decision to grant such consent or refusal to grant such consent shall be final.

6.6 **CONFIDENTIALITY**

Successful Bidder shall hold data and information about PSCST, obtained during the execution of its responsibilities, in strict confidence and will not reveal such information to any other party without the prior written approval of PSCST.

Successful Bidder and PSCST shall maintain in confidence any information relating to the terms and conditions of this contract, information received from each other hereto in connection with this contract as well as the business operations and affairs of PSCST or the successful bidder and their affiliates and shall not provide access to such information to any third party. This obligation shall expire 2 years after completion of the contract.

6.7 **NON-SOLICITATION**

Successful Bidder and PSCST agree not to recruit, hire, Engage or Attempt to Recruit, Hire or Engage, discuss employment with, or otherwise utilize the services in any capacity, of any person who shall have been associated with this project on behalf of

the other party at any time during the term of the contract (and within Eighteen Months of expiry of the contract); or induce any such person of the other party at any time during the term of the contract (and within Eighteen Months of the Expiry of the contract), to terminate his/her relationship with such other party; unless otherwise mutually agreed to between the contracting parties

6.8 **CORRUPT & FRAUDULENT PRACTICES**

PSCST requires that the bidder under this RFP document maintains highest standards of ethics during procurement and execution of this project. In pursuance of this policy the Council defines the terms set forth as follows:

"corrupt practice" means offering, giving, receiving or soliciting of anything of value to influence the action or decision making of public official in the procurement process or execution of the project.

"fraudulent practice" means misrepresentation of facts in order to influence the action or decision making of public official in the procurement process or execution of the project to the detriment of the board, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Council the benefits of free & open competition.

If it is determined that bidder/s are engaged in corrupt & fraudulent practices their bid/s will be rejected and also will be declared ineligible for indefinite period or a stated period to time to participate in any future RFP floated by PSCST.

6.9 **TERMINATION OF CONTRACT**

6.9.1 **Termination for Default**

PSCST without prejudice to any other remedy available for breach of Contract may terminate the Agreement in whole or in part, by a 30 days notice in writing to the Service Provider for any one or all of the following. On such termination, in addition to any other remedy available under the contract the EMD, Implementation/performance Security will be liable for forfeiture:

- (i) If the Service Provider fails to execute the work up to the minimum assurance quality as per the scope of the work or
- (ii) If the Service Provider fails to provide all or any of the Contracted services as per Service Level Agreement (SLA) specified in the Agreement or
- (iii) If the Service Provider is found to be violating any of the provisions mentioned in clause 6.7 and clause 6.12 of this RFP or
- (iv) If the Service Provider in the judgment of PSCST has engaged in corrupt, fraudulent practices, PSCST shall afford an opportunity to the Service Provider to represent his case before termination of the agreement.
- (v) PSCST shall issue a notice explaining the nature of violations committed by the facilitator and/or afford on opportunity to the Facilitator to represent his case before termination of the agreement.
- (vi) In the event PSCST terminates the Agreement in whole or in part, PSCST may procure upon such terms and in such manner as it deems appropriate service similar to those undelivered and the Service Provider shall be liable to pay to PSCST for any excess costs occurred for procuring such similar services.

However the Service Provider shall continue to perform the agreement to the extent not terminated.

6.9.2 Termination for Insolvency

If the Service Provider becomes bankrupt of otherwise insolvent, PSCST may terminate the Contract by giving written notice of 30 days to the Service Provider. In this event, termination of the contract will be without compensation to the Service Provider, provided that such termination shall not prejudice any right to action or remedy available to the PSCST which is provided in the RFP document.

6.9.3 Termination for Convenience

PSCST may by written notice to the Service Provider terminate the Contract in whole or in part at any time for its convenience and the extent to which performance of the Service Provider under the Contract is completed. In such event the PSCST may

elect to pay to the Service Provider a mutually agreed amount for partially completed services, within 30 days from the date or termination of contract.

6.10 **FORCE MAJEURE**

Notwithstanding the provisions of the RFP, the service provider or PSCST shall not be liable for penalty or termination for default if and to the extent that it's delay in performance or other failure to perform its obligations under the contract is the result of an event of Force Majeure. For purposes of this clause, "Force Majeure" means an event beyond the control of the service provider and not involving PSCST or Service Provider's fault or negligence and not foreseeable. Such events may include, but not restricted to wars, revolutions, epidemics, natural disasters etc.

If force majeure situation arises, the service provider shall promptly notify PSCST in writing of such condition and cause thereof. Unless otherwise directed by PSCST in writing, the service provider shall continue to perform its obligations under contract as far as possible.

6.11 SERVICE PROVIDER'S LIABILITY

The selected service provider will be liable for all the deliverables.

The Service Provider's aggregate liability in connection with obligations undertaken as part of the project regardless of the form or nature of the action giving rise to such liability (whether in contract, tort or otherwise), shall be at actual and limited to the value of the contract.

Indemnity would be limited to court awarded damages and shall exclude indirect, consequential and incidental damages. However indemnity would cover damages, loss or liabilities, compensation suffered by PSCST arising out of claims made by its customers and/or regulatory authorities

6.12 **ARBITRATION**

Any dispute or difference whatsoever arising between the parties relating to scope of work, time schedule, deliverables, claims and demands arising under or pursuant to or touching this document or the validity or the breach thereof shall be settled by arbitration in accordance with the Indian Arbitration & Conciliation Act, 1996 and the

award made in pursuance thereof shall be binding on the parties. The sole arbitrator shall be the Principal Secretary to Govt. of Punjab, Department of Science, Technology & Environment or his nominee whose decision would be final and binding to both the parties. All disputes shall be subject to the jurisdiction of courts at Chandigarh alone. However, before taking any legal steps, the parties hereby reiterate and agree to mobilize all efforts and to enter into discussions/ negotiations in order to find out mutually acceptable settlement of such a dispute, for which a dispute notice in this regard has to be issued by the party aggrieved and both the parties shall have a period of 30 days, from the receipt of such dispute notice by the other party for reconciliation/ settlement. After expiry of this 30 days period, the dispute could be referred for Arbitration. The 30 days period aforesaid can be extended by another 30 days at the most, by mutual written consent of the parties, if so required.

6.13 **LEGAL JURISDICTION**

All legal disputes are subject to jurisdiction of Courts at Chandigarh alone.

Check List (to be submitted along with bid)

| Sr. No. | Bid Document Reference | Annexure | Page No. | Remarks | |
|------------|---|----------------|----------|---------|--|
| Α | Documents in support of eligibility criteria (refer section 3.3) | | | | |
| 1. | Copy of registration of Company | | | | |
| 2. | Copy of GST Certificate | | | | |
| 3. | Balance Sheet/Profit & Loss sheet duly supported with ITR for the years 2016-17 | | | | |
| | 2017-18 2018-19 | | | | |
| 4. | Proof of past experience a) Copy of work orders b) Copy of performance certificates about successful completion/operation of the system | | | | |
| 5. | Proof of ISO 9001 Certification Proof of ISO 27001 Certification | | | | |
| 6. | Self Certification regarding full time manpower along with CVs of the professionals and PF statement of the Company | | | | |
| 7. | Self declaration that service provider is not black listed by any Central/State Govt. | Annexure – VII | | | |
| 8. | Self declaration regarding any legal dispute with any Govt. /PSU Body | | | | |
| 9. | Copies of work orders in support of having prior experience working on highly scalable large scale database for storing time-series data | | | | |
| 10. | Proof of experience in hoisting the services at NIC domain or any of the State data centre or PSU data centre with approved security audit report | | | | |
| 11. | Proof of experience in developing mobile application and its production usage | | | | |

| В | Documents in support of technical evaluation | criteria (refer s | section 4.3) |
|----|---|-------------------|--------------|
| | Envelope 'A' | - | |
| 1. | Covering letter as per format | Annexure –I | |
| 2. | EMD as per Section 3.2 | | |
| 3. | Tender Document Fee | | |
| 4. | Attested copy of Power of Attorney in the name of | | |
| | person signing the bid | | |
| | Envelope 'B' | | |
| 1. | Covering letter as per format | Annexure – II | |
| 2. | General Information about Company | Annexure – IV | |
| 3. | Proof of organization turnover for the last 3 years | Annexure – V | |
| 4. | Project Experience | Annexure – VI | |
| 5. | Proof of organizational capability | Annexure – VII | |
| 6. | Organization Environment Domain Expertise | Annexure – VII | |
| 7. | Understanding the project and implementation | Annexure – IX | |
| | methodology | | |
| 8. | Details of hardware requirement and specification | Annexure – X | |
| 9. | Proof of existing capability for O&M along with | | |
| | help desk operations | | |
| 10 | Bid document duly signed and stamped on each | | |
| | page | | |
| 11 | Any other document required in support of | | |
| | technical evaluation criteria | | |
| | Envelope 'C' | | |
| 1 | Covering letter as per format | Annexure – XI | |
| 2 | Commercial Proposal | Annexure – XII | |
| | | | |

The specifications and conditions furnished in the bidding document shall prevail over those of any other document forming a part of our bid, except only to the extent of deviations furnished in this statement.

| Place: | Service Provider's signature |
|--------|------------------------------|
| Date: | and seal |

NOTE: For every item appropriate remarks should be indicated like 'no deviation', 'agreed', 'enclosed' etc. as the case may be.

Annexure I

Sample Bid Security (EMD) form (In Envelope 'A')

| II. Project Name: (To be issued by a bank scheduled in India as having at least | t one branch in Chandigarh) |
|---|--|
| Whereas | (Here in after called of |
| The conditions of this obligation are: | |
| If the service provider withdraws its bid during the period of If the service provider, having been notified of the acceptant the period of bid validity: fails or refuse to execute the contract form if required fails or refuse to furnish the performance security, in a requirement; Service provider submits fabricated documents | ce of its bid by the PPCB during; or |
| We undertake to pay the above amount upon receipt of its first PSCST having to substantiate its demand, provided that in its camount claimed by it is due to it, owing to the occurrence conditions, specifying the occurred condition or conditions. This guarantee of Rswill remain in force up to and | demand they will note that the se of one or both of the two |
| should reach the Bank not later than the above date. Place: Date: | Signature of the Bank Official with seal |

ANNEXURE – II

FORMAT OF THE COVERING LETTER (The covering letter is to be submitted by the Bidder on Company Letterhead along with the Envelope 'B' of the Bid)

To,

Executive Director
Punjab State Council for Science & Technology
MGSIPA Complex, Sector 26,
Chandigarh-160019

Sub: RFP for Selection of Service Provider for Supply, Commissioning & Maintenance of the Integrated Dashboard for Real Time Data Monitoring and Analytics of Emission, Ambient Air, Effluent and River Water Quality Monitoring in Punjab

Dear Sir

Please find enclosed our Bid for "RFP for Selection of Service Provider for Supply, Commissioning & Maintenance of the Integrated Dashboard for Real Time Data Monitoring and Analytics of Emission, Ambient Air, Effluent and River Water Quality Monitoring Quality Monitoring in Punjab" in response to the RFP Document issued by PSCST dated

We hereby confirm the following:

- 1. The Bid is being submitted by (name of the Bidder) who is the Bidder in accordance with the conditions stipulated in the RFP.
- We have examined in detail and have understood the terms and conditions stipulated in the RFP Document issued by PSCST and in any subsequent communication sent by PSCST. We agree and undertake to abide by all these terms and conditions. Our Bid is consistent with all the requirements of submission as stated in the RFP or in any of the subsequent communications from PSCST. We agree for unconditional acceptance of all the terms and conditions set out in the RFP document.
- 3. We have enclosed the EMD and Tender Document fee as per the RFP terms.
- 4. The information submitted in our Bid is complete, is strictly as per the requirements as stipulated in the RFP, and is correct to the best of our knowledge and

understanding. We would be solely responsible for any errors or omissions in our Bid.

5. We as the Bidder, designate Mr/Ms (mention name, designation, contact address, phone no., fax no., etc.), as our Authorized Representative and Signatory who is authorized to perform all tasks including, but not limited to providing information, responding to enquiries, entering into contractual commitments etc. on behalf of us in respect of the Project.

| For and on behalf of: | |
|---|--------|
| Signature: | Data |
| (Authorized Representative and Signatory) | Date: |
| Name & Designation of the Person | Place: |

Annexure III

(Tender No.....)

Sample Performance Security Form

| Place: Date: | Signature of Guarantors and seal |
|---|---|
| This guarantee is valid until the day of (Date) | |
| THEREFORE WE hereby affirm that we are Guarantors behalf of the Service provider, up to a total of Rs undertake to pay you, upon your first written demand do to be in default under the Contract and any sum of Rs (Amount of Guarantee) as aforesaid, without show grounds or reasons for your demand or the sum spec |) and we eclaring the Service provider r sums within the limit of your needing to prove or to |
| AND WHEREAS it has been stipulated by you in the sail Povider shall furnish you with a Bank Guarantee by a respecified therein as security for compliance with to obligations in accordance with the Contract. WHEREAS Service provider a Guarantee: | ecognized bank for the sum the Supplier's performance |
| WHEREAS (Name of Service provider) he provider" has undertaken, in pursuance of Contract No called "the Contract". | |
| (<mark>Address -PSCST</mark>) | |
| Ref. No (To be issued by a bank scheduled in India and having at least of To: | ne branch in Chandigarh) |

Annexure-IV

(Tender No....) Technical Qualification (TQ) Proposal Submission Forms

Name of the Service Provider: Name of the Project:

Form - General Information

Service provider must have registration under companies Act, 1956 & also registered with the Service Tax authorities and must have completed 3 years of existence as on Bid calling date.

| Sr. No. | Description | Supporting Documents with page no. |
|------------|---|--|
| 1. | Name of the Company / Firm | |
| 2. | Date of Incorporation (Registration Number & Registering Authority) | Public Ltd. Company/Private /Partnership Firm |
| | GST No., | |
| | PAN No. | |
| 3. | Legal Status of the Company in India & Nature of Business in India | |
| 4. | Address of the Registered Office in India | |
| 5. | Date of Commencement of Business | |
| 6. | Name, e-mail Id, phone number, fax of the | Phone: |
| | Contact Person | Fax: |
| | | E-mail: |
| 7. | Web-Site | |
| 8. | EMD/ Tender Document Fee details | Amount: |
| | | DD No. & Date: |
| | | Name of the Bank: |
| | | Valid Upto: |
| 9. | Certification details as per TQ condition (valid documents to be submitted) | |

Note: Service provider should submit the copy of RoC & Copy of Goods & Service Tax Registration Certificate.

| Place: | Service Provider's signature |
|--------|------------------------------|
| Date: | and seal. |

Annexure-V

Form - Financial Turnover (Tender No.)

Name of the Service Provider:

Name of the Project:

(All values in Rs.)

| | Financial Information of Service Provider | | | | |
|------------|---|-----------------------------------|---|------------------------------|----------------------------|
| Sr. No. | Financial Year | Total Turn Over of the Firm | IT based projects-Software Application Development & Maintenance, Real Time Data Analysis Tools | Total Profit after Tax | Net Worth of Company |
| | (1) | (2) | (3) | (4) | (5) |
| 1. | FY 2016-17 | | | | |
| 2. | FY 2017-18 | | | | |
| 3. | FY 2018-19 | | | | |

Note:

- 1. Turnover in areas other than mentioned above shall not be considered for evaluation.
- 2. Please attach audited Balance Sheets and IT return statements to confirming the figures mentioned in columns (2).
- 3. Service provider should submit any of the Audited balance sheet / Profit & Loss statement /certificates from the Company duly audited by the Charted Accountant and certified by the Company Secretary for all the above stated three financial years.

| Place: | Service Provider's signature |
|--------|------------------------------|
| Date: | and seal |

Annexure-VI

(Tender No.) Form - Project Experience

Name of the Service Provider:

Name of the Project:

| Sr. | Description of Item | Supporting Document |
|-----|---|---------------------|
| No. | | with page number |
| 1. | Name of the Client / Department | |
| 2. | Contact address & details of the department | |
| 3. | Value of the Project | |
| 4. | Date of Start of Work | |
| 5. | Date of Completion of Work | |
| 6. | Description of Work | |
| 7. | Service provider should submit the following: i. PO / Work order | |
| | ii. Copies of Performance Certificate about successful completion/operation of the system | |
| | Enclosures submitted: Yes / No | |

Note:

- 1. Please submit supporting documents to support the claim and the certificates must be signed by Senior Executive/ Deputy GM of the organization clearly indicating his/her name, designation and contact details such as Telephone Number, Fax number, email-id etc.
- 2. Please attach certificate from the client for the successful completion & implementation of project.

| Place: | Service provider's signature |
|--------|------------------------------|
| Date: | with seal |

Annexure-VII

(Tender No.) Form- Manpower

| Nam | e of the Pro | ject: | | | | | |
|--------------|------------------|---|--|-----------|----------------------|------------------------|---|
| term | 'IT professi | ional' means a | ve employed at lea person with a g n a recognized univ | raduat | e degree o | | |
| Sr. No. | Employee Name | Designation | Sills & Professional Certification, If any | EPF No | Area of Expertise | Previous Experience | Experience with Service Provider |
| | | | • | | | | |
| | | | | | | | |
| | | | | | | | |
| Note | : The service | provider shoul | ld submit Self-Cert | ificatio | on by the au | thorized signo | atory. |
| Plac Date | _ | Service provider's Signature with Seal | | | | gnature | |

Name of the Service Provider:

Annexure-VIII

(Tender No) Form - Declaration Regarding Clean Track Record

| Name of the Service Provider: |
|---|
| Name of the Project |
| То |
| PSCST Address |
| |
| Sir, |
| I have carefully gone through the Terms & Conditions contained in the RFP Document No |
| Date: |
| Business Address: (Signature of the Service provider) Name & Designation With Seal |
| |

Annexure-IX

(Tender No.)

Form: Understanding of the Project & Implementation Methodology

Name of the Service Provider:

Name of the Project:

A Brief technical proposal by the bidder on Project Scope, understanding of the project, technologies proposed covering the following and other issues related to project:

- i. Technology Architecture.
- ii. Project Plan
- iii. Project execution plan
- iv. Training Plan
- v. Manpower deployment plan.
- vi. Implementation Methodology Plan.
- vii. Security Methodology and Plan.
- viii. Issues and Risks in the implementation of the Project.
- ix. Others, if any.

Note: Service providers should enclose the relevant supporting documents with page numbers. All pages must be duly signed and stamped.

Annexure-X

(Tender No.)

Form: Hardware Required & Specifications

Name of the Service Provider:

Name of the Project:

- 1. Hardware, System software, network bandwidth and other tools required to implement the proposed solution
- 2. Technical Specifications for all hardware items

Place: Service Provider's Signature Date: with Seal

Annexure - XI

(Tender No.) Commercial Proposal Submission Form

То

| ۸n | nav | /11r/ | XII د |
|----|-----|-------|--------|
| AΠ | nes | KUJFE | 3 X II |

(Tender No.) Commercial Proposal

| Content Items | | ost | GST (in Rs.) | Total Price (in Rs.) including GST |
|---|--|---|---|--|
| | (in Rs.) | In words | | |
| Supply and Implementation of Dashboard and Central Software | | | | |
| Maintenance and Support of the System for 1 Year | | | | |
| | Implementation of Dashboard and Central Software Maintenance and Support of the | Supply and Implementation of Dashboard and Central Software Maintenance and Support of the | Supply and Implementation of Dashboard and Central Software Maintenance and Support of the System for 1 Year | Supply and Implementation of Dashboard and Central Software Maintenance and Support of the |

declaration and also includes customization as per the User Department requirement, training, defect fixing and any up-gradations.

Place:

Service Provider's Signature
Date:

and seal

Note: The above price quote should include '1' year annual maintenance cost post Go-Live

Name of the Service Provider: