



## STATE ENERGY CONSERVATION MISSION (APSECM)

(A Society registered under AP Societies Registration Act 2001)

Department of Energy, I&I, Government of Andhra Pradesh



### Andhra Pradesh State Energy Conservation Mission (APSECM) Energy Department, Government of Andhra Pradesh

Expression of Interest (EoI) inviting Vendors for establishing energy management system(EMS) in Govt. Buildings to increase energy efficiency by optimal energy usage while maintaining comfort and production levels through continuous monitoring and control of the building units using cloud enabled interface.

The EMS shall provide continuous energy consumption and helps auditing, cost-effective and robust communication for remote data transfer and demand response or emergency control, configurable alerts and notifications through email and mobile app to users, display boards to visualize energy consumption, abnormalities, etc. The detailed scope of work can be found in the websites of [www.aptransco.gov.in](http://www.aptransco.gov.in), <https://www.apeasternpower.com/>, <https://www.apspdcl.in/>, <https://www.apcpdcl.in/>. Expression of interest can be submitted online to ceo.secm@gmail.com. Last Date of submission of application is: 02.06.2020

Place: Vijayawada

R.O.No: ,Dt. .05 .2020

Sd/-

CEO/APSECM, Vijayawada

Contact No.0866-2577620



## STATE ENERGY CONSERVATION MISSION (APSECM)

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Department of Energy, I&I, Government of Andhra Pradesh



### *Expression of Interest*

APSECM/Energy Monitoring System/EOI No. 1 /Dt. 19-05-2020

## **APSECM invites Expression of Interest (EoI) Calling from Vendors for Establishing Energy Management System in Govt. Buildings**

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### **SECTION I: INVITATION FOR PROPOSAL**

1. APSECM wishes to develop an Energy Consumption Monitoring system in a building based on industry standard components and technologies. In this regard, APSECM wishes to collaborate with Industry partners who are willing to share their expertise, technologies and provide hardware and software subsystems for development of this framework as outlined in Section IV.
2. APSECM invites sealed proposals from interested parties for developing Building Energy Monitoring System as per details given in Section – IV: Schedule of Requirements. It is expected that this work will mutually benefit the participating vendors and APSECM by means of making an effective energy monitoring solution available for building sector.
3. **Contact information -**  
Andhra Pradesh State Energy Conservation Mission  
2<sup>nd</sup> Floor, APSPDCL Indoor Substation,  
Museum Road, Vijayawada  
Tel No.: +91-0866-2577620,  
E-mail: [ceo.secm@gmail.com](mailto:ceo.secm@gmail.com)
4. **Submission of Proposal**  
The interested party must submit the proposal in a sealed envelope along with the documents as explained below:
  - a. Duly filled-in Proposal giving details of expertise available, brief technologies used, items / materials involved etc, with proper seal and signature of authorized person on each page of the proposal.
  - b. Self Attested copy GST Registration certificate, as applicable.
  - c. Copy of latest balance sheet or certificate from Chartered Accountant certifying annual sales turn over for last financial year.
  - d. The OEMs and authorized technical partners of OEMs only are eligible to submit the proposal. The copy of Authorization Certificate from the principal manufacturer or from OEM to this effect should be submitted along with the proposal. (Annexure – I).

- e. This invitation for proposals is open to all parties who are engaged in the similar activity as described in Section – IV: Schedule of Requirements.
- f. The relevant documents supporting eligibility criteria, as described under Point 3.0 of Section – IV.

The proposal should be addressed to:

*The Chief Executive Officer*

*Andhra Pradesh State Energy Conservation Mission 2<sup>nd</sup> Floor,  
APSPDCL Indoor Substation,  
Museum Road, Vijayawada*

## **5. Date of submission of proposals and opening of the technical proposals**

Last date for submission of proposals is **2<sup>nd</sup> June 2020** up to 5.00 pm to [ceo.secm@gmail.com](mailto:ceo.secm@gmail.com).(soft copy to be submitted).

Hard copy is to be sent to the following address:

Office address:

*Andhra Pradesh State Energy Conservation Mission  
2nd Floor,APSPDCL Indoor Substation,  
Museum Road, Vijayawada*

The proposal can be submitted through mail or through post/ courier (APSECM shall not be responsible for any postal delays resulting in disqualification/ rejection of any proposal) so as to reach on or before the due date and time.

The representative(s) of vendors may choose to attend the opening of the technical proposals. In case vendor requires any clarifications / information they may contact APSECM address given above.

The proposals will be evaluated to shortlist the eligible vendors. The proposals of only the short listed eligible vendors shall be considered for further evaluation.

END OF SECTION I

## **SECTION II: INSTRUCTIONS TO VENDORS**

### **1. Amendment to Proposal Documents**

At any time prior to the deadline for submission of proposals, APSECM may, for any reason, whether on its own initiative or in response to the clarification request by a prospective vendor, modify the proposal document. The modification/s may be pertaining to technical specifications and /or quantities and /or commercial terms and conditions.

The amendments, if any, will be notified by publishing a corrigendum and such amendments/ modifications will be binding on vendors.

APSECM at its discretion may extend the deadline for the submission of proposals if the proposal document undergoes changes during the proposal period, in order to give prospective vendors time to take into the consideration the amendments while preparing their proposals.

#### **A. PREPARATION OF PROPOSALS**

Vendor should avoid, as far as possible, corrections, overwriting, erasures or postscripts in the proposal documents. In case however any corrections, alterations, changes, erasures, amendments and/or additions have to be made in the proposals, they should be supported by dated signatures of the same authorized person signing the proposal documents.

### **2. Period of validity of proposals**

Proposals shall be valid for minimum 120 days from the date of submission. A proposal valid for a shorter period shall stand rejected.

APSECM may ask for the vendor's consent to extend the period of validity. Such request and the response shall be made in writing only.

#### **B. SUBMISSION OF PROPOSALS**

The proposal should be neatly arranged, pages numbered and secured properly. Each page of the proposal should be signed by the authorized representative. They should not contain any terms and conditions, printed or otherwise, which are not applicable to the proposal. The conditional proposal will be summarily rejected. Insertions, postscripts, additions and alterations shall not be recognized, unless confirmed by vendor's signature.

### **3. Deadline for Submission of Proposals**

Proposals must be received by APSECM before the due date and time to the mail ID or at the address specified in the tender document. In the event of the specified date for the submission of proposals being declared as a holiday for APSECM, the proposal-closing deadline will stand extended to the next working day up to the same time.

APSECM may extend this deadline for submission of proposals by amending the proposal documents and the same shall be suitably notified.

#### **4. Late Proposals**

Any proposal inadvertently received by APSECM after the deadline for submission of proposals, will not be accepted and returned unopened to the vendor.

### **C. PROPOSAL OPENING AND EVALUATION OF PROPOSALS**

#### **5. Opening of Proposals**

The technical proposals will be evaluated by the Technical Evaluation Committee (TEC) constituted for this purpose to shortlist the eligible & qualifying vendors.

During the evaluation process, APSECM may seek clarifications from the vendor, if required. The vendor may submit clarifications as required and / or submit the documents, catalogs, literature etc in response to the clarifications. However, any changes in make/ model quoted, quantity offered, configuration, capacity, speed etc will not be permitted.

#### **D. Shortlisting of Vendors**

#### **6. Shortlisting Criteria**

APSECM shall issue work order to the eligible & qualified vendor(s) whose technical proposal has been accepted by TEC.

#### **7. Purchaser's Right to amend / cancel**

If, for any unforeseen reasons, APSECM is required to change/reduce the Scope of Supply, this change shall be acceptable to the vendor without change in the unit price quoted.

APSECM reserves the right to cancel the tender without assigning any reasons there for.

#### **8. Corrupt or Fraudulent Practices.**

It is expected that the vendors who wish to proposal for this project shall have highest standards of ethics.

APSECM will reject proposal if it is revealed that the vendor has engaged in corrupt and /or fraudulent practices while competing for this contract;

APSECM may also declare a vendor ineligible, either indefinitely or for a stated duration, for participating in APSECM's tender process, if it is revealed that the vendor has engaged in corrupt and /or fraudulent practices while competing for this contract

#### **9. Interpretation of the clauses in the Tender Document / Contract Document**

In case of any ambiguity/ dispute in the interpretation of any of the clauses in this tender document, interpretation of CEO APSECM shall be final and binding on all parties.

END OF SECTION II

### **SECTION III: SPECIAL CONDITIONS OF CONTRACT (SCC)**

#### **1. Completeness Responsibility:**

Notwithstanding the scope of work, engineering, supply and services stated in proposal document, any equipment or material, engineering or technical services which might not be even specifically mentioned under the scope of supply of the vendor and which are not expressly excluded there from but which – in view of the vendor - are necessary for the performance of the equipment in accordance with the specifications are treated to be included in the proposal and has to be performed by vendor. The items which are over & above the scope of supply specified in the Schedule of Requirements may be marked as “Optional Items”.

#### **2. Jurisdiction:**

The disputes, legal matters, court matters, if any shall be subject to Vijayawada jurisdiction only.

#### **3. Force Majeure:**

APSECM may consider relaxing the penalty and delivery requirements, as specified in this document, if and to the extent that, the delay in performance or other failure to perform its obligations under the contract is the result of an Force Majeure. Force Majeure is defined as an event of effect that cannot reasonably be anticipated such as acts of God (like earthquakes, floods, storms etc.), acts of states / state agencies, the direct and indirect consequences of wars (declared or undeclared), hostilities, national emergencies, civil commotion and strikes at successful Vendor's premises or any other act beyond control of the vendor.

#### **4. Arbitration:**

In case any dispute arises between the Parties with respect to this tender, including its interpretation, implementation or alleged material breach of any of its provisions both the Parties hereto shall endeavor to settle such dispute amicably. If the Parties fail to bring about an amicable settlement within a period of 30 (thirty) days, dispute shall be referred the sole arbitrator appointed by APSECM. Arbitration proceedings shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996 and Rules made there under, or any legislative amendment or modification made thereto. The venue of the arbitration shall be Vijayawada. The award given by the arbitrator shall be final and binding on the Parties. The language of arbitration shall be English.

The common cost of the arbitration proceedings shall initially be borne equally by the Parties and finally by the Party against whom the award is passed. Any other costs or expenses incurred by a Party in relation to the arbitration proceedings shall ultimately be borne by the Party as the arbitrator may decide. Courts in Vijayawada only shall have the exclusive jurisdiction to try, entertain and decide the matters which are not covered under the Arbitration and conciliation Act.

#### **1. Indemnity**

The parties shall indemnify, protect and save each other from/against all claims, losses, costs, damages, expenses, action suits and other proceeding, resulting from

infringement of any law pertaining to intellectual property, patent, trademarks, copyrights etc. or such other statutory infringements in respect of all the equipments, technology supplied by vendor and /or collaborative activities

**2. Assignment:**

Selected vendor/ Party shall not assign, delegate or otherwise deal with any of its rights or obligation under this Contract without prior written permission of APSECM

**3. Severability:**

If any provision of this Contract is determined to be invalid or unenforceable, it will be deemed to be modified to the minimum extent necessary to be valid and enforceable. If it cannot be so modified, it will be deleted and the deletion will not affect the validity or enforceability of any other provision.

**END OF SECTION III**

## ***SECTION - IV- Schedule of Requirements***

### **SCOPE OF WORK:**

Energy Management System (EMS) has to monitor and control the energy needs of buildings and shall achieve energy efficiency through optimal energy usage as much as possible while maintaining comfort and production levels.

**Expectations of EMS:**The following features are expected from the EMS

#### **1. Data Monitoring**

- It shall provide continuous local monitoring (as possible) and remote monitoring of energy consumption data as well as data of all the critical parameters based on the size of the building and necessity.
- It shall monitor granular energy use by individual pieces of equipment in the building.
- It shall have ability to gather data from every available energy source and load, whether it is old, new, integrated or stand-alone.

#### **2. Advanced Data Analytics**

- The ability to provide user-friendly and simple trends to visualize and understand energy consumption and problems.
- It shall have a feature that analyzes the energy performance of building using in-depth real-time data that can be used to detect and correct performance issues.

#### **3. Energy Dashboard**

- All the analytics carried has to be displayed as necessary. A comprehensive dashboard has to be prepared to visualize these analysis reports.
- This refers to either a cloud enabled interface / website or standalone portal that displays total building's basic energy consumption information with trends.
- It shall also show tips and suggestions for energy savings, or abnormalities.

#### **4. Automatic Demand Response and Control**

- It shall able to facilitate automated building control that can interact with building's devices and systems in an active manner.
- Especially, it shall able to remotely control Heating, Ventilation, Air Conditioners (HVAC) and other high energy-consuming equipment.
- It shall possess automated demand response feature to reduce energy use during peak load events by automating the control of your building's components or systems based on priority. Shall prepare a plan with critical and noncritical load for doing this.



- The control actions have to be automatically implemented based on emergency or alerting system indications.
- It shall also facilitate to enter user-specific control actions.

## **5. Automatic Alarming or Alerting System**

- It shall provide alerts if the building's energy consumption exceeds the critical parameters established.
- It shall provide early warnings for any indications of electrical failures.
- It shall have a feature that notifies any issues, maintenance needs of problematic or normal equipment, annual maintenance timelines, etc.

## **6. Performance Guidance**

- With the real-time data gathered, the EMS shall perform automatic energy audit and generate intelligent and specific real-time guidance on finding and capturing the most compelling saving opportunities to optimize the performance.
- Energy consumption benchmarking -
  - EMS shall have the ability to benchmark the building's energy use against other buildings in similar climates or localities.
  - Also, it shall have a feature that compares the building's historical energy consumption with current energy consumption to understand its on-going performance.
- EMS shall enable manual energy accounting of all energy consuming areas in the building and allow user to conduct baseline assessments and continuously monitor performance of user system through cloud enabled interface (energy dashboard).
- EMS shall also compute the energy savings and payback period initially for implementation of energy efficiency measures and shall also provide actual impact after implementation of energy efficiency measures. It is particularly important to identifying system's ROI.
- It shall able to give necessary suggestions for improving physical orientation and infrastructure of the office area. This is useful to improve day lighting, natural cooling and heating for the office premises taking into consideration OLD building approach methodology.

## **7. Hardware and Communication Requirements**

- EMS shall consist of combination of advanced metering infrastructure (AMI), sensor hardware, communication gateways, backend cloud computing platforms, etc.
- Each of the layers are independently customizable thus providing a modular approach to monitoring platforms.
- EMS shall use cost-effective and robust hardware, which has to possess all the above mentioned features to attain savings.
- The communication facility of EMS shall be simple and able to communicate with all varieties of old and new equipment of the building to monitor and control their operations.

**Specific Requirements:**

- Energy consumption data and critical electrical parameters monitoring
- GSM/GPRS or WiFi or Wired gateway data transfer to server with robust mechanisms
- Configurable alerts and its notification through email and mobile app to users
- Remote monitoring web application and display boards depicting the energy consumption in desired format
- Central control station that can take desired control actions to conserve energy
- There should be a central control board showing on-off status.

**Qualification of vendors:**

Qualification of the vendor will be based on the following criteria:

- Proven experience in the field of installation of energy management systems
- Active participation by vendor in development of technology used in this energy monitoring.
- Prior experience in green building certification and ratings
- Experience in the field of consultancy for MEP design
- Prior experience in reducing energy intensity in appliance, buildings and SME sector
- Prior experience in computer aided buildings performance simulation
- Adaptability to technology changes

END OF SECTION IV

**ANNEXURE 1 – MANUFACTURER AUTHORISATION FORMAT**

(on manufacturer's letterhead)

Date:

**The Chief Executive Officer  
APSECM**

2<sup>nd</sup> Floor, APSPDCL Indoor Substation,  
Museum Road, Vijayawada

**Sub: Expression of Interest against APSECM/loT/EOI No. 1 /Dt.19-05-2020**  
for Development of Energy Monitoring System in Govt. buildings of AP.

Dear Sir,

We, M/s \_\_\_\_\_ (*Name of the manufacturer*) having registered office at \_\_\_\_\_ (*address of the manufacturer*) by virtue of being manufacturer for \_\_\_\_\_ (*Name of the product/s*), hereby authorize M/s \_\_\_\_\_ (*Name of the vendor*) having their office at \_\_\_\_\_ (*Address of vendor*) to submit proposal for Development of energy monitoring system using our range of products and /or technologies to meet the requirements of above referred Eol.

WE have read the terms and conditions of Eol and have no objection if our range of products and /or technologies are used by M/s ----- (*Name of Vendor*) and APSECM for development of Energy Monitoring system, as stipulated in Eol.

The undersigned is authorized to issue such authorization on behalf of M/s \_\_\_\_\_ (*Name of the manufacturer*).

*The certified copy of the board resolution to that effect is attached hereto*  
For M/s \_\_\_\_\_ (*Name of the manufacturer*)

Signature & company

seal Name  
Designation  
Email  
Mobile No