

**PUNJAB CRICKET ASSOCIATION, I S BINDRA STADIUM,
MOHALI**

**TENDER FOR CONDUCTING ENERGY AUDIT FOR STADIUM UTILITY BUILDINGS and
ALLIED SERVICES in the Premises, AT SECTOR - 63, PHASE – 9, SAS NAGAR MOHALI
-160062 (Punjab)**

Address for communication:

General Manager (Maint.),

Email :engrs.pcastadium@gmail.com

Website : www.cricketpunjab.in

TIME SCHEDULE Date of display of Tender on website – 25/11/2016

Last Date and time for Submission of response - 10/12/2016 up to 12:00 PM

Date of opening of technical bid: - 10/12/2016 at 3:00 PM

Date of opening of financial bid: - Will be communicated later

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It is hereby clarified that the Bid/ response to the tender should be submitted in the exact format given herein without making any changes/alterations to the tender document. Any change/alteration made to the tender document by the participant would make his Bid/ response to the tender void and the same shall be liable to be rejected by the Punjab Cricket Association, I S Bindra Stadium without further going to the merits of the tender. It is also clarified that in case of any difference/change between Bid/ response to the tender document submitted by the participant and the tender document maintained by PCA I S Bindra Stadium, the tender document maintained at the PCA, would be considered as authentic and binding on the participant.

PART I - INVITATION TO BID

1. The Proposal

Punjab Cricket Association, I S Bindra Stadium, Mohali invites tenders for conducting Energy Audit for its Systems at SAS NAGAR, SAS Nagar, Sector – 62, Phase -9, Mohali.

2. Scope of Work

Scope of Work is detailed in **PART II** - Instructions to Bidders of this document

3. Qualification Criteria

Qualification Criteria is given in **PART II**- Instructions to Bidders of this document

4. Terms and Conditions

Terms and Conditions are given in **PART III** - Terms and Conditions of this document

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5. Availability and Submission of Proposal

The tender document can be down loaded from the Website of the PCA, I S Bindra Stadium. Tender document can also be collected from PCA Stadium, Sector-63, Mohali-160062 on Monday to Saturday from 11 AM to 5 PM till the last date of submission of the tender.

Interested vendors or firms can visit to our buildings proposed for audit, with prior appointment to see and inspect electrical and fire fighting installation of building during working hours on Monday to Saturday from 10 am to 5 pm. No proposals will be accepted after the last date & time of submission of the tenders.

6. Validity of proposals

The bids/proposals shall remain valid for 120 days from the last date of submission of the bids or such extended last date of submission as advised by the PCA I S Bindra Stadium.

7. Amendment

At any time before the last date and time for submission of response to the tender, the PCA I S Bindra Stadium may, for any reason, modify the tender document, by an amendment that would be displayed on PCA Website www.cricket.punjab.in. The PCA I S Bindra Stadium would make no other intimation in this regard. It would be the sole responsibility of the firm to submit bid/proposal incorporating amendments, if any.

8. Disclaimer

The tender would bind neither the PCA I S Bindra Stadium in any contract nor it an offer of an assignment/contract. The PCA I S Bindra Stadium reserves the right to accept any bid/ proposal or reject any or all the bids/ proposals received in response to the tender and to cancel the entire process at any time prior to award of the assignment/contract, without thereby incurring any liability to the affected respondent/s. The PCA I S Bindra Stadium shall not be bound to offer any reasons for such acceptance/ rejection nor shall entertain any correspondence with the rejected respondents in this matter.

PCA I S Bindra Stadium may prepare the panel of consultants for energy audit based on the offers received and avail the services of the bidders for branches / offices in Mohali or Punjab after inviting limited tender.

PART II - INSTRUCTIONS TO BIDDERS

PCA I S Bindra Stadium, Mohali intends to get its South Pavilion Building, Club Building and Corporate office audited for Energy. Buildings are located at Premises of PCA Mohali, Sector 63, Phase -9, Punjab. Detailed information about buildings is given in Annexure C. Details given in Annexure "C" are provided only for giving a rough idea about the Systems. Agencies are required to visit the site before submitting the bid and satisfy themselves about the services provided viz electro-mechanical, fire alarm, fire

fighting & suppression system, light automation system etc. and Air-conditioning system. Details of Annexure "C" may vary a little bit. Broadly scope of work for Energy audit for stadium systems is as under:

Methodology: Selected vendor will carry out the Energy audit through these steps. Steps are directional only. Vendors may choose an appropriate methodology but output should be similar.

1. Pre Audit Meeting with PCA team. Visual inspection & verification of documents.
2. Audit: Auditing, testing & Safety to determine the condition of electrical / fire installation.
3. Presentation of findings to committee of PCA responsible for acceptance of report and implementation of recommendations. Recommendations should be supplemented with a list of equipment's to be repaired / replaced. Specifications of the equipment's to be changed should be given with directional costs so that tender can be floated, if required by PCA and the implementation can be done easily.
4. After modifications, as suggested by PCA team, Reports will be accepted.
5. Two day's training in PCA on Energy Audit for Nodal Officers responsible for conduct & implementation for Energy audit. The training should cover following aspects :-
 - i) Indian Electricity Rules, Energy Conservation Act.
 - ii) Need of Electric Audit & Energy Audit.
 - iii) Relevant standards on Electrical & Fire safety.
 - iv) Fire & Electrical safety / Maintenance in relations to All Electrical, mechanical & fire Equipment's, etc.
 - v) Earthing / Lightning protection & their testing.
 - vi) Auditing & Implementation. ❖ Logistics for training will be taken care by PCA. Trainers & experts should be arranged by agency / vendors.

6. Implementation Audit:

Audit will be done by vendor in the stadium to certify that gaps identified in report are fulfilled in the way as it is required. Vendor will recommend the defects / gaps and to repair / replace the equipment / system and PCA shall carryout the work however after completion of rectification work Vendor will certify that the building complies with relevant standards.

SCOPE OF WORK FOR ENERGY AUDIT –

The following areas will be covered to identify Energy Conservation Measures>

Electricity Supply and Distribution

> Air Conditioning System



- > Air Handling Units
- > Split/ Package Air Conditioners
- > UPS and Ventilation
- > Lighting
- > Pumps
- > Energy efficiency of the installed DG-Sets.

Fire Fighting safety System-

1. Examine the Fire Hydrant layout along with connected pumps and engines
2. Examine the Fire Detection and Sprinkler system and suggest necessary upgradation.
3. Examine smoke evacuation
4. Assess requirement of Fire Extinguishers and their placement
5. Fire suppression system for Electrical Substation.

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Fire Safety Audit:

Fire Safety audit is a systematic and independent evaluation of the fire risks present in the premises and involve recommendations about appropriate measures to control and mitigate the effects of fires.

- NOC from Fire department
- Smoke and Heat detectors
- Sprinklers and Hydrant points
- Proper storage for storing and handling of inflammable liquids/chemicals etc.
- Appropriate types of Fire extinguishers adequate in number
- Adequate water storage tanks
- Fire Alarm/PA system/Intercom
- Unblocked/unblocked emergency exits
- Marking of aisles and exits
- Emergency evacuation plan
- Emergency preparedness plan
- Emergency light
- Training in operation of firefighting equipments and evacuation drills
- First aid medicines and trained persons
- Emergency contact numbers
- Regular inspection and maintenance procedure for firefighting equipments

Applicable Standards:

National Building Code 2005. IS Standards in Fire Safety

Methodology:

Methodology of conducting the Fire Safety Audits involves the following:

- A walkthrough the concerned premises.
- Review of the layout and drawings.
- Review of the existing firefighting systems in the premises.
- Review of the training and awareness regarding availability and operations of the firefighting systems in and across the organization.
- Recommendations for corrective and preventive actions
 - Update fire safety risk management data base
 - Prepare additional reports or relevant paperwork and send as soon as possible
 - If necessary arrange and undertake any follow up action etc.

> Integration of Solar PV System

> Any other existing electrical system not mentioned above

Electricity Supply and Distribution net work-

1. Detailed examination of the existing energy use of the facility with break up.
2. Measurement and analysis of demand and power factor, suggestions to reduce the demand and improve the power factor.
3. Performance evaluation of selected motors, 3 HP and above, to identify under/over loading of motors.
4. Study and examination of use of electric energy, cost balance with break up.
5. Study on Metering system and suggestion for improvement.
6. Energy distribution Break up on floor wise and department wise.
7. Study on V, I KW fluctuation and profiling, V & I imbalances in the network.
8. Suggestion for reducing the network loss and to improve monitoring system.
9. Performance evaluation of installed capacitors to ensure deliverance of desired output, level of losses, management of system power factor and operation of capacitors.
10. Recommended any changes to the sanctioned load & value

Air Conditioning System –

1. Evaluation of operating Coefficient of Performance of Chillers & VRV system. Evaluation of specific energy consumption of Chiller.
2. Estimation of actual tonnage and comparison of actual parameters with the design values, and corrective actions (like air and water flow balancing etc.)
3. Performance Evaluation of chilled water pumping to optimize pumping power.
4. Potential of reduction in chilling requirements in working stations.
5. Measurement of power parameters for cooling tower fans, water flow rate, air flow rate, dry bulb temperature (DBT) wet bulb temperature (WBT) sump temperature, relative humidity etc.
6. Estimation & Evaluation of cooling tower performance (Range, approach, and effectiveness) and comparing it with designed data. 6
7. Measurement (Provisions must be available) and analysis of pump flow rate, pressure and power consumption with respect to rates/design conditions.
8. Air Handling Units, FCUs etc.
9. Measurement of airflow, RH, Tsa, Tra, Chilled Water Tin, Tout through cooling coil and energy consumption of AHUs.
10. Estimation of actual tonnage and Measurement of operating zone temperatures under each unit. Comparison of actual parameters with the design values.
11. Examination and or Air Handling Units for air delivery capacity, capacity utilization, temperature pattern, pressure drop and operational pattern with respect to time to identify potential energy saving measures.

Package/ standing Air Conditioners/Cassette Air conditioners / Split or window air conditioners/ Central Air conditioner:

1. Evaluation of operating Coefficient of Performance of Precision Air Conditioner. Evaluation of specific energy consumption of precision Air Conditioner. Identification and suggestions for performance improvement and energy saving potential.
2. Estimation of actual tonnage and comparison of actual parameters with the design values and corrective actions.



3. Measurement and analysis of selected units (10% of units) 24 hours profile to suggest measures for energy conservation.
4. Package Air Conditioners: Measurement of power consumption, temperature profile under different duct able units.
5. Measurement of airflow, RH, Tsa, Tra, chilled water Tin, T out, through cooling coil and energy consumption (Access must be available).
6. Estimation of actual tonnage and Measurements of operating zone temperatures under each unit. Comparison of actual parameters with the design values.
7. Feasibility of continuing with central Air-Conditioning system along with Split.

UPS

1. Measurement and analysis UPS loading, redundancy, operating efficiency, load pattern to suggest measures for energy cost reduction, Measurement and analysis of Harmonics (up to 30th) as per standards (IEEE 519/IEC 61000 -3-2/3/4).
2. Measurement and analysis of exhaust fan operating parameters. Usage patter, suggest measures for energy conservation.

Lighting

1. Examination of the lighting system in all the areas, measurement of illumination levels, etc to improve lighting efficiency and optimizing lighting levels as per ECBC Standard & comparison (ECBC-2006) published by Bureau of Energy Efficiency (BEE) Govt. of India.
2. To look possibilities to reduce energy use by incorporating energy efficient lighting system, equipment's and lay out changes.
3. Study of operating electrical parameters like voltage etc in the lightening circuits.

Others

1. The power measurements (I,V,pf,KVA, and KW) of all major motors (above 10 HP) will be studied for possible energy savings opportunities by the application of following items.
 - a. Possibility of on /off control
 - b. Interlocking
 - c. Downsizing motors
2. Any other existing system no mentioned above.
3. Any other Electrical system available at BOI buildings will be under the scope of the Energy Audit and Energy Audit of the above system also to be carried out.

Deliverables.

- > Full description and figures if required
- > Method of implementing the proposal
- > Cost benefit analysis

Present energy consumption pattern

Energy Management Guidelines to monitor and sustain the saving identified.

1. The recommendation will be classified as non-capital proposals (proposals requiring no investment or insignificant investment) and as capital proposals. It should be noted that for capital proposals, the budgetary cost estimates have an accuracy of plus or Minus 20 per cent.
2. For projecting cost benefit analysis, simple payback system technique may be used.
3. Discussion with PCA officials for consensus on proposals and justifications.
4. Energy Conservation Measures having payback of less than 2 years will be given in the report.

5. Compilation of detailed report comprising of observations, recommendations with adequate financial justifications, vendor support data etc.
6. All the data collected from the PCA to be tabulated properly and submitted along with detailed report in the form of Soft copy and Hard Copy.
7. Presentation of the detailed report and data collected from the PCA to be given to PCA Officials before final submission to the PCA I S Bindra Stadium.

Qualification Criteria of the Firm

1. The vendor should have carried out at least one Energy Audit in financial institutions, major hotels and multistoried office buildings with a minimum connected load of 1000 KW in last 05 years. Or the vendor should have carried out at least two Fire, electrical safety and / or Energy Audit in financial institutions, major hotels and multistoried office buildings with a minimum connected load of 500 KW in last 05 years
2. The vendor should be enlisted in approved list of vendor /engineers of Bureau of Energy Efficiency. Engineers who are likely to be working on this project should be certified from BEE. Enclose copy of certificate of BEE & proof that engineer is working since last one year with agency.
3. The contractor should be an Income tax assessee and should have filled Income Tax return for the last assessment year.
4. The Contractor could be a sole proprietary concern/partnership firm or a company and should be registered with Registrar of Firms/Companies wherever applicable.
5. The firm should have office in Chandigarh including Delhi, Gurgaon, Noida, Ghaziabad, Faridabad.

Payment

- 60% payment will be released after submission of report and their acceptance by management.
- 40% payment will be released after submission of report on implementation audit of certification.

PART III Terms and Conditions Submission of Bid

Sealed Envelope containing Technical cum Commercial Bid with "PCA I S Bindra Stadium, Energy Audit" super scribed on it should be addressed to: -

General Manager (Maint.)

Punjab Cricket Association, I S Bindra Stadium,
Phase -9, Sec-63, Mohali,
Punjab-160062 Phone : 0172-2232300, 301, 302
Email :engrs.pacstadium@gmail.com.in Website : www.cricketpunjab.in

The proposal should reach the Institute on or before 05/11/2016 by 12:00 p.m. The proposals received late will not be considered.

The proposal in a sealed envelope should include (2 covers) as given below -I. Technical Bid sealed cover containing:-

1. Proposal Form and Technical bid as per Annexure A of this document
2. Company profile along with documentary evidence of Services offered and all relevant enclosures as detailed in / required as per Technical Bid form and qualification criteria
3. Bid Security deposit of Rs. 10,000/- (Rupees One Thousand Only) in the form of Demand draft in favour of Punjab Cricket Association, Mohali. This bid security will be returned to all the firms who couldn't be qualified /successful.

II. Commercial Bid separate sealed cover containing:-

1. Proposal of fees as per Annexure B of this document.

Note: The sealed covers of technical and commercial bids together should be kept in another sealed envelope.

B. Clarifications on the TENDER

All queries relating to this tender should be in writing only (at the above address) and can be sent to email id: engrs.pcastadium@gmail.com A pre bid meeting shall be held to answer the queries.

The firm should provide the E-mail address for correspondence in their queries without fail, since replies from PCA will be provided to the vendor, in this mode only.

If the PCA in its absolute discretion deems that the originator of the clarification will gain any advantage by response to a question, then PCA reserves the right to communicate such query and response to all respondents of the tender host it on Website.

C. Clarifications on the bids/response to tender

The PCA IS Bindra Stadium in order to assist evaluation and comparison of bids/response to tender received, may seek clarifications from some or all of the bidders. Such clarifications and responses will necessarily be in writing. The NIBSCOM has right to disqualify the vendor whose clarification is found not suitable.

D. Confidentiality

The tender contains information proprietary to the PCA. The PCA requires the recipients of this tender to maintain its contents in the same confidence as their own confidential information and refrain from reproducing it in whole or in part without the written permission of the PCA.

The PCA will not return the bids/responses to the tender received. The information provided by the bidder/s will be held in confidence and will be used for the sole purpose of evaluation of bids.



F. Opening and Evaluation of Bids (Evaluation Methodology)

i) Opening of Technical Bids by the PCA I S Bindra Stadium

Technical bids will be opened in the presence of the "Maintenance committee" and vendor's representatives. The Bidders' names, Bid modifications or withdrawals and the presence or absence of requisite Bid Security and such other details as the PCA, at its discretion, may consider appropriate, will be announced at the time of technical Bid opening. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the Bidder. Bids (and modifications sent) that are not opened at Bid Opening shall not be considered further for evaluation, irrespective of the Circumstances. Withdrawn bids will be returned unopened to the Bidders.

ii) Preliminary Examination and Technical Evaluation

The PCA will examine the Bids to determine whether they are complete, required formats have been furnished, the documents have been properly signed, and the Bids are generally in order. The PCA may, at its discretion, waive any minor infirmity, nonconformity, or irregularity in a Bid, which does not constitute a material deviation. Only those Bidders whose Technical bids have been found to be in the conformity of the eligibility terms and condition would be taken up by the PCA for the further detailed evaluation. Prior to the detailed evaluation, the PCA will determine the responsiveness of each Bid to the Bidding Document. For purposes of these Clauses, a responsive Bid is one, which conforms to all the terms and conditions of the Bidding Document without material deviations. Deviations from, or objections or reservations to critical provisions, such as those concerning Bid Security, Applicable Law, Performance Security, Qualification Criteria, Force majeure will be deemed to be a material deviation. The PCA determination of a Bid's responsiveness is to be based on the contents of the Bid itself, without recourse to extrinsic evidence. The PCA reserves the right to evaluate the bids on technical & functional parameters including possible visit to inspect live site/s of the bidder and witness demos of the system and verify functionalities, response times, etc. If a Bid is not responsive, it will be rejected by the PCA and may not subsequently be made responsive by the Bidder by correction of the non-conformity. The PCA may use the services of external consultants for bid evaluation

iii) Clarification of Technical Bids

During evaluation of the Bids, the PCA, at its discretion, may ask the Bidder for clarification of its Bid. The request for clarification and the response shall be in writing / over telephone.

iv) Evaluation and Comparison of Price Bids

The PCA will evaluate and compare the Price bids, which have been determined to be responsive. Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If the Successful Bidder does not accept the correction of the errors, its Bid will be rejected, and its Bid security may be forfeited. If there is a discrepancy between words and figures, the amount in words will prevail. L1 will be decided on the basis of price quoted in the Annexure C of the commercial bid.

G. Punjab Cricket Association, I S Bindra Stadium reserves the right to the following:

1. Reject any or all proposals received in response to the tender without giving any reason whatsoever
2. Reject the proposals received in response to the tender containing any deviation from the payment terms stipulated in para H below
3. Waive or Change any formalities, irregularities, or inconsistencies in proposal format delivery
4. Extend the time for submission of proposal.
5. To independently ascertain information from the PCA's and other institutions to which Consultant/consultant firm has already extended services for similar assignment.
6. Apply whatever evaluation criteria deemed appropriate for evaluation of Technical Bids.
7. To terminate the services if the assignment is not proceeding in accordance with the terms of contract or undue delay is taking place in execution of the assignment.
8. Modify the time period stipulated in Para E above for completion of assignment during the execution of assignment.

H. Force Majeure

Notwithstanding the provisions of TCC, the firm shall not be liable for forfeiture of its performance security, liquidated damages, or termination for default if and to the extent that its 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 Bidder and not involving the Service Provider's fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the PCA in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

If a Force Majeure situation arises, the Bidder shall promptly notify the PCA in writing of such condition and the cause thereof. Unless otherwise directed by the PCA in writing, the Bidder shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

I. Termination for Insolvency

The PCA may, at any time, terminate the Contract by giving written notice to the Bidder if the Bidder becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the consultant/firm/Service Provider, provided that such

J Termination for Convenience

The PCA, by written notice sent to the consultant/firm/Service Provider, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the NIBSCOM's convenience, the extent to which performance of the Bidder under the Contract is terminated, and the date upon which such termination becomes effective.

K. Bid Security

The Bidder (Consultant/consultant firm) shall furnish, as part of its Bid, a Bid security of. 10,000/- The Bid security is required to protect the PCA against the risk of Bidder's conduct, which would warrant the security's forfeiture.

The Bid security shall be denominated in Indian Rupees and shall be in the form of a Demand Draft, issued by a Scheduled Commercial Bank in India, drawn in favor of "Punjab Cricket Association" payable at Mohali and valid for a period of six months. Any Bid not secured, as above, will be rejected by the PCA, as non-responsive. Unsuccessful Bidders' Bid security will be discharged or returned as promptly as possible but not later than sixty (60) days after the expiration of the period of Bid validity

The Bid security may be forfeited:

- a) if a Bidder withdraws its Bid during the period of Bid validity specified by the Bidder on the Bid Form; or
- b) if a Bidder makes any statement or encloses any form which turns out to be false/incorrect at any time prior to signing of Contract; or
- c) in the case of a successful Bidder, if the Bidder firm fails to sign the Contract; OR to furnish Performance Guarantee

L. Performance Guarantee:

Void

M. Time of completion & penalty clause: -

Energy audit should be completed i.e. submission of report and its acceptance by PCA Management within 7 days from the date of issue of Work order. If the agency fails to complete the above mentioned work within the stipulated time frame, the agency shall be liable and pay the owner as pre estimated damages at the rate of one percent of the final contract price for each week of delay or part thereof subject to a maximum of 10% of the final contract value.



The agency shall submit the preliminary report within 10 days of issue of work order and final report with recommendation /observations, cost involved along with the BOQ, specifications & draft tender within 15 days of issue of work order. Implementation audit & Final compliance report along with certificate of compliance in respect all relevant fire, electricity laws of the country shall be submitted within 15 days after confirmation by the NIBSCOM that the observations are complied with.

In case the consultant fails to carryout implementation audit & to submit the final compliance report within the specified period, the PCA shall forfeit the bid security as well as the balance payment shall be made.

N. Injury to persons, property & Owner's Indemnity

i) The Agency shall be liable for and shall indemnify the Owner against any liability loss, claim or proceedings whosoever arising under any statute or at common law in respect of personal injury to or the death of any person whomsoever arising out of or in the course of or caused by the carrying out of the works unless due to any act or neglect of the Owner or of any person for whom the Owner is responsible.



ii) Except of such loss or damage as is at the risk of the Owner under the Contract the Agency shall be liable for and shall indemnify the Owner against any expense, liability, loss claim or proceedings in respect of any injury or damage whatsoever to any property real or personal in so far as such injury or damage arisen out of or in the course of or by reason of the carrying out of the works and provided always that the same is due to any negligence omission or default of the agency his servants or agents or of any sub-contractor his servants or agents.



O. Accidents

The Agency shall within 24 hours of the occurrence of any accident at or about the Site or in connection with the execution of the work report such accident to the The Agency shall comply with the provision of all labour legislation including the requirements of:-

- a) The payment of Wages Act
- b) Owner's Liability Act
- c) Workmen's Compensation Act
- d) Contractor Labour (Regulation & Abolition) Act 1970 and Central Rules 1971
- e) Apprentices Act 1961
- f) Any other Act or enactment relating thereto and rules framed there under from time to time.

P. Costs of tests



The cost of arranging/undertaking any test, as directed by the Owner shall be borne by the Agency.

Q. Excise & Sales taxes, Works contract tax

The Agency shall pay and be responsible for payment of all taxes, duties, levies fees or charges in respect of the works including but not limited to sales taxes, tax on work contract, excise duties and octroi payable in respect of materials, equipment, plant and other things required for the contract. All of the aforesaid taxes, duties, levies fees and charges shall be to the Agency's account and Owner shall not be 15 required to pay any additional or extra amount on account of variation of taxes, duties, levies, fees etc., if any till completion of work and no extra claim on this account will be entertained in any case.

R. Labour Laws

The Agency shall observe and strictly adhere to all prevailing labour laws inclusive of Contract Labour (Abolition and Regulation) Act of 1970 and other safety regulations including amendments made, if any afterwards.

S. The agency awarded with the work, will have to sign an agreement with PCA, on a format provided by PCA for the work of Energy Audit.

T. Statutory authority obligations, notices, fees charges

- 1. The Agency shall comply with and give all notices required by any act, any instrument, rule or order made under any Act, or any regulation or byelaw of any local authority or of any regulation of any agency which has any jurisdiction with regard to the works or with whose systems the same are or will connected.
- 2. If the agency shall find any divergence between the statutory requirements and all or any of the contract documents or any variation instruction issued in accordance with these conditions, shall immediately give to the Owner's Representative a written notice specifying the divergence.
- 3. If the agency gives notice under paragraph (b) of this sub-clause or if Owner shall otherwise discover or receive notice of a divergence between the statutory requirements and all or any of the contract documents or any variation, instructions issued in accordance with these conditions the Owner shall within 7 days, of discovery or on receipt of a notice, issue instructions in relation to the divergence. If and in so far as the instructions require the works to be varied, they shall be deemed to be Owner instructions issued in accordance with these conditions.

U. Work to be done to the satisfaction of the owner



The agency shall execute, complete and maintain the work in strict accordance with the contract to the satisfaction of owner and shall comply with the specifications and adhere strictly to the owner's instructions and directions on any matter (whatever mentioned in the contract or not) concerning the work. The agency shall take instructions and directions from the owner's representative.

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Annexure 'A'

PROPOSAL FORM (to be included in Technical Proposal Envelope)

Date :

General Manager (Maint.),
Punjab Cricket association,
Phase-9, Sector-62, Mohali -160062
Phone : 0172-2232300-301-302
Email : engrs.pcastadium@gmail.com
Website : www.cricketpunjab.in

Dear Sir,

Punjab Cricket Association, Tender for Energy Audit

Having examined the scope of work, general, special conditions and TENDER Document, we, the undersigned, offer our services for Energy Audit for buildings of the PCA in conformity with the requirements mentioned in said TENDER documents.

We undertake, if our bid/ Proposal is accepted, to provide services for Energy Audit for buildings of the PCA I S Bindra Stadium as per the scope of work, deliverables and in accordance with the time frames specified in the TENDER document as well as on the payment terms mentioned therein.

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We confirm that the information submitted by us in our Bid/Proposal is true and correct. We agree to abide by the Bid/ Proposal and the fees quoted therein. We hereby acknowledge and unconditionally accept that PCA may on its absolute discretion apply whatever criteria deemed appropriate in short listing and selection of the consultants.

We declare that we have not made any alterations/changes whatsoever in the TENDER document which is downloaded from the Website of the NIBSCOM and we are fully aware that in the event of any change, the TENDER document maintained at the NIBSCOM will be treated as authentic and binding and the Bid/Proposal submitted by us will be liable to be rejected by the NIBSCOM in the event of any alteration made in the TENDER document.

We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988".

We understand that you are not bound to accept the lowest, or any other Proposal, you may receive.

Dated this..... day of2016

(Signature In the capacity of duly authorized to sign Proposal for and on behalf of

_____)

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Sr. No.	Details	To be furnished by the Vendor
1.	Name & Address of the Firm	
2.	PAN No.	
3.	Type of organization & year of incorporation	
4.	Correspondence address at NCR with contact persons name, telephone number, mobile number etc. (The company should have office and service facilities at Chandigarh)	
5.	Turnover of the Company for the last 3 years	
6.	Number of Fire, Electrical Safety and/or Energy Audit Works (minimum 1 job) carried out with a connected load of minimum 1000 KW during the last 5 years and Number of Fire, Electrical Safety and/or Energy Audit Works (minimum 2 jobs) carried out with a connected load of minimum 500 KW during the last 5 years	
7.	Name & Address of the client organizations with details of contact person. Please arrange to provide following details.	
i.)	Capacity of work (in KW)	
ii.)	Year of execution	
iii.)	Time taken for completion (Attach proof like copy of work order, performance & completion certificate etc.)	
8.	Whether Annexure A (i) filled up with full particulars	
9.	Other information's applicant might like to give the support of the application.	

LIST OF WORKS EXECUTED DURING LAST 5 YEARS TOWARDS ENERGY AUDIT

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A. ONE SIMILAR WORK OF CONTRACT OF ENERGY AUDIT WITH MINIMUM CONNECTED LOAD OF 1000 KW.

Name of the Firm Client	Location of the work	Work order Ref. No, & date	Period of Execution	Contract Amount	Remarks (%age of saving done)

B. TWO SIMILAR WORKS OF CONTRACT OF ENERGY AUDIT WITH MINIMUM CONNECTED LOAD OF 500 KW.

Name of the Firm Client	Location of the work	Work order Ref. No, & date	Period of Execution	Contract Amount	Remarks (%age of saving done)

We confirm that all the details mentioned as required above and the documents/enclosures submitted in support of the same are true and correct and if the PCA observes any misrepresentation of facts on any matter at any stage of evaluation, the PCA has right of rejecting the Bid.

Dated thisday of 2016

(Signature In the capacity of and duly authorized to sign Proposal for and on behalf of _____)

Annexure 'B'

COMMERCIAL BID

(To be included in commercial Proposal Envelop)

Date:

General Manager (Maint.)

Punjab Cricket Association

I S Bindra Stadium,

Phase -9, Sector-62,

SAS Nagar, Mohali, PB. – 160062

Phone.: 0172 2232300-301,302

Email :engrs.pcastadium@gmail.com

Website : www.cricketchunjab.in,

Dear Sir,

.....
PCA, Tender for Energy Audit
.....

In terms of the above-mentioned TENDER document we submit herewith the commercial bid (fees) for the assignment proposed by the PCA.

.....

Sr. No.	Deliverables (Broad)	Total Amount in Rs & words
1.	Energy Audit TERMS AND CONDITIONS 1)	

TERMS AND CONDITIONS

1. The above quoted fee is the lump sum (fixed price) amount for the entire assignment. The fees include all duties, levies, taxes, travelling expenses, out of pocket expenses and any other expenses of whatsoever nature but excluding Service Tax. The NIBSCOM will pay Service tax, at the applicable rate.

Dated thisday of 2016.

(Signature in the capacity of duly authorized to sign Proposal for and on behalf of _____)

Annexure "C"

Details of Systems to be audited

Punjab Cricket Association, I S Bindra Stadium, Phase -9, Sector-62, SAS Nagar, Mohali, Punjab -160062.
Particulars of Electrical Fittings & Installations/DG Sets/ Solar Water Heating Panels
All indoor and outdoor electric fittings and electric installations including:

.....
1. D.G. Sets

500 KVA - 04 Nos. (SUDHIR GENSET) Cummins Engine & Stamford Alternator

2. Air-Conditioning system

Club House (Package Unit's L.G make split Acs and VRV system split and FCUs)

Level -1 First Floor Guest Room's-

Deluxe 6 Room x 1.5 Tons X 2 Nos. = 12 Nos.

Ordinary 8 rooms x 2 Tons X 1 Nos..= 8 Nos.

Ground Floor (VRV) FCUs - 3 Suite x 2 NosFCu's (2Tons) = 6 Nos.

Split - 5 Rooms x 2 Nos. (1.5 Tons) = 10 Nos.

Basement Floor VRV- 5 Suite x 2 Nos. Five's (2 Tons) =10 Nos.
 Split- 3 Rooms x 2 Nos. x 1.5 TR = 6 Nos.
 Ductable Split AC's 7.5 Tons X 2 Nos (One in Basement + one in ground floor)
 Dormitory Split AC's 2.0 Ton 11 Nos, 1.5 Ton 10 Nos and 1.0 Ton (1 Nos.)

3. Air Conditioning Pavilion Building

Cassette AC's	4 Tons -	10 Nos.	
	2 Tons -	4 Nos.	
	3 Tons -	9 Nos	
Tower AC's	3 Tr	-	13 Nos.
	3.5 Tr	-	04 Nos.
	2 Tr	-	4 Nos..
Split AC	2Tr	-	53 Nos.
	1.5 Tons	-	16 Nos..
	1 Tons -	4 Nos.	
Window	1.5 Tons	-	16 Nos.
Tower AC water cooled	4.0 Tons	-	08 Nos.
Cassette AC water cooled	1.5 Tons	-	04 Nos.
Cassette AC water cooled	2.0 Tons	-	04 Nos..
A.H.U duct able-	50 Tons- 01	AC Lounge (62' Level)	
	45 Tons- 01	AC Lounge (62' level)	
	20 Tons	- 01 Long Room	
	30 Tons – 01	Conference Hall	
	20 Tons	- 04 Nos.	Basement Banquet Hall
	10 Tons	– 03 Nos..	
	05 Tons	- 02 Nos..	

Central YORK Reciprocating Chilling Units fitted with compressor YEW-
 175 Tons x 2 Nos.
 Chiller Pump - 20 H.P. x 3 Nos..
 Condenser Pump - 20 H.P. x 3 Nos.
 Cooling Tower - 10 H.P x 2 Nos..

ELECTRICAL/ MOTOR DRIVES

4. Health Club

Sauna	-	9 KW x 2 Nos.	Room	
Steam	-	9 KW x 2 Nos.	Room.	
Jaccuzi	-	2 Nos.	with Shower Rooms	

g.) Swimming Large pool

1. Filter (Sand Filter) - 04 Nos..
2. Circulation Pump 3 HP - 04 Nos.
3. Back Wash /Section Sweeper Pump –03 HP – 1 Nos.

h.) Swimming Pool – Small.

1. Filter (Sand Filter m/c) - 01 Nos..
2. Circulation Pump 3 HP -02 Nos.
3. Back wash/Suction Sweeper Pump 3 HP – 01 Nos..

- i.) Bore Well 35 HP - 01 Nos.
33 HP - 01 Nos.

- j.) Sprinkler 40 HP – 01 Nos.

k.) Hot Water

- | | | | |
|--------------|---|-------------------|-----------|
| Boiler | - | 1000 Ltr Capacity | - 01 Nos. |
| Solar System | | 3000 Ltr | - 01 Nos. |
| Geyser | | | - 6 Nos. |

- l.) UPS, Inverters, Telephone, Intern ate, OTIS lift-3 Nos., Schneider Lift-1 Nos. Water cooler -6 Nos

- m.) Indoor/Outdoor Cricket Facility - Electrical Light Fittings 27 KW each 1KW Metal Halide light 27 Nos

- n.) Main Ground Light 1.5 KW each Metal halide light 588 Nos

5. Main RMU, 3 way and 5way, Transformer 1000KVA 3nos and Main LT Panel

6. All other electrical panels installed in the buildings.

7. All Distribution boards located in various areas within the building.

8. External lighting, feeder pillars and cables

9. All incoming and outgoing cables – Bus ducts

10. All earthing pits and earthing systems



Fire Fighting System: Protection and Detection

Protection system Hydrant pumps – Main Motor – 75 HP – 1 Nos.
 Jacky Pump – 30 HP – 1 Nos.
 Engine 125 KVA - 1 Nos.

- FIRE Hose CP outlet – 23 Nos approx. 15 mtr
- FIRE Hose Reel outlet – 13 Nos approx. 30 mtr
- Control Panel for Auto Operation of Pumps and engine 01 Nos.
- Fire Detection and Alarm System (smoke/heat detector Apolo make) with eight zone/loop addressable control panel

Sl.No	Description of floors	Loop	Detector smoke &Heat	MCP	Sounder
1.	-18'-0'' Basement banquet hall	04	62	06	04
2.	-7'-6'' long Room	07	102	02	05
3.	+2'-6'' level Restaurant, Conference hall, lobby etc.	05	116	01	07
4.	+23'-6'' First floor Corporate boxes & offices	08	42	04	03
5.	+35'- 10 1/2'' Second floor Corporate boxes & offices	08	96	05	08
6.	+52'-0'' AC Lounge/ boxes & offices	01	84	03	03
7.	Club House Basement, ground and First Floor	06	68	03	06
8.	Players Hostel Basement, Ground and First Floor	02	28	03	03

Fire Extinguishers:

1.	Cease Fire Extinguishers AFFF 9 Ltr	04 Nos
2.	Cease Fire Extinguishers ABC 5Kg MAP 50	73 Nos
3.	Cease Fire Extinguishers ABC 6Kg MAP 90	51 Nos
4.	Cease Fire Extinguishers CO2 4.5Kg	15 Nos
5.	Minimax Fire Extinguishers CO2 4.5Kg	08 Nos
6.	Minimax Fire Extinguishers DCP 5Kg	08 Nos

Operation of the Fire Detection Systems, Alarms and Suppression system is as under:

A. Fire detection and alarm system:

- a. Daily Checks
 - i. Check the power supply position of all the panels
 - ii. Check the LED of panels through lamp test switch
 - iii. Check the health of battery
 - iv. Check the battery, if used, boost charges the same after restoration of power supply.
 - v. Check any fault if indicated on panels and rectify the same immediately.
- b. Fortnightly Checks:
 - i. Operational readiness of the system during main power failures.
 - ii. Check the operation of external hooters.
- c. Monthly Checks:
 - i. Check the fire circuit of each Zone from the panels.
 - ii. Check the fault circuit of each zone from the panels
 - iii. Check whether signal of fire and fault gets transmitted to main panel.
- d. Quarterly Checks

Check fault circuit to each Zone by actually deactivating wire or by removing detection.

 - i.) Check fire circuits by actually giving smoke to each Ceiling mounted detector of various areas of each zone.
 - ii.) Cleaning of all type of detectors (HD & SD) with a cloth piece from outside.
 - iii.) Check the sensitivity of the detectors.
- e. Half yearly Checks:
 - i.) Clean all detectors with vacuum cleaner or blower.
- f. Annual Inspection Test
 - i.) All the tests, which are carried out in quarterly inspection
 - ii.) Operation of at least 20% of the detectors in an installation should be checked each year and selection should be done in such a way that all the detectors in any installations shall have been checked once in every five years. Replacement of faulty one's/new ones. The cost of the same to be borne by owner.

B. Hydrant System and Sprinkler System

Run check of the jockey/electrical/diesel pump set daily/ as and when required for at least five minutes. Check the pressure at the pressure gauges. Start the pumps manually/automatically by operating hydrant valves by rotation.

- i. Check for the pressure drop in hydrant/sprinkler pipelines. If the drop is frequent in a day, leakage must be identified by isolating the network in phases and it shall be brought to the notice of the concerned engineer/ Owner.
- ii. All pump glands shall be maintained in efficient working condition and the packing renewed as required to maintain efficiency.

- iii. All hydrants shall be examined systematically once a week to ensure that valve and spring catches are maintained in good conditions and all brass parts polished.
- iv. Check the hydrant main pressure at the hydraulically remotest and highest location as per system recommendations.
- v. All working parts shall be kept clean and highly oiled.

C. Hydrant Accessories

All the hydrant valves, branch pipes nozzle shall be cleaned/polished fortnightly, the hose reel and houses should be uncoiled, cleaned and again coiled at least once in a month. After use, hose to be thoroughly washed in clean water and dried. Fire hose to be rolled up evenly and carefully with the female on spring coupling and being in the center.

D. Valves

- i) All the valves shall be checked for leakage and remedial action may be taken if necessary, i.e. changing of gland packing.
- ii) All the valves shall be operated and oiled, once a month.
- iii) All the valves are to be thoroughly overhauled annually to remove sludge and other foreign matter collected in the valve seal and pit of valves.

E. Maintenance of Valves Chambers, External hose boxes and hydrant/sprinklers shafts:

- i) Periodical cleaning including de-watering of valve chamber and hydrant and sprinkler shafts may be carried out.
- ii) All hose boxes shall be inspected externally once every week to ensure that the equipment installed therein intact. Further the hose boxes shall be cleaned internally once in a month.

F. A.C. Fire Pump

- i) Run the A.C pump set daily for at least five minutes. Operate pump sets periodically to keep in working order. Check the pressure at the pressure gauges. Start the pump manually/automatically by operating hydrant valves by rotation.
- ii) All pump glands shall be maintained in efficient working condition and the packing renewed as required to maintain efficiency.
- iii) A.C pumps hydrant should be maintained according to the instruction supplied by manufacturer of the same.
- iv) Suction and delivery valves shall be examined once every six-month.
- v) All working parts shall be kept clean and highly oiled.

G. Fire Extinguishers

- i) Clean the exterior of the extinguisher brass parts with metal polish, and chromium plated parts with silver polish.
- ii) Check the nozzle outlet and vent holes and threaded portion of the cap for clogging and check the plunger is in working position and is clean.
- iii) Check the cap washer; grease the threads of cap plunger.
- iv) Check pressure of all fire extinguisher and if found any defectives or missing immediately notice to owner.

