

BID DOCUMENT

FOR

CONDUCTING

**INVESTMENT GRADE ENERGY AUDIT (IGEA) OF
TWO INSTITUTES (WHOLE THE CAMPUS
INCLUDING BUILDING, STREET LIGHTING, WATER
PUMPING etc.) IN THE STATE OF PUNJAB**



**PUNJAB ENERGY DEVELOPMENT AGENCY,
SOLAR PASSIVE COMPLEX
PLOT NO. 1-2, SECTOR 33-D, CHANDIGARH-160034
PHONE: 0172-2663328, 2663382 Fax: 0172-2662865
Website: www.peda.gov.in Email: peda_spa@yahoo.co.in**

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PUNJAB ENERGY DEVELOPMENT AGENCY
CHANDIGARH

Bid Document for **CONDUCTING INVESTMENT GRADE ENERGY AUDIT (IGEA) OF TWO INSTITUTES (WHOLE THE CAMPUS INCLUDING BUILDING, STREET LIGHTING, WATER PUMPING etc.) IN THE STATE OF PUNJAB**

Issued to M/s _____

This Bid contains 10 pages.

DIRECTOR

Punjab Energy Development Agency
CHANDIGARH

PUNJAB ENERGY DEVELOPMENT AGENCY,
SOLAR PASSIVE COMPLEX
PLOT NO. 1-2, SECTOR 33-D, CHANDIGARH-160034
PHONE: 0172-2663328, 2663382 Fax: 0172-2662865

BID INVITATION

1.	Name of work	Conducting Investment Grade Energy Audit (IGEA) of Two Institutes (whole the Campus Including Building, Street Lighting, Water Pumping Etc.) in the state of Punjab.
2.	Date and time of sale of bids	Upto 1.00 PM on dated 27.8.2010
3.	Date and time of receipt of bids	Upto 3.00 PM on dated 27.8.2010
4.	Date and time of opening of bids	3.30 PM on dated 27.8.2010
5.	Earnest Money	Rs. 50,000/- (Rupees Fifty Thousand only) by demand draft in favour of Punjab Energy Development Agency payable at Chandigarh.
6.	Completion period	Six months
7.	Objective	The broad objective of the Investment Grade Energy Audit is to review the present energy consumption scenario, monitoring and analysis of the use of energy and explore the energy conservation options in various load centers of the institutes including submission of a detailed project report containing recommendations for improving energy efficiency with cost benefit analysis and technical specifications for any retrofit options with the list of suppliers / manufacturers of energy efficient technologies.
8.	Scope of work	see Annexure-I

9.	Payment terms	<ul style="list-style-type: none"> i. 70% payment will be released on submission of draft IGEA report. ii. The balance 30% will be released on completion of IGEA to the satisfaction of PEDDA. iii. EMD will be released after one month of completion of work. iv. Tax deductions will be made as applicable.
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10. OTHER TERMS & CONDITIONS:

- i. Bids should be submitted in the sealed envelope super-scribed with the name of work.
- ii. Parties are required to quote lump-sum rate for each institute in the financial bid. (Annexure-II).
- iii. The rates should be through rates including all taxes levies, freight, octroi etc.
- iv. The completion period will be six months from the date of placement of work order.
- v. The undersigned does not bind himself to accept the lowest rate or any bid and reserve to himself the right of accepting the whole or part of the bid and bider shall be bound to perform the same at the quoted rates.
- vi. Sales tax or any other tax on the material or the turnover shall be payable by the ESCO and PEDDA will not entertain any claim in this respect.
- vii. Before filling bid, the ESCO shall visit the site and satisfy himself as to the conditions prevalent there especially regarding accessibility to the site, nature and extent of the ground, working conditions, stacking of materials. Installations of Tools and Plants etc. accommodation and movement of labour, supply of water and power for satisfactory completion of the works contract. No claim, whatsoever on such accounts shall be entertained by PEDDA in any circumstances.
- viii. The ESCO shall comply with the provisions of Apprentices Act, 1961, Minimum wages Act, 1948 workmen's compensation Act, 1923, Contract

Labour (Regulation and abolition) Act, 1970 Payment of wages Act, 1936. Employees Liability Act 1938, Maternity Benefits Act 1961, and The Industrial Dispute Act, 1947, as applicable and the rules and regulations issued there under from time to time. Failure to do so shall amount to breach of the contract and the nodal officer may at his discretion terminate the contract. The ESCO shall also be liable for any pecuniary liability arising on account of violation by him of provisions of the Act.

- ix. Unless otherwise stated, the contract shall be for the whole work as described in the scope of work. The ESCO shall be bound to complete the whole work as described.
- x. The bid shall be typed or written in indelible ink and shall be signed by the bidder or a person or persons duly authorized to sign on behalf of the bidder. All pages of the bid document containing the entries and all corrections or amendments made therein shall be initiated by the person or persons signing the bid. The following documents shall accompany the bid:
 - (a) Demand Draft for Earnest Money.
 - (b) Partnership deed or Registration Certificate of the firm/company as the case may be.
 - (c) Copy of registration.
 - (d) Power of Attorney as required under the rule for joint venture.
 - (e) List of works executed and/or in progress with agreement cost and certificate of satisfactory completion & performance from the clients.
 - (f) List of machinery and list of staff (Technical & non-technical).
- xi. Incomplete bid or bids not fulfilling any of the conditions specified above, are liable to be rejected without assigning any reason.
- xii. The conditional bids and bids without EMD shall not be entertained.
- xiii. In case, the party fails to complete the work within the stipulated period, penalty will be charged @ 10% of the total value of work order.
- xiv. The scope of work can be increased or decreased by PEDDA at any time.

- xv. Bids may be submitted in the office of the Director, Punjab Energy Development Agency, SOLAR PASSIVE COMPLEX, Plot No. 1 & 2, Sector – 33 D, Chandigarh.
- xvi. PEDDA reserved the right to accept or reject any or all the bids without assigning any reason thereof.

DIRECTOR

SCOPE OF WORK

The scope of the work includes a detailed study for energy conservation options of various energy sources like Electricity and Fuel oil in whole the institutes Including Building, Street Lighting, Water Pumping etc. and recommends actions for reducing the same.

The broad scope of the study will as per the following:

- 1. Review of present electricity, fuel oil & estimation of energy consumption in various load centers like lighting, Air-Conditioning, Water Pumping etc.**

- 2. Electrical Distribution System**
 - a) Review of present electrical distribution like Single Line Diagram (SLD), transformer loading, cable loading, normal & emergency loads, electricity distribution in various areas/floors etc.
 - b) Study of Reactive Power Management and option for power factor improvement.
 - c) Study of power quality like Harmonics, current unbalance, voltage unbalance etc.
 - d) Exploring the Energy Conservation Option (ENCON) in electrical distribution system.

- 3. Lighting System**
 - a) Review of present lighting system, lighting inventories etc.
 - b) Estimation of lighting load at various locations like different floors, outside (campus) light, pump house and other important locations.
 - c) Detail lux level survey at various locations and comparison with acceptable standards.

- d) Study of present lighting control system and recommend for improvement.
- e) Analysis of lighting performance indices like Lux/m², lux/watt, lux/watt/m² and comparison with norms of high rise buildings.
- f) Exploring the Energy Conservation Option (ENCON) in lighting system.

4. Heating, Ventilation & Air-Conditioning System (HVAC System).

- a) Review of present HVAC system like central AC, window AC, split AC, package AC, Water Coolers, and Air Heaters etc.
- b) Performance assessment of window AC, Split AC and Package AC system.
- c) Performance assessment of Chillers, Cooling Towers, Air Handling Units (AHUs) and cold insulation system of central AC.
- d) Analysis of HVAC performance like estimation of Energy Efficiency Ratio (EER i.e. KW/TR), Specific Energy Consumption (SEC) of Chilled Water Pumps, Condenser Water Pumps, AHUs etc. and comparison of the operating data with the design data.
- e) Exploring the Energy Conservation Option (ENCON) in HVAC system.

5. Diesel Generator (DG) Sets

- a) Review of DG set operation.
- b) Performance Assessment of DG sets in terms of Specific Fuel Consumption (SFC i.e. KWH/Liter), Exploring the Energy Conservation Options (ENCON) in lighting system.
- c) Exploring the Energy Conservation Option (ENCON) in DG sets.

6. Water Pumping System

- a) Review of water pumping, storage and distribution systems.

- b) Performance assessment of all major water pumps i.e. power consumption vs. flow delivered, estimation of pump efficiency etc.
- c) Exploring the Energy Conservation Option (ENCON) in Water Pumping System.

7. Thermic Fluid Heaters/Boilers

- a) Performance assessment of hot water generators or thermic fluid heaters like estimation of efficiency etc.
- b) Exploring the ENCON options in this systems.

8. Motor Load Survey

- a) Conducting the motor load survey of all drives to estimate the %loading.
- b) Exploring the ENCON options in electric drive system.

9. Energy Monitoring & Accounting System

- a) Detail review of present energy monitoring & accounting system in terms of metering, record keeping, data logging, periodic performance analysis etc.
- b) Recommend for effective energy monitoring & accounting system.

10. Others

- a) Review of present maintenance practice, replacement policies and building safety practices as applicable to high rising buildings and recommend for improvement.

Cost Benefit Analysis of each ENCON options indicating simple pay back period, return on investment (ROI), Internal Rate of Return (IRR).

Preparation of Detail Project Report and submission of five copies of each (hard & soft) to PEDDA.

Deliverables in the Detail Project Report (DPR)

The DPR should contain the following information :

- Methodology adopted for the study.
- Present energy scenario of the building.
- Detail analysis of the data obtained through field visits, trial measurements by portable gadgets, discussion with concerned personnel etc.
- Recommendations for energy saving options in all possible areas with cost benefit analysis.
- Technical specifications for any retrofit options.
- List of suppliers/manufacturers of energy efficient technologies.

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FINANCIAL BID

CONDUCTING INVESTMENT GRADE ENERGY AUDIT (IGEA) OF
FOLLOWING TWO INSTITUTES (WHOLE THE CAMPUS INCLUDING
BUILDING, STREET LIGHTING, WATER PUMPING etc.) IN THE STATE OF
PUNJAB

S. No.	Name of the Institute	Lump-sum Rate for conducting IGEA (Rs.)	
		(in words)	(in figures)
1	NATIONAL INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH (NIPER), SECTOR-67, S.A.S. NAGAR, MOHALI (Whole Institute Campus)		
2	PUNJABI UNIVERSITY, PATIALA (Whole Institute Campus)		
	TOTAL		

(Signature & Seal of Bidder)