

E-Tender Reference: PEDA/PGL/2022-23/06

**Punjab Genco Ltd.
Invites
E-Tenders**

For

Supply, Erection, Testing and Commissioning of one number Ultrasonic Mass Flow Meter and 4 numbers Robust Butterfly Valve (manual) in the existing biogas line at High Rate Bio-Methanation Power Generation & CBG/CO2 Plant at Haibowal Dairy Complex, Ludhiana, Punjab on turnkey basis.



**Director
Punjab Genco Limited,
Solar Passive Complex
Plot No. 1 & 2, Sector 33-D, Chandigarh
Tel- Fax no. (0172) – 2646384**



Punjab Genco Limited,
(CIN: U40108CH1998SGC21134)

Solar Passive Complex
Plot No.1 & 2, Sector 33-D, Chandigarh-160034,
Tel.: 91-172-2663328, FAX- 91-172-2646384
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Tender Notice
E-Tender No. – PEDA/PGL/2022-23/06

Supply, Erection, Testing and Commissioning of one number Ultrasonic Mass Flow Meter and 4 numbers Robust Butterfly Valve (manual) in the existing biogas line at High Rate Bio-Methanation Power Generation & CBG/CO2 Plant at Haibowal Dairy Complex, Ludhiana, Punjab on turnkey basis.

The prospective bidders are requested to submit bids as per schedule given below-

| Bid document | Tender Publish Date | Last date and time for submission of e-bid | Date and time of opening of Techno-commercial e-bids |
|--|--|--|--|
| www.eproc.punjab.gov.in | 20.05.2022 | 14.06.2022 by 5.00 PM | 15.06.2022 at 03.30 PM |
| E-Processing Fee (Non-refundable) | As applicable through online mode only. | | |
| Earnest Money Deposit (Refundable) | Earnest Money @ Rs. 14,000/- (Fourteen Thousand only) shall be deposited through online mode only. | | |

- The detailed terms and conditions, scope of work, eligibility criteria, Performance Guarantee and place of submission of Bids etc. are given in the bid document, which is being uploaded and can be downloaded from the www.eproc.punjab.gov.in or www.peda.gov.in.
- Prospective bidders are requested to remain updated for any kind of notices/updates/amendments/modifications/clarifications etc. to the bid document conditions in the website www.eproc.punjab.gov.in or www.peda.gov.in only. No separate notifications will be given for such notices/updates/amendments/modifications/clarifications etc. in the print media (press) or individually.
- For participating in the above e-tendering process, the bidders shall have to get themselves registered with <https://eproc.punjab.gov.in> and get user ID and Password. Class-3 Digital Signature is mandatory to participate in the e-tendering process. For any clarification/difficulty regarding e-tendering process flow, please contact PGL at

8558870510, 8699007080, 9876173555, 9815711786, 0172-2663328, 2663382, 2646384 or Helpdesk number for portal 0172-2791326 / 2791226.

4. Technical / Financial Bid Forms in bid document are for reference purposes only. Bidders have to download the Bid Forms from e-tendering website (www.eproc.punjab.gov.in) only after payment of bid document cost.
5. Corrigendum if any will be uploaded on the website www.eproc.punjab.gov.in or www.peda.gov.in. No separate notice shall be published in press.
6. PGL, reserve the right to accept or reject any or all the bids and annul the entire bidding process without assigning any reason thereof.

DIRECTOR

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SECTION 1

INVITATION FOR E-TENDER

Director PGL (Punjab Genco Ltd.), Chandigarh invites e-tenders from eligible Bidders for Supply, Erection, Testing and Commissioning of one number Ultrasonic Mass Flow Meter and 4 numbers Robust Butterfly Valve (manual) in the existing biogas line at High-Rate Bio-Methanation Power Generation & CBG/ CO2 Plant at Haibowal Dairy Complex, Ludhiana, Punjab on turnkey basis.

The technical specifications are detailed in Section 4.

BID CONDITIONS:

1. Bidders are advised to study the Bid document carefully. Submission of Bids by the Bidders shall be deemed to have been done after careful study and examination of the Bid Document with full understanding of its implications.
2. For participating in the e-tendering process, the Bidder/Supplier shall have to get themselves registered with www.eproc.punjab.gov.in and get user ID, Password. Class II or III Digital Signature is mandatory to participate in the e-tendering process. It may take up to 2-3 working days for issuance of Class II or III Digital Certificate after completion of required documentation, hence the bidders are advised to obtain them at the earliest.
3. Bidders are to submit tenders through online mode by accessing tender documents on the Punjab Government e-tendering website i.e. www.eproc.punjab.gov.in not later than the date and time laid down in this Bid document.
4. Bidder to log into the website well in advance for bid submission so that the bid is uploaded well in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
5. The PGL reserves the right to reject any Bid or all the Bids or withdraw the Notice Inviting Tender without assigning any reasons thereof and revising quantity, fine-tuning specifications as per requirement.
6. The bidders are advised to visit the plant site before submitting the bids for better understanding of the technology and plant operational requirements.
7. Bidders shall attach scanned copies of all the papers i.e. Earnest Money, Tender document fee & the certificates as required in Eligibility criteria.
8. Corrigendum/ Addendum/ Correction if any will be uploaded on the website www.eproc.punjab.gov.in or www.peda.gov.in. No separate notice shall be published in press.
9. If the date of opening of tenders happens to be a holiday then tenders will be opened on the next working day.

10. PGL reserves the right to increase/decrease/nullify the DNIT quantity without assigning any reason.
11. The submitted bids shall be valid for 120 days from date of opening of financial bid.
12. Rate shall be quoted by the bidder, strictly as per rate quoting sheet and the agreed contract price shall remain firm during the period of the contract.
13. The transit of the Goods/Equipment to be installed at the plant site shall be arranged by the firm.
14. The Goods supplied under the Contract shall be fully insured against the loss or damage incidental to manufacture or acquisition, transportation, storage and delivery.
15. Earnest Money @ Rs. 14,000/- (Fourteen Thousand only) shall be deposited through online mode only.
16. Technical Bids will be opened on the prescribed date and time.
17. Financial Bids of only those Bidders will be opened who qualify technically. The information regarding date of financial bid opening shall be made available on the web site.
18. Bidders note that financial aspects (prices, cost etc.) should not be indicated in the Technical Bid and should be quoted only in the Financial Bid.
19. For any clarification/difficulty regarding e-tendering process flow, please contact PGL at 8558870510, 9815602615, 9876173555, 8699007080, 9815711786, 0172-2663328, 2663382, 2646384 or Helpdesk number for portal 0172-2791326 / 2791226.

SECTION – 2

TERMS AND CONDITIONS OF THE BID

1. LANGUAGE OF BID:

The Bids prepared by the Bidder and all correspondence and documents related to the bids exchanged by the Bidder and PGL, shall be written in the English language, provided that any printed literature furnished by the Bidder may be written in another language so long as accompanied by an English translation in which case, for purposes of interpretation of the bid, the English translation shall govern.

2. TECHNO-COMMERCIAL QUALIFICATION CRITERION:

- a) This contract is for the work as “Supply, Erection, Testing and Commissioning of one number Ultrasonic Mass Flow Meter and 4 numbers Robust Butterfly Valve (manual) in the existing biogas line at High-Rate Bio-Methanation Power Generation & CBG/CO2 Plant at Haibowal Dairy Complex, Ludhiana, Punjab on turnkey basis.
- b) This is an open competitive e-tender and all companies, corporations, partnership firms, consortium or Joint Ventures who are involved in execution of similar nature of work and those who fulfill the financial soundness and work experience criteria and other requirements laid down in this document are eligible to participate.
- c) The Bidder shall submit a written Power of Attorney authorizing the signatory of the Tender to commit the tender along with Board Resolution confirming authority on the persons issuing the Power of Attorney for such actions. In case of partnership, consortium or joint venture, Power of Attorney(s) and Board Resolution(s) for each member of the partnership, consortium or joint venture shall be submitted.
- d) Bidder shall submit only one bid, either individually as a Bidder or as a partner of JV/Consortium. Bidder who submits or participates in more than one Bid, the bid shall be considered invalid.
- e) The Bidder shall bear all costs associated with the preparation and submission of his tender.
- f) Bidder must have executed successfully at least one installation/ commissioning of these instruments at Biogas Plant or process industry.
- g) The bidder will provide the copies of completion certificates of such works and their satisfactory performance from their clients.
- h) The offered instrument must be certified from the appropriate accredited laboratory for its accuracy.
- i) The Bidder should not be under a declaration of ineligibility for corrupt and fraudulent practices or any other reason, whatsoever, or have not been blacklisted by the Government of India or any of its agencies, including public enterprises and/or by any State Government or any of its agencies.
- j) The Bidder must have PAN, CIN and GST.

3. TECHNICAL BID WILL CONSIST OF THE FOLLOWING:

- a) Bid Proposal Sheet as per **Format-I**.
- b) Technical Deviations, if any, from the terms and conditions and specifications (**Format-II**). Failing which, it would be assumed that there are no technical deviations and the full responsibility lies on the Bidder.

- c) Certificate of genuine parts as per **Format-III**.
- d) Proof of Experience as per **Format IV**.
- e) Particulars of Bidder as per **Format-V**.
- f) Price Bid/Financial Bid as per **Format-VI**.
- g) Scanned copies of all the documents.
- h) All the Technical Drawings of the modifications required in the work along with offered system in details.

4. PREPARATION OF BIDS:

The offer/bid should be submitted in two bid systems (i.e.) Technical bid and Financial bid. The technical bid should consist of all technical details along with other terms and conditions. Financial bid should indicate the price for the works.

The Technical bid and the financial bid should be submitted online.

5. INSPECTION OF EXISTING RAW BIOGAS WORKS/ SYSTEMS OF BIOMETHANATION POWER PLANT AT HAIBOWAL, LUDHIANA:

- a) The Bidder is advised to visit and examine the Site of Works and its surroundings at his/their cost and obtain for himself on his own responsibility, all information that may be necessary for preparing the tender and entering into a Contract.
- b) The bidder shall be deemed to have inspected the Site and its surroundings beforehand and taken into account all relevant factors pertaining to the Site in the preparation and submission of the Tender.
- c) The bidder at his own responsibility, expenses and risk, is encouraged to visit and examine/study the existing systems/process of the High Rate Bio-Methanation Power Plant at Haibowal (Ludhiana) and examine and obtain all information (including that on the risks, contingencies and other circumstances which may affect or influence the bid) and satisfy him regarding objectives, supplies and technical works involved and all local matters and things before submission of their tender. Bidder should also satisfy themselves regarding the type and number of equipment and facilities required and constraints for the satisfactory completion of work. The quantities of various sections of the work, the availability of local labour, availability and rates of materials, local working conditions, extreme weather conditions, uncertainties of weather, obstructions and hindrance that may arise etc. all which may affect the work and cost thereof. No extra charges consequent on any misunderstanding or otherwise, shall be allowed.

6. COMPLETION PERIOD :

- a. The completion period will be within 90 Days from the date of issue of the work order by PGL.
- b. Planned shutdown of the power plants will be provided for carrying out the installation and commissioning works within the above-mentioned period. The shutdown period will be provided after completion of supplies or any other period considered appropriate by PGL.
- c. In the event of delay in the supply and /or installation & commissioning, specified above, the bidder shall be liable to pay a penalty @ 1% value of contract for every

week of delay subject to a maximum of 5% value, after which PGL, shall be at liberty to cancel the work order. For the purpose of this clause, part of a week shall be considered to be a full week.

- d. Relaxation in completion period for the purpose of penalty shall be allowed if it is felt that the delay is beyond the control of contractor or due to non-availability of planned plant shutdowns or due to force majeure conditions. The decision in this regard shall be given by Managing Director, PGL.

7. SIGNING OF CONTRACT AND SUBMISSION OF PERFORMANCE GUARANTEE:

- a. The Bidder whose tender will be accepted will be issued work order within 10 days by PGL.
- b. The bidder then shall submit a Performance Bank Guarantee (PBG) of 10% of the quoted price (including GST) in the prescribed Format within 15 days after issuance of work order by PGL to the successful Bidder. The Performance Bank Guarantee (PBG) would be valid for warranty period. The PBG will be released after completion of warranty obligation period. Further, the EMD amount will be released on submission of Bank Guarantee.
- c. In case the Bidder fails to submit the Performance BG within 15 days, the work order shall stand automatically cancelled. Also, the EMD of the Bidder will be forfeited without any prior notice.
- d. An unexcused delay by the Bidder in the Performance of its supply and installation obligations shall render him liable to penalties as mentioned in the contract and in addition to that Performance Guarantee will be forfeited in case the maximum value of penalty is reached.
- e. Hiding of facts, misrepresentation, corrupt practices by the Bidder if revealed at any stage, withdrawing the bid after opening of financial bid, non-signing of contract/Contract within stipulated period would amount to forfeiture of EMD and subsequently the firm may also be blacklisted.

8. STANDARDS:

The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standard appropriate to the Goods' country of origin. Such standards shall be the latest issued by the MNRE, GOI/ concerned Institution, IEC/BIS standards.

9. PAYMENT TERMS

(a) Payment for Goods and Services:

- (i) On delivery: Seventy (70) percent of the basic price of the bid along with taxes on actual basis shall be paid within fifteen (15) days after supply of complete material at site and upon submission of documents/invoices in terms of the contract and that all terms and conditions of the contract have been complied with; and
- (ii) On Installation & Commissioning: Twenty (20) percent of the basic price of bid shall be paid within fifteen (15) days installation, testing & commissioning including modification works if any.

- (iii) Balance 10% payment of the basic price of the bid shall be released after the performance run of three (3) months from the commissioning.

10. INSPECTION AND TEST:

PGL at its discretion shall inspect, examine and test the technical supplies through its officers and/or through an outside agency nominated by PGL at the manufacturer's /supplier's works, prior to dispatch on receipt of a clear notice of minimum 3 days in advance to be reckoned from the date of receipt by purchaser. PGL at any time may ask the Bidder to submit the specifications/documents and the details of tests carried out by the manufacturer in line with the requirement of this bid document.

11. WARRANTY PERIOD:

- a. The firm will be responsible for a comprehensive warranty of one year from the date of completion of works.
- b. The firm will not remove any equipment without the written permission of the PGL to be repaired/ replaced under warranty obligations.
- c. The firm will attend the faults appropriately within 48 hours and try to rectify it as soon as possible.
- d. In case of default, PGL will have the right to forfeit the Performance Bank Guarantee and arrange maintenance at its own.

12. TAXES AND DUTIES:

The bidder shall be entirely responsible for taxes, levies, cess and duties, license fee etc. incurred until completion of warranty obligations.

13. TERMINATION FOR DEFAULT:

- a. The PGL may, without prejudice, to any other remedy for breach of work order, by written notice of default sent to the bidder, terminate the work order in whole or in part if:
 - i. The bidder fails to deliver any or all of the obligations within the time period(s) specified in the work order, or any extension thereof granted by the PGL.
 - ii. The bidder fails to perform any other obligation(s) under the work order.
 - iii. The Firm shall be given maximum of two opportunities of 15 days each to improve his service level and meet the obligations as per the contract.

14. PENALTY:

Penalty for endangering / breach of safety/fire safety of the plant systems/ equipment / structure

In case of breach of any plant safety measures, including non-adherence of plant safety standards or any such incident leading to endangering the safety of the plant taken place

due to the negligence of the Bidder, the Bidder shall be subjected to penalty as decided by the Managing Director, Punjab Genco Limited.

15. FORCE MAJEURE:

In this Contract, "Force Majeure" means occurrence of an event which prevents the Party from performing its obligations under this Contract and which act or event-

- i) Is beyond the reasonable control of and not arising out of the fault of the Affected Party,
- ii) the Affected Party has been unable to prevent by the exercise of due diligence and reasonable efforts, skill and care, including through expenditure of reasonable sum of money, and
- iii) Has a materially adverse effect on the Plant.

16. FORCE MAJEURE EVENTS

The Force Majeure Events shall mean one or more of the following acts or events:

- i) Acts of God or events beyond the reasonable control of the Affected Party which could not reasonably have been expected to occur such as extreme adverse weather or environmental conditions, lightning, heavy rains, cyclones, tempest, whirlwind, landslides, storms, floods, volcanic eruptions or fire (to the extent originating from a source external to the site or not designed for in construction works);
- ii) Radioactive contamination or ionizing radiation;
- iii) An act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, unexpected call up of armed forces, blockade, embargo, blockade, rebellion, riot, religious strife, bombs or civil commotion, sabotage, terrorism;
- iv) Strikes or boycotts interrupting operations of the Plant;
- v) Any judgement or order of any court of competent jurisdiction or statutory authority in India made against the Company in any proceedings for the reason other than failure of the Company to comply with any Applicable Law or Clearances or on account of breach thereof, or of any contract, or enforcement of this Contract or exercise of any of its rights under this Contract by PEDDA.
- vi) Any other event or circumstance of a nature analogous to the foregoing.

16.1 NOTIFICATION OBLIGATIONS

If a Party is affected by any Force Majeure event, the affected Party shall give the other Parties written notice describing the particulars of the Force Majeure event as soon as reasonably practicable after its occurrence but not later than five working days after the date on which such Party knew of the commencement of the Force Majeure event or of its effect on such Party.

16.2 OBLIGATIONS OF PARTIES IN CASE OF FORCE MAJEURE EVENT

- i) The Parties shall co-operate and discuss in good faith and will develop the proposal for remedial measures and reasonable alternative measures to remove / remedy Force Majeure event to enable the Performance of the effected Party provided however that no Party shall be required under this provision to settle strike or other labour dispute.
- ii) Upon the occurrence and during the subsistence of any Force Majeure event, none of the parties shall be relieved of their liabilities / obligations.

17. SUPPLY OF T&P, SAFETY EQUIPMENTS AND CONSUMABLES:

Except where otherwise specified the contractor shall at his own expenses supply and provide all the T&P, temporary works, material for installation, safety equipment's, testing equipment's etc. for both for temporary and for permanent works. This will also include supervision and labour including their transport to or from the site and their staying arrangements and any other and everything required for executing the entire works.

18. NIGHT WORK AND SAFETY PRECAUTIONS:

Night work shall not be allowed. The contractor is responsible to safeguard the workmen and the public and suitable precautions shall be taken to prevent accidents and accidental falls.

19. COMPENSATION UNDER WORKMEN'S COMPENSATION ACT:

The contractor shall be responsible for and shall pay any compensation to his workmen payable under the Workmen's Compensation Act, 1923 (VIII of 1923) or any other act applicable hereinafter called the said Act for injuries caused to the workmen. The contractor will take a policy with an Insurance Company to cover all his workers against injuries fatal/non-fatal during course of duty against Workmen's Compensation Act. The contractor shall submit a copy of the same before start of the work so that PGL is kept free from any liability.

20. INSURANCE:

- 20.1 The rates are required to be quoted on F.O.R. destination basis and it is the responsibility of the supplier to deliver the goods in sound condition F.O.R. destination and for that purpose the Supplier at his own insure the material against all risks at his own cost during transit for full delivered value of the material up to destination. All works in connection with making and settling of claims, if any, with transporter and or Insurance Company shall be carried out by the Supplier/ Contractor for which no extra payment shall be made by the PGL.
- 20.2 All damages and or shortages during transit as covered by the insurance shall be made good immediately on receipt of such information from the consignees without waiting for settlement of claim.
- 20.3 The consignees shall report losses and damages to the firm within 10 days of arrival of the material at the site. It will, however, be supplier's responsibility to prefer timely claims on the insurance underwriters and to arrange replacement thereof to the consignees.
- 20.4 The suppliers shall be wholly responsible for the loss, shortages, and damages etc. during transit. Such shortages and damages etc. will have to be replaced/repared by Supplier / Contractor free of cost immediately without waiting for maturing of the Supplier's / Contractor's claims with the Road Transport/Railway Authorities.
- 20.5 In case the replacement/repair of defective material is not carried out within four weeks after detection of damage/loss/shortages. PGL shall replace the defective material at the risk and cost of supplier. The amount shall be redeemed from PBG of submitted by the Company.

21 OTHER CONDITIONS:

- 21.1 Risk purchase at the cost of bidder will be made on the failure of the bidder to make supply as per Terms and Conditions. The difference of excess in cost thus incurred will be received from the bidder in a suitable manner and even from his pending bills, earnest money or other security whichever is available.
- 21.2 If the contractor or his work people, or servants shall break, deface, injure or destroy any part of a building or existing equipment's, the contractor shall make the same good at his own expense.
- 21.3 All disputes, differences, claims and demands arising under or pursuant to or touching the contract shall be referred to the arbitrator(s) as per the provisions of the arbitration Act. Such arbitration shall be held at Chandigarh.
- 21.4 In all matters and disputes arising there under, the appropriate Courts at Chandigarh alone shall have jurisdiction to entertain and try them.
- 21.5 Quote should be F.O.R destination.

Section –3

EVALUATION CRITERIA

3.1 Bid Evaluation

The evaluation process comprises the following four steps:

- Step I – Responsiveness check
- Step II –Evaluation of Non-Financial Bid
- Step III – Evaluation of Financial Bid
- Step IV – Successful Bidder(s) selection

3.1.1 STEP I – Responsiveness check

The Bid submitted by the Bidder shall be scrutinized to establish “Responsiveness”.

Each Bidder’s Bid shall be checked for compliance with the submission requirements set forth in this bid.

Any of the following conditions shall cause the Bid to be “Non-responsive”:

- a) Bids that are incomplete, i.e. not accompanied by any of the applicable formats inter alia covering letter, format for disclosure, valid Earnest Money Deposit, Consortium Contract etc.
- b) Bid not received by Due Date and time.
- c) Bid being conditional in nature.
- d) Bidder submitting or participating in more than one Bid either as Bidding Company or as a Member of Bidding Consortium.
- e) Submission of bid directly or indirectly by any of the Affiliate or a Member of a Bidding Consortium for the same location.
- f) Non submission of Cost of Document, Processing fee and Earnest Money Deposit in acceptable form along with bid document;
- g) Bidder makes any misrepresentation.

3.1.2 STEP II–Evaluation of Non-Financial Bid

Step II (Evaluation of Non-Financial Bid - **Part I**) will be carried out by considering the information furnished by Bidders as prescribed under Format for Bid Submission. This step would involve evaluation of the Bid of the Bidding Company as per the provisions specified in this bid. In case any of the provision of bid is found to be not fulfilled, the non-financial bid shall be rejected. The price bid of only those bidders will be opened who qualifies in Part-I of the non-financial bid as per the qualifying criteria mentioned in the bid document.

3.1.3 Step III - Evaluation of Price Bid (Financial Bid)

- a) Price Bid (**Part - II**) of the Qualified Bidders shall be opened in presence of the representatives of such Qualified Bidders, who wish to be present, as per the timelines indicated in this bid, or such other date as may be intimated by PGL to the Bidders. The evaluation of price Bid shall be carried out based on the information furnished in Part - II (Price Bid).
- b) The Price Bids submitted by the Bidders shall be scrutinized to ensure conformity in-line with the provisions of this bid document. Any Bid not meeting any of the requirements as per Clauses of this bid document may cause the Bid to be considered “Non-responsive” at the sole discretion of PGL. Price Bid not in conformity with the requirement of this bid shall be rejected.

3.1.4 STEP IV – Successful Bidder(s) Selection

Bids qualifying shall only be evaluated in this stage.

- a) The Bidder offering the lowest rate to PGL for Tender for Supply, Erection, Testing and Commissioning of one number Ultrasonic Mass Flow Meter and 4 numbers Robust Butterfly Valves (manual) in the existing biogas line at High-Rate Bio-Methanation Power Generation & CBG/ CO2 Plant at Haibowal Dairy Complex, Ludhiana, Punjab on turnkey basis as per the specifications given in this bid document shall be declared as the Successful Bidder.
- b) The selection process shall stand completed once the Successful Bidder has been selected in accordance with aforesaid steps.
- c) The work order shall be issued to the Successful Bidder selected as per the provisions of this bid.
- d) The Successful Bidder shall unconditionally accept the work order, and record on one (1) copy of the work order, “Accepted Unconditionally”, under the signature of the authorized signatory of the Successful Bidder and return such copy to PGL within seven (7) days of issue of work order.
- e) If the Successful Bidder, to whom the work order has been issued does not fulfil any of the conditions specified in the bid document, PGL reserves the right to annul the award of the work order of such Successful Bidder. Further, in such a case, the provisions of the relevant clauses of the bid shall apply.

Section 4

(TECHNICAL INFORMATION)

Supply, Erection, Testing and Commissioning of one number Ultrasonic Mass Flow Meter and 4 numbers Robust Butterfly Valves (manual) in the existing biogas line at High Rate Bio-Methanation Power Generation & CBG/CO₂ Plant at Haibowal Dairy Complex, Ludhiana, Punjab on turnkey basis.

4.1 INTRODUCTION:

Punjab Genco Ltd. (Company wholly owned and a promoted company of Punjab Energy Development Agency (PEDA), a State Govt. nodal agency for promotion and development of non-conventional and renewable energy sources, has set up one High Rate Bio-methanation Power Plant at Haibowal in Ludhiana district of Punjab State. This plant has been set up within the Haibowal Dairy complex, from which sufficient quantity of raw cattle manure is available for scientific disposal of waste in the plant. The plant has been set up as sub-demonstration Plant under the UNDP -GEF programme for Abatement of Green House Gas Emissions.

The plant has been designed based on the BIMA (Biogas Induced Mixing Arrangement) technology of M/s. Entec, Austria. The plant has two 5000 cum capacity BIMA digestors, which are able to handle 235 tons of waste. The Biogas generated from the plant is fired in a Gas Engine. The plant has two PLC systems for the plant process control and Gas engine control and operations.

4.2 SALIENT FEATURES:

1. Process: BIMA (Biogas Induced Mixing arrangement) technology
2. CBG: PSA Technology based purification system & Co₂ recovery system.
3. Type of Gas Engine: Spark ignited Internal Combustion Gas Engine of R. Schmitt make.
4. Screw presses for dewatering of slurry.
5. The plant is designed for operation through PLC.
6. Generation voltage- 0.415 KV
7. Transmission voltage-11 KV
8. All valves in the plant are pneumatically operated
9. Blowers/Gas holder/ pumps
10. The power generated from the plant is injected to the nearest PSPCL grid.

4.3 MOJOR EQUIPMENTS/ PARTS:

a) GAS HOLDER

A gas holder supplied by M/s Entec, Austria is installed between the digesters and Gas engine, which has the storage capacity of 1000 cum with an operating pressure of 2.5 mbar.

b) **BIMA DIGESTERS**

The plant has two digesters of 5000 cum capacity each which have no internal moving parts. The digesters have two chambers and the gas from the upper chamber is sent to the gas engine through automatic valves, which are controlled based on gas pressure in the upper chamber. A set of desulphuration system has been installed on top of both the digesters.

c) **GAS ENGINE**

A gas engine of 400 Kwe capacity and R. Schmitt (Germany) make was installed in year 2016 & commissioned in March'2016. The same has been installed with all auxiliaries like H₂S scrubber, air washer, acoustic canopy & dehumidifier.

d) **CBG & CO₂ RECOVERY PLANT**

The Haibowal plant has latest PSA (Pressure swing adsorbers) technology-based purification system of 350 m³/hour capacity, Moisture & H₂S removal systems, high pressure, reciprocating air compressors, purified CBG storage of 500 m³ capacity, CO₂ extraction unit, CO₂ purification unit & liquefaction system along with insulated CO₂ storage tank has been installed as a part of this system. The whole plant is monitored & controlled through PLC based controls & sensors and have been equipped with all required safety features.

4.4 DETAILED SCOPE OF WORK:

OBJECTIVE OF ADDITION IN CAPITAL EQUIPMENT:

For online flow measurement, monitoring and control of raw Bio-gas being supplied to CBG/CO₂ Plant at Haibowal Dairy Complex, Ludhiana, Punjab.

A. SCOPE OF WORKS:

1. Complete Supply, Erection, Testing and Commissioning of one number Ultrasonic Mass Flow Meter and 4 numbers Robust Butterfly Valve (manual) in the existing biogas line at High-Rate Bio-Methanation Power Generation & CBG/CO₂ Plant at Haibowal Dairy Complex, Ludhiana, Punjab on turnkey basis.
2. The civil work of grouting, anchoring & fastening if any including all mechanical & electrical works will be in the Bidder scope. PGL will not provide any material/tools/equipments in completion of the above said job.
3. All mechanical and electrical works associated for erection & commissioning of the Ultrasonic Mass Flow Meter & Butterfly Valve including components / spares/ parts/ assembly/ equipment's, etc. required to complete the job is in the bidder scope.
4. The new system is to be connected with existing system within the available space & in a systematic & aesthetic manner for the ease of operation & maintenance.
5. The new electrical connections need to be done with standard cables to the nearby Panels with all adequate controls like switch gear, contactors, fuses & MCBs of ISI & reputed make.
6. PGL strongly recommends visiting the site before participating in the bid.

B. SCOPE OF SUPPLY:

1. One number Ultrasonic Flow Meter for biogas flow rate of 500m³/hour and butterfly valve (manual operated) with specifications & makes as per **Annexure - I**.

Note: The detailed engineering drawings like General Arrangement (GA) and Piping & Instrumentation Drawing (P&ID) will be approved by PGL.

Annexure- I**A. Ultrasonic Flow Meter:****Application:**

- The measuring principle should not be affected by wet or dry gas comprising of methane (CH₄) upto 65%, hydrogen sulphide (H₂S) <1%, carbon dioxide (CO₂) upto 40% and moisture content.
- Inline flow meter for wet biogas.
- It should work on very low fluid velocities and pressures.

Parameters/ Specifications of Flow Meter:

| Table:1 | |
|-------------------------------------|---|
| Parameters/ specifications | Requirements |
| Measuring Principle | Ultrasonic Flow |
| Device Software Functional Packages | Data backup function |
| Application | Volume flow + Biogas analysis |
| Fluid Type | Raw Biogas |
| Process Temperature in °C min. | 0.0 |
| Process Temperature in °C max. | 70.0 |
| Fluid Pressure | Upto 10 bar |
| Flow Range | 0-500m ³ /hour |
| Designed exclusively to measure | % of Methane fraction |
| Pipe Diameter | 8 Inch (DN200) |
| Accuracy | +/- 1% of Rate |
| Repeatability | Typically +/- 0.5% |
| Data Logging | Required |
| Material | Stainless Steel |
| IP Ratings | IP 66 and above |
| Output | 4-20 mA HART & 4-20 mA Analog |
| Signal on alarm required | Yes |
| Signal on alarm configurable | Yes |
| Power | 24V DC or 220V AC |
| Supply mode | 2 wire |
| Voltage Type | DC Voltage |
| Supply Voltage DC min. | 14 V |
| Supply Voltage DC min. | 30 V |
| Display | LED/LCD |
| No. of Lines | 4 |
| Vibrational resistance | Class 4M4, according EN 60721-3-4 |
| Electromagnetic compatibility | According IEC/EN 61326 and Namur recommendation 21 (NE21) |
| Housing Type | Electronic housing |
| Housing Design | Dual compartment |
| Material housing | Die-cast aluminum |
| Coating | Powder Coated |
| Display on device | With Display |
| Operating element | Push Buttons |
| Local Operation | Yes |
| Language | English |

| | |
|-----------------------|--|
| Ex designation | Yes |
| Calibration Performed | Yes |
| Make | Endress + Hauser, Forbes Marshall and Krohne |

Note: - One No. Ultrasonic Mass Flow Meter of E&H Make is already operational at plant site. The MFM to be supplied should work synchronously with the existing MFM.

B. Butterfly Valve (Manual Operated):

Four (4) numbers robust manual operated butterfly valves to be supplied and installed in the existing biogas pipeline to isolate the flow of gas as and when required. The valve should be designed and perform efficiently in the application as specified in Table-1 above with 0% leakage in close position.

C. Mechanical and Electrical works including parts/spares:

All mechanical and electrical works associated for erection & commissioning of the Ultrasonic Mass Flow Meter & Butterfly Valves including components / spares/ parts/ assembly/ equipment's, etc. required to complete the job is in the bidder scope.

SECTION-5

BID PROPOSAL FORMATS

BID PROPOSAL SHEET

Bidder's Proposal Reference No. & Date :
 Bidder's Name & Address :
 Person to be contacted :
 Designation :
 Telephone No. :
 Fax No. :

To:

**Director
 Punjab Genco Limited,
 Solar Passive Complex
 Plot No. 1 & 2, Sector 33-D, Chandigarh**

Subject: Tender for Supply, Erection, Testing and Commissioning of one number Ultrasonic Mass Flow Meter and 4 numbers Robust Butterfly Valves (manual) in the existing biogas line at High Rate Bio-Methanation Power Generation & CBG/CO2 Plant at Haibowal Dairy Complex, Ludhiana, Punjab on turnkey basis.

Dear Sir,

1.0 We, the undersigned Bidders, have read and examined in detail the specifications/parameters and all bidding documents in respect of Supply, Erection, Testing and Commissioning of one number Ultrasonic Mass Flow Meter and 4 numbers Robust Butterfly Valves (manual) in the existing biogas line at High Rate Bio-Methanation Power Generation & CBG/CO2 Plant at Haibowal Dairy Complex, Ludhiana, Punjab on turnkey basis and do hereby propose to provide equipment and services as specified in the bidding document.

2.0 PRICE AND VALIDITY

- 2.1 All the prices mentioned in our proposal are in accordance with the terms as specified in bidding documents. All the prices and other terms and conditions of this proposal are valid for a period of 120 days from the last date of submission of bids.
- 2.2 We do hereby confirm that our bid prices include all taxes and cess including Income Tax.
- 2.3 We have studied the Clauses relating to valid Indian Income Tax and hereby declare that if any Income Tax, Surcharge on Income Tax and any other Corporate Tax is altered under the law, we shall pay the same.

3.0 EARNEST MONEY

We have enclosed the required earnest money online. It is liable to be forfeited in accordance with the provisions of bid document.

4.0 DEVIATIONS

We declare that all the services shall be performed strictly in accordance with the fine-tuned Technical specifications and other bid document except the deviations as mentioned in the Technical deviation Format below (i.e. Format-II). Further we agree that additional conditions, if any, found in the proposal documents, other than those stated in deviations Format, shall not be given effect to.

5.0 BID PRICING

We further declare that the prices stated in our proposal are in accordance with your terms & conditions in the bidding document.

6.0 QUALIFYING DATA

We confirm having submitted in qualifying data as required by you in your bid document. In case you require any further information/documentary proof in this regard during evaluation of our bid, we agree to furnish the same in time to your satisfaction.

7.0 CONTRACT PERFORMANCE SECURITY

We hereby declare that in case the contract is awarded to us, we shall submit the Performance Guarantee in the form of Bank Guarantee as per terms of bid document.

- 7.1 We hereby declare that our proposal is made in good faith, without collusion or fraud and the information contained in the proposal is true and correct to the best of our knowledge & belief.
- 7.2 Bid submitted by us is properly prepared so as to prevent any subsequent alteration and replacement.
- 7.3 We understand that you are not bound to accept the lowest or any bid you may receive.

Thanking you,

Date

Place

**Signature
Name
Seal**

TECHNICAL DEVIATIONS

Subject: Supply, Erection, Testing and Commissioning of one number Ultrasonic Mass Flow Meter and 4 numbers Robust Butterfly Valves (manual) in the existing biogas line at High Rate Bio-Methanation Power Generation & CBG/CO2 Plant at Haibowal Dairy Complex, Ludhiana, Punjab on turnkey basis.

Dear Sir,

Following are the Technical deviations & variations from the exceptions to the specifications of commissioning the Supply, Erection, Testing and Commissioning of one number Ultrasonic Mass Flow Meter and 4 numbers Robust Butterfly Valve (manual) in the existing biogas line at High Rate Bio-Methanation Power Generation & CBG/CO2 Plant at Haibowal Dairy Complex, Ludhiana, Punjab on turnkey basis. These deviations and variations are exhaustive. Except these deviations and variations, the entire work shall be provided as per your specifications and documents.

| Sr. No. | Clause No. | Page No. | Statement of deviations and variations |
|----------------|-------------------|-----------------|---|
|----------------|-------------------|-----------------|---|

Date

Place

Signature

Name

Seal

Format-III

CERTIFICATE

USE OF NEW, GENUINE AND QUALITY COMPONENTS

This has reference to tender no. **PEDA/PGL/2022-23/06 dated 20.05.2022.**

We hereby undertake that all the components / parts/ assembly/ equipment's, etc. to be used in Supply, Erection, Testing and Commissioning of one number Ultrasonic Mass Flow Meter and 4 numbers Robust Butterfly Valves (manual) in the existing biogas line at High Rate Bio-Methanation Power Generation & CBG/CO2 Plant at Haibowal Dairy Complex, Ludhiana, Punjab on turnkey basis shall be original, new, genuine and as per the said technical specifications/parameters in this tender document and will be as per applicable Indian/International Standards. It is also certified that no refurbished/ duplicate/ second-hand components/ parts/assembly are being used or shall be used.

In case we are found not complying with above indicated undertaking at the time of delivery or during installation, we allow the **Punjab Genco Limited** to take appropriate action (e.g. Forfeiture of Bank Guarantee/ EMD, etc.).

Authorized signatory

Format- IV**PROOF OF EXPERIENCE**

The Bidder shall submit copies of Work Orders of similar type of works executed in last five years, along with proof of satisfactory execution in the form of certificate of completion etc. issued by the ordering agency/department.

| S. no. | Description of equipment supplied | Agency/ Department | Work Order no. & dt. | Total contract Value | Completion certificate attached (Y/N) | Name/ Designation, Address & phone no. of the contact official of Department/Agency |
|--------|-----------------------------------|--------------------|----------------------|----------------------|---------------------------------------|---|
| 1. | | | | | | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| 5. | | | | | | |

Note: Copies of performance/ execution certificates or any other supporting documents having executed the work to any Department/Agency should be enclosed with the tenders. Only copies/ list of POs may not be treated as authentic proofs.

Dated.

Authorized Signatory

Name: _____

Designation: _____

Address and Seal of the firm

Format- V**Particular of the Bidder**

Performa for eliciting information for appraisal of company/firm capability to execute the works as per requirements of PGL Tender No. **PEDA/PGL/2022-23/06 dated 20.05.2022.**

| | |
|---|--|
| 1. Name of the tendering Company/ Corporation/ Firm/ Consortium or Joint Venture | |
| A) Complete address of the office | |
| i) Telephone Number(s) | |
| ii) Fax Number | |
| iii) E. Mail Address | |
| iv) Name of the two responsible persons along with Designation | |
| B) Name, Addresses & Telephone No. of Chairman/ Managing Director/Directors/Partner/Proprietor | |
| i) Name | |
| ii) Address | |
| iii) Telephone/mobile Number | |
| i) Name | |
| ii) Address | |
| iii) Telephone/mobile Number | |
| i) Name | |
| ii) Address | |
| iii) Telephone/mobile Number | |
| 2. Year of establishment of the company | |
| a) Private Firm or Company | |
| b) Registered under the companies Act/Registered Partnership deed, Give Registration No. & date. | |
| 3. Memorandum and Article of Association of Company/Partnership Deed as applicable | |
| 4. Documents | |
| i) PAN No. & Proof of filling Income Tax Return for last three years of Company/firm | |
| ii) CIN No. | |
| iii)TAN No. | |
| iv)GST No. | |
| 5. E - Processing Charges (Non Refundable) | |
| Amount, Rs. | |
| Date | |
| Online Transaction No. | |
| 6. Details of EMD (Rs. _____/- (Rupees only) | |
| Online Transaction No. | |
| Online Transaction Date | |

Dated.

Authorized Signatory

Name: _____

Designation: _____

Address and Seal of the firm

NOTES:

- 1) Please attach additional sheets, where required.
- 2) Copies of documents attached with the Performa should be attested by the company/firm's authorized signatory with stamp mark of the company/firm.

Format-VI**Price Bid/Financial Bid**

| Punjab Genco Ltd. | | | | | |
|-------------------------------|---|--------------|--|-------|------------|
| Tender No/Line No: | | | PEDA/PGL/2022-23/06 dated 20.05.2022. | | |
| Name of Work | | | Tender for Supply, Erection, Testing and Commissioning of one number Ultrasonic Mass Flow Meter and 4 numbers Robust Butterfly Valves (manual) in the existing biogas line at High-Rate Bio-Methanation Power Generation & CBG/CO2 Plant at Haibowal Dairy Complex, Ludhiana, Punjab on turnkey basis. | | |
| Name of Bidder: | | | | | |
| Address: | | | | | |
| Contact Details: | | | | | |
| Sr.No. | Description | Qty. | Rate (INR) | | Amount |
| | | | Rate | Total | In figures |
| 1. | Cost for Supply of Ultrasonic Mass Flow Meter in the existing biogas line at High Rate Bio-Methanation Power Generation & CBG/CO2 Plant at Haibowal Dairy Complex, Ludhiana, Punjab on turnkey basis. With technical specification as per Clause 4.4 (Table-I) | 1 No. | | | |
| 2. | Cost for Supply of Butterfly Valves (manual operated) in the existing biogas line at High Rate Bio-Methanation Power Generation & CBG/CO2 Plant at Haibowal Dairy Complex, Ludhiana, Punjab on turnkey basis | 4 No. | | | |
| 3. | Erection, Testing and Commissioning charges for Ultrasonic Flow Meter and Butterfly valve including all electrical & mechanical works associated to complete the job. | — | | | |
| 4. | Taxes & duties and other levies if any | | | | |
| Total Amount (1+2+3+4) | | | | | |

- Note:** 1. The above Format-VI is for reference purpose only. Online excel sheets need to be filled by the Bidder.
2. This Format should be part of financial bid only. If this Format is filled and attached with technical bid, the bid will be rejected.