

Center for Rural Development & Technology: IIT Delhi

Date: 26.03.2013

Due Date: 15.04.2013

Sub: Notice Inviting Quotations for PSA Biogas Enrichment Unit with Portable Platform

Quotations are invited for the purchase of PSA unit for biogas enrichment and bottling system of capacity of 20 m³/hr and working pressure is 7 to 10 bar, to be mounted on a mobile platform.

Vendor's Scope of Work

1. Supply of the PSA biogas enrichment unit with all accessories.
2. The procurement of all items as per the specification, their testing, assembly and final inspection is in the scope of the vendor. All the costs incurred due to any deviation from specification will be borne by the vendor.
3. Delivering the PSA unit at CRDT, IIT Delhi premises, Hauz Khas, Delhi- 16.
4. All the costs of packing, forwarding, commissioning and testing of the system at above site (IIT Delhi Premises, Delhi) will be borne by the vendor.
5. Supply of the documents like operation manual, material catalogue and calibration reports of gauges etc.
6. The supply of the layout drawings, maintenance leaflets etc., of the complete system.
7. Supply of the tools and accessories required for operation and maintenance of the system.
8. Acceptance tests shall be carried out as per the QA plan.

Specifications

Inlet & outlet specifications for biogas enrichment:

Inlet Gas conditions:

Flow	20 M ³ /hr at STP
CH ₄	55-60%
H ₂ S	~up to 500 ppm
CO ₂	Upto 40%
Pressure	7 to 10 Kg/cm ² g

* Inlet pressure for raw biogas up to 10 bar

Outlet Gas conditions:

CH ₄	90%+
H ₂ S	Up to 25 ppm and moisture
CO ₂ & Other Gases	Upto 10% with not more than 3.5 % CO ₂

Loss of Methane

Minimize the loss of methane to atmosphere during purging in the process.

Loss of methane more than 5-7% is not desirable.

QA Plan

Visual Inspection:

The PSA unit is to be checked for its completeness as per the specification. All the components should be present at appropriate location as per the layout drawing supplied by the vendor and properly assembled. The unit should be free from scratches, dents or any marks. All the labeling for indicators has to be properly presented and components will be checked for smooth functioning.

Functional Inspection:

Overall function of the unit will be verified to be within limits as per specification. Whether the range of gas purity is meeting the requirement will be checked. The volume flow rate should be checked. All connections and supply line should be leak proof. The vibration limit of unit will be checked.

Delivery:

Vendor should be able to dispatch the complete unit within a period of **2-3 months** from the date of receipt of confirmed purchase order from IIT Delhi.

Guarantee/warranty:

Equipment supplied by vendor should be guaranteed for material, workmanship and its required performance for a period of **12-months** from the date of commissioning. During the guarantee period, vendor will repair/replace the defective parts or material free of cost.

Terms & Conditions:

- Above unit is to be purchased on the basis of technical specifications provided by CRDT IIT Delhi. Unit is to be supplied at CRDT, IIT Delhi.
- All technical details of the unit should be provided by the vendor in his quotation. Technical and financial bids should be sent in separate envelopes.
- The quotations should have validity of three months
- Provide information about company's experience in supply of PSA based biogas enrichment technology by your company.
- Excise duty exemption certificate will be provided by IIT Delhi
- No advance payment as per IIT Delhi Norms, 100% payment after successful commissioning.
- Performance bank guarantee of 20% of the basic cost should be provided at least for the period of 6 months after successful commissioning.

The quotes should reach the undersigned before **15.04.2013** by **5.00 pm**.

Prof. V.K. Vijay

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