Bid Number: GEM/2020/B/666676
Dated: 09-06-2020

Bid Document

Bid Details	
Bid End Date/Time	30-06-2020 17:00:00
Bid Opening Date/Time	2020-06-30 17:30:00
Bid Life Cycle (From Publish Date)	90 (Days)
Bid Offer Validity (From End Date)	30 (Days)
Ministry/State Name	Ministry Of Agriculture And Farmers Welfare
Department Name	Department Of Agriculture Cooperation And Farmers Welfare
Organisation Name	N/a
Office Name	Southern Region Farm Machinery Training&testing Institute,anantapur
Total Quantity	1
Item Category	AC SPV Deep well (submersible) Pumping Systems
MSE Exemption for Years of Experience and Turnover	No
Startup Exemption for Years of Experience and Turnover	No
Bid to RA enabled	No

EMD Detail

Required	No

ePBG Detail

Required	No

Splitting

Bid splitting not applied.

AC SPV Deep Well (submersible) Pumping Systems (1 pieces)

Technical Specifications

[* As per GeM Category Specification]

Specification	Specification Name	Values	Bid Requirement (Allowed Values)
PV ARRAY	Operation of SPV Pumping System	The SPV water pumping system should be operated with a required PV array capacity measured under Standard Test Conditions (STC).	*
	Number of modules in series and parallel could be used to obtain the required PV array power output	22	*
	The power output of individual PV modules used in the PV array, under STC (in Watts peak(Wp))	315	*
	Source of PV Module	Indigenously produced PV module (s) containing mono/ multi crystalline silicon solar cells	*
	PV module certification	Certificate as per IEC 61215 specifications or equivalent National or International/ Standards	*
	Safety Qualification Testing	Modules must qualify to IEC 61730 Part I and II for safety qualification testing	*
	Efficiency of the PV module (%)	16.2	*
	Fill factor for PV module(%)	70	*
	The terminal box on the module should have a provision for “Opening” for replacing the cable, if required	Yes	*
	Dimension of PV module (mm x mm x mm)	-	*
	Marking On PV module	Name Plate fixed inside the module which will give: 1. Name of the Manufacturer or Distinctive Logo 2. Model Number 3. Serial	*

		Number 4. Year of manufacture	
GENERIC	Solar Deep well (submersible) Pumping Systems: With AC Induction Motor Pump Set and a suitable Inverter	Solar Photovoltaic (SPV) Water Pumping Systems comprising PV Array, Submersible Pump Set, MPPT(Maximum Power Point Tracke) ,Inverter for A.C. Motors ,Electronic Protections , Interconnect Cables and “On-Off” switch are basically for “Irrigation” applications. However, these may also be used for “Drinking Water Applications wherever such capacities are required”	*
	Conformity to Indian Standrad for Solar Deep well (submersible) Pumping Systems	Ministry of New and Renewable Energy ,Jawaharlal Nehru National Solar Mission ,Solar Photovoltic Water Pumping System -2015-16	*
	Model Number as per MNRE specification	Model-X	*
	Capacity of Solar PV Water Pumps with PV module	6750 Wp	1200 Wp, 1800 Wp, 3000 Wp, 4800 Wp, 6750 Wp, 9000 Wp
Motor Pump Set	Types of Submersible pump set	BIS Marked Submersible Pumpsets to IS:8034 latest for use in borewells for handling clear cold water having ISI Marked motor to IS:9283 latest of wet type for continuous rating synchronous,Category-B,Duty Type-S1	*
	Submersible motor pump with controller Capacity	7.5	7.5
	Power Supply	Three Phase AC through suitable Variable Frequency Drive(VFD)	*
	Numbers of poles of motor	2	*

	Motor speed(rpm)	2900	*
	Bore Size	150	*
	Delivery Size	50	*
	Suction Head	7	*
	The suction/ delivery pipe (GI/HDPE), electric cables, floating assembly, civil work and other fittings required to install the Motor Pump set	yes, inclusive	*
	Material of Suction Pipe	ISI Marked HDPE Pipe to IS 4985	*
	Length of Suction Pipe	5	*
	Material of Delivery Pipe	ISI Marked HDPE Pipe to IS 4985	*
	Length of Delivery Pipe	5	*
	All parts of the pump and the motor of the submersible pumps should be made of stainless steel	Yes	*
	Pump and all external parts of motor used in submersible pump which are in contact with water, are of stainless steel	Yes	*
	Marking on Motor pump	The following details should be marked indelibly on the motor pump set a) Name of the Manufacturer or Distinctive Logo. b) Model Number. c) Serial Number.	*
MOUNTING STRUCTURES AND TRACKING SYSTEM	Mounting on metallic structures	The PV modules should be mounted on metallic structures of adequate strength and appropriate design	*
	Mounting Structure Type	Pole type structure	*
	Strength of mounting structure	suitable to withstand load of modules and high wind velocities up to 150 km per hour	*
	The support structure used in the pumping	Yes	*

	system should be hot dip galvanized iron with minimum 80 micron thickness		
	Tracking system	Manual	Manual, Passive, Auto Tracking, NA
	Arrangement for seasonal tilt angle adjustment	For manual tracking, arrangement for seasonal tilt angle adjustment and three times manual tracking in a day should be provided	*
	Inverter for Motor	Yes	*
	Remote Monitoring of Pump	Provision for remote monitoring of the installed pumps must be made in the controllers or the inverters either through an integral arrangement or through an externally fitted arrangement	*
	Provision to ascertain the daily water output, the power generated by the PV array, the UP TIME of the pump during the year, Number of days the pump was unused or under breakdown/repairs	Yes	*
ELECTRONICS AND PROTECTIONS	Maximum Power Point Tracker (MPPT)	Maximum Power Point Tracker (MPPT) should be included to optimally use the Solar panel and maximize the water discharge.	*
	Inverter to operate an AC Pump	Yes	*
	IP protection for Inverter to operate an AC Pump	The inverter must have IP 54 protection or must be housed in a cabinet having at least IP54 protection.	*
	Adequate protections should be incorporated against dry operation of motor pump set, lightning, hails and storms	Yes	*

	Full protection against open circuit, accidental short circuit and reverse polarity should be provided	Yes	*
	ON/OFF SWITCH	A good reliable switch suitable for AC/DC use is to be provided. Sufficient length of cable should be provided for interconnection of the PV array, Controller / Inverter and the motor pump set.	*
	Spares	Required Spares for trouble free operation during the Warrantee period should be provided along with the system.	*
	OPERATION AND MAINTENANCE MANUAL	An Operation and Maintenance Manual, in English and the local language, should be provided with the solar PV pumping system. The Manual should have information about solar energy, photovoltaic, modules, AC motor pump set, tracking system, mounting structures, electronics and switches. It should also have clear instructions about mounting of PV module, DO's and DONT's and on regular maintenance and Trouble Shooting of the pumping system. Name and address of the person or Centre to be contacted in case of failure or complaint should also be provided. A warranty card for the modules and the motor pump set should also be provided to the beneficiary.	*
PERFORMANCE	**Shut Off Dynamic**	70	45, 70, 75, 100, 150

Head		
Water Output on a clear sunny day with three times tracking of SPV panel, under the “Average Daily Solar Radiation”	87,750 litres per day from a total head of 70 meters	*
Minimum water output from a Solar PV Water Pumping System For AC Induction Motor Pump Set with a suitable Inverter from a Total Dynamic Head of 10 metres and with the shut off head being at least 12 meters	NA	*
Minimum water output from a Solar PV Water Pumping System For AC Induction Motor Pump Set with a suitable Inverter from a Total Dynamic Head of 20 meters and with the shut off head being at least 25 metres	NA	*
Minimum water output from a Solar PV Water Pumping System For AC Induction Motor Pump Set with a suitable Inverter from a Total Dynamic Head of 30 metres and the shut off head being at least 45 meters	NA	*
Minimum water output from a Solar PV Water Pumping System For AC Induction Motor Pump Set with a suitable Inverter from a Total Dynamic Head of 50 metres and the shut off head being at least 70 meters	NA	*
Minimum water output from a Solar PV Water Pumping System For AC Induction Motor Pump Set with a suitable Inverter from a Total Dynamic Head of	13 liters of water per watt peak of PV array	*

	70 metres and the shut off head being at least 100 meters		
	Minimum water output from a Solar PV Water Pumping System For AC Induction Motor Pump Set with a suitable Inverter from a Total Dynamic Head of 100 meters and the shut off head being at least 150 meters	NA	*
CERTIFICATION	BIS CM/L number and validity of ISI marked Submersible Pump	-	*
	Availability of Type Test Report to prove conformity of parameters as per MNRE specification form MNRE empanelled for solar pump laboratory	Yes	*
	Test Certificate No and Date	-	*
	Name of the Lab where test Conducted	-	*
	Test Report to be furnished to the buyer on demand	Yes	*
	The type of pump set used must match the total dynamic head requirement of the site Moreover, it should be appropriately tested and certified by the authorized test centres of the Ministry to meet the performance and water discharge norms	Yes	*
	Scope of Supply	with errection and commissioning at consignee end	*
	Warranty	The PV Modules must be warranted for output wattage, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years. The whole Pumping system	*

		including pump shall be warranted for 5 years.	

* Specifications highlighted in bold are the Golden Parameters.
* Bidders may note that In respect of non-golden Parameters, the specifications 'Values' chosen by Buyer will generally be preferred over 'Bid requirement (allowed Values) by the Buyer.

Additional Specification Documents

Consignees/Reporting Officer and Quantity

S.No.	Consignee/Reporting Officer	Address	Quantity	Delivery Days
1	Tejbir Singh	515731,SOUTHERN REGION FARM MACHINERY TRAINING&TESTING INSTITUTE GARLADINNE ANANTAPUR	1	30

Bid Specific Additional Terms and Conditions

1. Dedicated /toll Free Telephone No. for Service Support : BIDDER/OEM must have Dedicated/toll Free Telephone No. for Service Support.

This Bid is also governed by the General Terms and Conditions

---Thank You---