

RA Document

RA Details	
RA Technical End Date/Time	28-07-2020 12:00:00
RA Opening Date/Time	28-07-2020 12:30:00
RA Life Cycle (From Publish Date)	90 (Days)
RA Offer Validity (From End Date)	30 (Days)
Ministry/State Name	Uttar Pradesh
Department Name	Urban Development Department Uttar Pradesh
Organisation Name	E-municipalities - Eservices To Citizens And Employees Of Urban Local Bodies Of Uttar Pradesh
Office Name	Nagar Palika Baruasagar
Total Quantity	1
Item Category	Solar Power Plant (Roof Top) for ONGRID System, Single Phase
Experience Criteria	1 Year (s)
MSE Exemption for Years of Experience and Turnover	No
Startup Exemption for Years of Experience and Turnover	No
Document required from seller	Experience Criteria,Past Performance,Bidder Turnover,Certificate (Requested in ATC),OEM Authorization Certificate,OEM Annual Turnover *In case any bidder is seeking exemption from Experience / Turnover Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer
Past Performance	10 %
Inspection Required	No

EMD Detail

Required	No
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ePBG Detail

Required	No
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Splitting

RA splitting not applied.

1. Experience Criteria: In respect of the filter applied for experience criteria, the Bidder or its OEM {themselves or through reseller(s)} should have regularly, manufactured and supplied same or similar Category Products to any Central / State Govt Organization / PSU / Public Listed Company for number of years as indicated in the bid document before the bid opening date. Copies of relevant contracts to be submitted along with bid in support of having supplied some quantity during each of the year. In case of bunch bids, the category of primary product having highest value should meet this criterion.

2. Past Performance: The Bidder or its OEM {themselves or through re-seller(s)} should have supplied same or similar Category Products for 10% of bid quantity, in at least one of the last three years before the bid opening date to any Central / State Govt Organization / PSU / Public Listed Company. Copies of relevant contracts (proving supply of cumulative order quantity in any one year) to be submitted along with bid in support of quantity supplied in the relevant year. In case of bunch bids, the category related to primary product having highest bid value should meet this criterion.

Solar Power Plant (Roof Top) For ONGRID System, Single Phase (1 pieces)

Technical Specifications

[* As per GeM Category Specification](#)

Specification	Specification Name	Values	Bid Requirement (Allowed Values)
GENERIC	A Grid Tied Photo Voltaic (SPV) power plant consists of	SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls and Protections, interconnect cables and switches	SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls and Protections, interconnect cables and switches
	PV Array Mounting	Mounted on a suitable structure	Mounted on a suitable structure
	Grid tied SPV system is	Without battery and designed with necessary features to supplement the grid power during day time.	Without battery and designed with necessary features to supplement the grid power during day time.
	Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc.,	as per relevant BIS or IEC or international specifications, as applicable	*

	Installation and testing for complete system	Yes including Civil Work, Designing, Fabrication, Cabling Work with suitable Bolts, Nuts, Clamps, Connectors and testing etc.,	Yes including Civil Work, Designing, Fabrication, Cabling Work with suitable Bolts, Nuts, Clamps, Connectors and testing etc.,
INVERTER	Rated out put power of inverter (Kw)	5	5
	Switching device	MOSFET	MOSFET
	No. of Phase (in Nos.)	1	1
	Inverter output wave form	Pure sine wave	Pure sine wave
	Technology	MPPT Based	*
	No.of MPPT per inverter (in Nos.)	1	1
	No. of string at input side of inverter (input port +ve and -ve) (hint: 1 sets contains 1 +ve and 1 -ve port)	2 set	2 set
	Maximum power point tracker	Integrated in the PCU/inverter to maximize energy drawn from the array	Integrated in the PCU/inverter to maximize energy drawn from the array
	Operating Voltage Range of Inverter	100 V to 500 V	100 V to 500 V
	Over load support at Input side, DC	15% of Maximum Input Voltage	15% of Maximum Input Voltage
	Maximum input current for each MPPT (in A)	11	11
	Service condition	Outdoor	Outdoor
	Ingress protection rating of inverter	IP 23 (for indoor use)	IP 23 (for indoor use)
	Cooling medium for inverter	Intelligent fan cooling	Intelligent fan cooling
	Manual switch for disconnecting DC supply	No	No
	Inverter mounting type	Wall Mounted	Wall Mounted, Floor Mounted
	Standard accessories for Inverter	MC4 DC Connectors, AC Connectors, Mounting bracket, Nuts and Bolts and inverter manuals	*

	Isolation between input DC and output AC	Yes	*
INVERTER OUT PUT	Maximum current for single phase inverter (in A)	5.2	5.2, 8.1, 10.5, 15.7, 21, 25
	Output voltage (in V)	240 V	240 V
	Invert auto trip at output side	Lower : at 160 V, Higher : at 285 V with adjustable	Lower : at 160 V, Higher : at 285 V with adjustable
	Frequency range	50 Hz +/-3	*
	Grid Frequency Synchronization range	+ 3 Hz or more	*
	Grid Voltage tolerance	-20% and +15%	*
	Overall Efficiency (in %)	>90	>90
	Efficiency Measurements for Power conditioners / Inverters	as per IEC 61683 / IS:61683	*
	Environmental Testing for Power conditioners / Inverters	as per IEC 60068-2 (1,2,14,30) /Equivalent BIS Std.	*
PROTECTION FOR INVERTER	PCU/inverter shall be capable of complete automatic operation for	wake-up, synchronization and shutdown.	*
	Out put over current protection	Yes	*
	Out put over voltage protection	Yes	*
	Short circuit protection	Yes	*
	Overload protection	110% for 1 Minute,,125% for 30 sec.,,150% for 5 sec.	110% for 1 Minute,, 125% for 30 sec.,, 150% for 5 sec.
	Over temperature protection	Yes at 65 Deg. C Cooling Fan will auto switch ON	Yes at 65 Deg. C Cooling Fan will auto switch ON
	Surge protection	Metal Oxide Varistor (MOV)	Metal Oxide Varistor (MOV)
	Insulation Resistance Monitoring	No	No
	Grid Monitoring protection	No	No
	THD (in %)	<1.5%	*
	Power factor at rated out put power	0.9	0.9

	Inverter body material	Aluminium Casting	Aluminium Casting
SERVICE CONDITION	Operating temperature	-25 to +60 deg. C	-25 to +60 deg. C
	Relative Humidity (in %)	> 95 % non condensing	*
	Maximum altitude above sea level (in m)	4000	*
DISPLAY FEATURES ON INVERTER	Type of display	LCD	LCD
	Display parameters	DC Voltage,DC Current,AC Voltage,AC Current,Out put frequency,Power Factor	DC Voltage, DC Current, AC Voltage, AC Current, Out put frequency, Power Factor
	Display for Generating power data	Daily, Weekly, Monthly, Yearly with total generation	*
	Generating power Data storage facility	Yes for 2 Years from the date of commissioning	Yes for 2 Years from the date of commissioning
	Interface facility for transmitting the generating power data for cloud storage	Inbuilt Wifi Enabled	Inbuilt Wifi Enabled
	Net meter	Approved by Government of India/State Government authority concerned for connecting to Grid	Approved by Government of India/State Government authority concerned for connecting to Grid
Add on items - DC DISTRIBUTION BOARD	DC Distribution panel to receive the DC output from the array field	Yes with surge arrestors	Yes with surge arrestors
	Ingress protection (Enclosure protection) of DC Distribution Box	IP65	IP65
	Material of bus bar and size	Copper, size as per inverter rating	Copper, size as per inverter rating
	Circuit Breaker for input side (DC side) for each inverter	MCB 10 A	MCB 10 A
Add on items - CABLE FOR INPUT	ISI Marked Connecting cables according to Inverter rating for each system	PV Module to Inverter DC	PV Module to Inverter DC

	Electric Cable for Input	1C x 6 Sq. mm, Copper Cable (as per IS:694:2010 latest)	1C x 6 Sq. mm, Copper Cable (as per IS:694:2010 latest)
	Cable Length for PV Module to Inverter, DC (in m)	10	10
Add on items - AC DISTRIBUTION BOARD	AC Distribution Panel Board (DPB) for controlling the AC power from PCU/inverter	1 Phase 230 Volt +/- 10%, 50 HZ +/-3%	1 Phase 230 Volt +/- 10%, 50 HZ +/-3%
	Panel construction	Metal clad, totally enclosed, floor mounted, air insulated, cubical type with change over switch	Metal clad, totally enclosed, floor mounted, air insulated, cubical type with change over switch
	Ingress protection (Enclosure protection) of AC Distribution Box	IP54 for Indoor	IP54 for Indoor
	All switches and the circuit breakers, connectors should conform to	IS:60947 part I, II and III	IS:60947 part I, II and III
	Panels designed for minimum expected ambient temperature	45 deg. C	45 deg. C
	Circuit Breaker for output side (AC side) for each inverter	MCB 10 A	MCB 10 A
Add on items - CABLE FOR OUTPUT	ISI Marked Connecting cables according to Inverter rating for each system.	From Inverter to Net Meter	From Inverter to Net Meter
	Conformity of the specification for cable	2C x 6 Sq. mm, Copper Cable (as per IS:694:2010 latest)	2C x 6 Sq. mm, Copper Cable (as per IS:694:2010 latest)
	Cable length for output side (from inverter to Net Meter for each system) (in m)	10	10
Other Add on Items	Cabling work at input side for each system	With PVC Conduit pipe with necessary clamps and screws	With PVC Conduit pipe with necessary clamps and screws
	Cabling work at Output side for each system	With Cable Tray with fitment accessories	With Cable Tray with fitment accessories

PV Module	Lightning arrestor for each unit	Yes	*
	Earthing for each inverter	G.I. Pipe, G.I. Wires and earthing as per IS:3043-1987.	*
	Danger boards and signages	1 No.	1 No.
	PV Module manufactured in	INDIA	*
	PV Module conforming to	IEC 61215/IS:14286 latest for Crystalline silicon terrestrial	*
	PV Modules Construction, Testing and Safety requirements	as per IEC 61730 (Part 1) and (Part 2) latest	*
	PV Modules shall comply Salt Mist Corrosion testing	as per IEC:61701/IS:61701 latest	*
	PV Module rating (in Wp)	335	*
	Tolerance for rated output power of PV Module	+/-3%	*
	No. of PV Module for each solar power plant system - Must declare (in Nos.)	-	*
	The peak-power point voltage and the peak-power point current of any supplied module	not vary by more than 2 %	*
	Protective devices against surges at the PV module	Yes	*
	Material for Module Frame (Corrosion resistant)	Anodized aluminum	*
	Each PV Module supply with	IV Curve sheet at STC	*
	Each PV Module shall supply with RF ID tag with complete information about PV Modules	Yes	*
ARRAY STRUCTURE	Material of mounting structure for mounting the modules/ panels/arrays	Hot dip galvanized MS mounting structures	*

Angle of inclination as per the site conditions to take maximum insolation	Yes for each mounting structure	*
Material of mounting structure	Structural Steel, Grade: E300 (as per IS:2062:2011 latest)	Structural Steel, Grade: E300 (as per IS:2062:2011 latest)
Galvanization of the mounting structure	as per IS:4759 latest	*
Structural material shall be corrosion resistant and electrolytically compatible	Module frame, fasteners, nuts and bolts	*
Material of fastners	Steel as per IS:1367 (Pt.1):2002 latest	*
The structures design	Designed to allow easy replacement of any module	*
Civil structures	As per the load baring capacity of the roof and the suitable structures based on the quality of roof	*
The total load of the structure (when installed with PV modules)	Less than 60 kg/m ² . on the terrace	*
Minimum clearance of the structure from the roof level	300 mm	*
JUNCTION BOX	The junction boxes	Provided in the PV array for termination of connecting cables
	Junction Box on PV Module	Sealed type
	Material of Junction Box	Powder Coated Aluminium
	Ingress protection (Degree of Protection) for Junction Box	IP65
	Wires/cables termination	Through Cable Lugs
	Input and output termination	Through single or double compression cable glands.
	Copper bus bars/terminal blocks housed in the junction	Yes

	box with suitable termination threads		
	Provision of earthing	Yes	*
	Surge protection device for each junction box	Yes	*
WIND LOAD	The Mounting structure shall be so designed to withstand the speed for the wind zone of the location where a PV system is proposed to be installed	Yes	Yes
	Compliance to wind velocity test for the Mounting structure of PV System	as per IS 875:1987 part 3 latest	as per IS 875:1987 part 3 latest
	Regional wind withstand capacity which the Mounting structure of PV system support is suitable to withstand (in Km/Hour)	180	180
WARRANTY & GUARANTEE	Minimum guarantee for maintaing of output peak watt capacity	> / = 90% at the end of 10 years and >/= 80% at the end of 25 years	> / = 90% at the end of 10 years and >/= 80% at the end of 25 years
	Warranty for PV Modules from the date of supply as per MNRE specn.,	>/=25 Years	*
	The Warranty Card	Contain the details of the system and information about the system and conditions of warranty	*
	OPERATION and MAINTENANCE MANUAL for each solar PV module shall be furnish to the buyer / consignee	Yes	*
	All the test reports and certificates shall be furnish by the seller to buyer / consignee on demand	Yes	*
	Minimum area required for installation Solar	-	*

	panels (sq. mt) - Must declare in Sq. Mtr.		
	Minimum area required for installation of Solar Inverter (sq. mt) - - Must declare in Sq. Mtr.	-	*
	Minimum area required for installation of Net Meter (sq. mt) - - Must declare in Sq. Mtr.	-	*
	In case of Grid failure, or low or high voltage	Solar PV system out of synchronization and disconnected from the Grid	*
	Provision for Isolation of inverter output with respect to the Grid	Provided with 4 Pole Isolator provided	*
	Locking facility for isolation switch	Yes	*
CERTIFICATIONS	PV Modules shall comply with BIS compulsory registration scheme and certificates shall furnish to buyer / consignee on demand	Yes	*
	BIS CRS Certificate for PV Module	as per IS:14286 (for Crystalline Silicon Terrestrial Photovoltaic (PV) modules)	*
	BIS CRS Number - Must declare	-	*
	Availability of type test reports of Wind Load withstand test for Mounting structure including calculation sheet from Central Govt., Lab/NABL/ILAC accredited lab to prove conformity of the specification and agreed to furnish test reports and certify	Yes	*
	Availability of type test reports for PCU/Inverter, PV Module to prove the conformity of the specification from Central Govt., Lab/NABL/ILAC accredited lab to	Yes	*

	prove conformity of the specification		
	Report Number - Must declare	-	*
	Report date - Must declare	-	*
	Name of Lab - Must declare	-	*
	Address of lab - Must declare	-	*
	Agreed to furnish all the test reports and certification to buyer / consignee on demand	Yes	*

* 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

Consignee/Reporting Officer and Quantity

S.No.	Consignee/Reporting Officer	Address	Quantity	Delivery Days	
1	Sandeep Singh Sengar	284201,nagar palika baruasagar jhansi	1	15	

Bid Specific Additional Terms and Conditions

1. Bidder's offer is liable to be rejected if they don't upload any of the certificates / documents sought in the Bid document, ATC and Corrigendum if any.
2. ISO 9001: The bidder must have ISO 9001 certification.
3. Material Test Certificate Should Be Sent Along with The Supply. The Material Will Be Checked by Buyer's Lab & the Results of the Lab will be the Sole Criteria for Acceptance of the Item.
4. The bidder is required to upload, along with the bid, all relevant certificates such as BIS licence, type test certificate, approval certificates and other certificates as prescribed in the Product Specification given in the bid document.
5. To be eligible for award of contract, Bidder / OEM must possess following Certificates / Test Reports on the date of bid opening (to be uploaded with bid): 1.
6. Bidder / OEM has to give an undertaking that after expiry of warranty period, it will provide AMC Service for next 1 years for the offered products at the rate not more than 1 % of contract price per annum. Buyer reserves the right to enter into an AMC agreement (covering preventive maintenance and servicing)with the Successful Bidder / OEM after expiry of the Warranty period at rate as mentioned above and the payment for the AMC charges would be made Annually after rendering of the AMC Services of the relevant AMC period. Performance Security of the successful bidder shall be forfeited if it fails to accept the AMC contract when called upon by the buyer. The original Performance Security of contract will be returned only after submission and verification of AMC Performance Security for 2% of total AMC value valid up to AMC period plus 2 months (if there is no other claim). (Undertaking of acceptance to be uploaded with bid).
7. Bidder / OEM has to give an undertaking that after expiry of warranty period, it will provide

Comprehensive Maintenance Service for next 1 years for the offered products at the rate not more than 1 % of contract price per annum. Buyer reserves the right to enter into a CMC agreement with the Successful Bidder / OEM after expiry of the Warranty period at above mentioned rate and the payment for the CMC charges would be made Annually after rendering of the CMC Services of the relevant CMC period. Performance Security of the successful bidder shall be forfeited if it fails to accept the CMC contract when called upon by the buyer. CMC would include cost of 1 (Upload the undertaking). The original Performance Security of contract will be returned only after submission and verification of AMC Performance Security for 2% of total CMC value valid up to CMC period plus 2 months (if there is no other claim).

8. Over and above the normal Warranty terms as per GeM GTC, the successful bidder / OEM shall have to provide Comprehensive Warranty during the entire Standard warranty period as per contract. : The comprehensive warranty shall be covering the following scope 1 (Upload an undertaking with the bid confirming compliance by the bidder if Bidder is taking onus of this compliance. In case OEM is taking onus of this compliance, OEM undertaking is to be uploaded along with Bidder undertaking)
9. Successful bidder will have to ensure that adequate number of dedicated technical service personals / engineers are designated / deployed for attending to the Service Request in a time bound manner and for ensuring Timely Servicing / rectification of defects during warranty period, as per Service level agreement indicated in the relevant clause of the bid.
10. Timely Servicing / rectification of defects during warranty period: After having been notified of the defects / service requirement during warranty period, Seller has to complete the required Service / Rectification within 3 days time limit. If the Seller fails to complete service / rectification with defined time limit, a penalty of 0.5% of Unit Price of the product shall be charged as penalty for each week of delay from the seller. Seller can deposit the penalty with the Buyer directly else the Buyer shall have a right to recover all such penalty amount from the Performance Security (PBG). Cumulative Penalty cannot exceed more than 10% of the total contract value after which the Buyer shall have the right to get the service / rectification done from alternate sources at the risk and cost of the Seller besides forfeiture of PBG. Seller shall be liable to re-imburse the cost of such service / rectification to the Buyer.
11. Availability of Service Centres: Bidder/OEM must have a Functional Service Centre in the State of each Consignee's Location in case of carry-in warranty. (Not applicable in case of goods having on-site warranty). If service center is not already there at the time of bidding, successful bidder / OEM shall have to establish one within 30 days of award of contract. Payment shall be released only after submission of documentary evidence of having Functional Service Centre.
12. Dedicated /toll Free Telephone No. for Service Support : BIDDER/OEM must have Dedicated/toll Free Telephone No. for Service Support.
13. Escalation Matrix For Service Support : Bidder/OEM must provide Escalation Matrix of Telephone Numbers for Service Support.
14. IMPORTED PRODUCTS: In case of imported products, OEM or Authorized Seller of OEM should have a registered office in India to provide after sales service support in India. The certificate to this effect should be submitted.
15. Scope of supply (Bid price to include all cost components) : Supply Installation Testing Commissioning of Goods and Training of operators and providing Statutory Clearances required (if any)

[This RA is also governed by the General Terms and Conditions](#)

---Thank You---