Techno Commercial Proposal for Turnkey Service (Design, manufacturing, testing, supply, installation and

Commissioning of 100 Kw Grid connected

Solar Power Plant up to LT Panel

including synchronization

with Grid supply

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**Sub.:** Proposal for Turnkey Service (Design, manufacturing, testing, supply, installation and commissioning) of Grid connected solar generating system.

GAURAV SOLAR PV PLANTS:

GAURAV transformers & Electricals started building SOLAR PV Power plants in 2012. When it comes to commercial solar installation systems. We are premier young company with experience in design, supply, erection & commsioning of turnkey solar power projects with main focus is to assist industrial and commercial establishments save on power costs. We offer superior technology solar energy based products with high efficiency and great affordability, We are trying to revolutionize the solar energy based product market with innovative designs and quality. Backed-up with latest technology supplemented by very experienced and dedicated manufacturers and suppliers which has enabled the company to stand up-to the stringent quality measures and nonstop innovation. We will partner with you to save on expensive grid connected power and act not as an external agency but your in-house solar experts.

**Key benefits of the Project:**

* Energy Independence - Hedging Inflation in Electricity cost for next 25 years.
* Cost saved from the electricity usage of Transmission line
* No recurring cost of fuel and no moving parts, thus a very low O&M cost
* Accelerated depreciation benefit for tax payers.
* Around 70% of project cost will be financed.
* Significant reduction in Carbon Emission.

**Scope of Work:**

The scope of work includes turnkey solution from concept to commissioning of Solar PV Plant. Complete EPC (Engineering Design, Procurement and Erection) & installation of the projects includes –

* Feasibility Analysis and preparation of DPR.
* Complete Design and Engineering of the project.
* Supply of Material for 100 KW Rooftop Solar Power Project.
* Complete Erection and Installation of 100 KW Rooftop Solar Power Project.
* Commissioning under State (Uttar Pradesh) Net Metering Scheme
* Complete liaison for Government approvals.
* Comprehensive Operation and Maintenance

**Net Metering**

The electricity/power generated from the solar PV power plant will be supplied to grid under the net metering policy. The electricity supplied to grid is recorded through bidirectional meter which takes the import as well as export record while unidirectional solar meter gives the reading of immediate generation from solar plant itself. In the net metering arrangement, extra units supplied to grid are adjusted with the consumption of electricity made by consumer through grid in the same financial year.

**Completion Timeline:**

The Project shall be commissioned within **Three months approximate** from commercial order date under the **Net Metering Policy**. The power that’s generated by the plant shall be utilized in the facility itself thereby saving on the electricity cost from the electricity board.

**Supply:**

This will include supply of all material required for solar PV Power Project.

GST as applicable.

The fees of Government approvals/applications/Liaising amount will be in the scope of the Client.

**Transportation:**

Transportation shall be charged on actual basis from the work.

**NOTE:** The above prices are applicable for 1 USD = 64.05 rupees +/- 1%. The prices shall vary as per the dollar at the time of Module Dispatch.

**Bill of Material (BOM) of Supply of Equipment**

|  |  |  |  |
| --- | --- | --- | --- |
| S.No. | Description | Make | Technical Specification |
| 1 | Modules | Vikram Solar/ Waree Solar/Indian make,Canadian Solar, Trina (certified as per 61215/61370) asPer MNRE guidelines. | Polycrystalline >300 Wp (as per requirement ) modules, Standard Design , Framed Modules |
| 2 | Module Mounting Structure | Customized design. Standard Make: | Hot Dipped Galvanized Structure |
| 3 | Grid Connected Inverter | Fronius/SMA / Delta/Kaco | conforming to all the IEC standards as per MNRE regulations |
| 4 | DC Cables | Apar/Polycab | As per design |
| 5 | Data Acquisition System (DAS) | Customized web based UI for real time monitoring | Solar Power Generation monitoring |
| 6 | AC Cables | Havells/KEI/Polycab/ RR Cable | As per design |
| 7 | Earthing Material | Standard Make: According to IS : 3043-1987 | Chemical Earthing |
| 8 | BOS (Balance of Supply) | Standard Make | MC4 Connectors, Conduits & Lighting Protection |
| 9 | Solar Meter | Secure/ Elster/ L&T | 3 Phase, 415 V, 5 Amp, 0.5 S Class Accuracy |

**Warranty:**

1. PV Modules – (a) 10 years manufacturing defect warranty .

 (b) Performance warranty 90% efficiency upto 10 years & 80% efficiency upto 25 years

2. Inverters – 5 year warranty

3. BOS - As per manufacturer warranty

**Payment Terms:**

1. 15% Advance payment

2. 50% 7 days before supply of module

3. 15% 7 days before delivery of Structure

4. 18% 7 days before delivery of inverter

5. 2% after commissioning, at the time of handover.

**Operation & Maintenance:**

The O&M shall start after one month from the COD (Commercial operation date). Let’s Use Solar will do the comprehensive operation and maintenance of the plant. The proposed generation for the first year **will be minimum 1.5 Lac Units / Annum for 100 KW subject to 100% grid availability** and 1% degradation in each subsequent year for the project.

The O&M charges will be 1.5% of the project cost which shall start from the start of the second year to be escalated at 4% in each subsequent year.

**Client Scope prior to completion:**

Site-specific considerations will require assistance and cooperation from the client, as outlined below:

1. Provide access to work site for delivery of equipment and materials prior to and during project

 implementation.

2. Provide a suitable and secure space for storage of equipment and materials.

3. Facilitate access of work crew to the work site 7 days a week.

4. All the Statutory clearances, if any, required for the Project work and goods transfer to site.

5. Electricity & Water shall be provided by client during the construction.

6. Point of interconnection at LT panel to be provided by Client.

7. Net Meter is to be provided by Client.

8. Providing shadow free area on roof /ground (approx. 12000sq.ft.) on roof.

**Client Scope post completion:**

1. Washing of modules to be done **weekly strictly** using **RO/Portable** water jet.

2. Training will be provided to one of your personnel for basic operation of Solar PV system.

3. In case of criticality, remote support from our service engineer will be provided. Service engineer shall

 visit within 48 hours after official intimation.

4. Internet connection and basic PC availability required for remote monitoring of the Solar PV system as

 part of the O&M.

**Force Majeure:**

If at any stage during the period of the contract, the performance of any obligations under the contract is prevented or delayed wholly or partly be reasons of war, hostility, fire, floods, lightning, epidemics, sabotages, quarantine restrictions or other acts of God, Government or Law (herein after referred to as eventuates) then a notice of the happening of any such eventuality will be given within 7 days from the date of occurrence of any such eventuality. In such case neither party shall, by reasons of such eventuality, be entitled to terminate this contract, nor shall any claim be made for damages against the order in respect of such non-performance or delay and the performance and deliveries of the contract will be resumed as soon as practicable after such eventuality has come to an end or ceased to exist.

**Validity:**

The offer shall be valid for acceptance up to 30 days from the proposal date.

**Generation from 100Kwp Grid-Tie Solar System in 25 Years**

**(Considered 334 Days/Year)**

|  |
| --- |
| GENERATION SHEET OF GRID-TIE INVERTER |
| YEAR | GENERATION (In units) |
| 1st Year | 150000 |
| 2nd Year  | 148500 |
| 3rd Year | 147015 |
| 4th Year | 145545 |
| 5th Year | 144089 |
| 6th Year | 142649 |
| 7th Year | 141222 |
| 8th Year | 139810 |
| 9th Year | 138412 |
| 10th Year | 137028 |
| 11th Year | 135657 |
| 12th Year | 134301 |
| 13th Year | 132958 |
| 14th Year | 131628 |
| 15th Year | 130312 |
| 16th Year | 129009 |
| 17th Year | 127719 |
| 18th Year | 126441 |
| 19th Year | 125177 |
| 20th Year | 123925 |
| 21st Year | 122686 |
| 22nd Year | 121459 |
| 23rd Year | 120245 |
| 24th Year | 119042 |
| 25th Year | 117852 |
| TOTAL GENERATION IN 25 YEARS | 3332680 |

**At your Service:**

We thank you for giving us opportunity to work with you for setting up a Solar Photovoltaic Plant. Please feel free to connect with us for any query you may have regarding this proposal.

Thanks & Regards,

**For GAURAV SOLAR.**

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