

- Maintenance and inspection twice a year and remote online monitoring for fault notifications and system performance – FREE for the first year. Succeeding years maintenance will be based on the service warranty agreement issued after the installation
- Utility net-metering applications and manual transfer switch for pump electricity meter are included

D. Technical Specifications

1. Solar Photo Voltaic (SPV) Array

Solar module shall be minimum of **33 pcs. Tier 1 Mono Crystalline Type**, rated at minimum **550 Watts per Solar PV module**, suitable for grid connectivity. The cells shall lay embedded in transparent EVA behind tempered glass. The glass is inset deep in an aluminum frame, there by offering maximum protection. The back of the module is sealed with a high-quality back sheet. The wiring shall be terminated in a box at the backside of panel and shall have no cavities and completely watertight and is resistant to temperature and UV radiation. The efficiency of PV panels at standard irradiance shall be minimum of 85%. The mechanical structure shall withstand gusts of wind up to 150km/hr. from back side of the panel. The offered modules must conform to the latest edition of any of the following IEC/ equivalent BIS Standards of PV module design qualification and type approval:

Crystalline Silicon Terrestrial PV Modules: IEC 61215/IS14286

Module junction box (weatherproof), where the module terminals shall be interconnected and output taken, shall be designed for long life outdoor operation in harsh environment as per the relevant BIS specifications and protected against surges. It should be a provision for replacing the cable, if required.

Protective devices against surges at the PV module shall be provided. Low voltage drop bypass diodes shall be provided. PV modules used in solar power plants 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 2 years.

2. Mounting Structures

The PV modules will be mounted on fixed metallic structures of adequate strength and appropriate design, which can withstand load of modules and high wind velocities up to 150 km per hour. The support structure used in the power plants will be hot dip galvanized iron (G.I) for anodized aluminum.

The "**Mounting Structure**" should have the following features:

The modules support structure shall be hot dipped galvanized (at least 120 micron) iron for holding the PV modules. The supplier/contractor shall specify installation details of the PV modules and the