

NCL Innovation Park

19°18'15.0"N 73°44'22.7"E
NCL Colony, Pashan
Pune District

Date of Commissioning: 17th August 2017
Solar Rooftop System(Grid-tie)



NCL Innovation Park is an incubation centre which incubates many different ventures. The energy requirement there is around 1200-1500 kWh everyday. To reduce time of the day tariff (TOD) they decided to implement alternative economical energy resource here. A grid tied solar rooftop system was designed in order to supplement the power grid and save energy cost. The salient features of system are as follows:

- The system can take care of part of day time electricity demand.
- Solar PV system will be backed with the grid power; hence the total electricity demand will be fulfilled by addition of power from solar system and power grid.
- The system is designed without battery backup, which eliminates major component of recurring cost of the system.
- The solar system can monitor data like - instantaneous electricity generation from solar system (W), total energy generated in a day (kWh), cumulative energy generation till date (kWh), graphical display of generation from solar PV with respect to time of day, instantaneous DC & AC Voltage(V) & Current(A).

Technical Specifications

Solar Capacity - 54.4 kWp

Solar Modules – Anchor by Panasonic, 320 Wp

Polycrystalline (170 nos.)

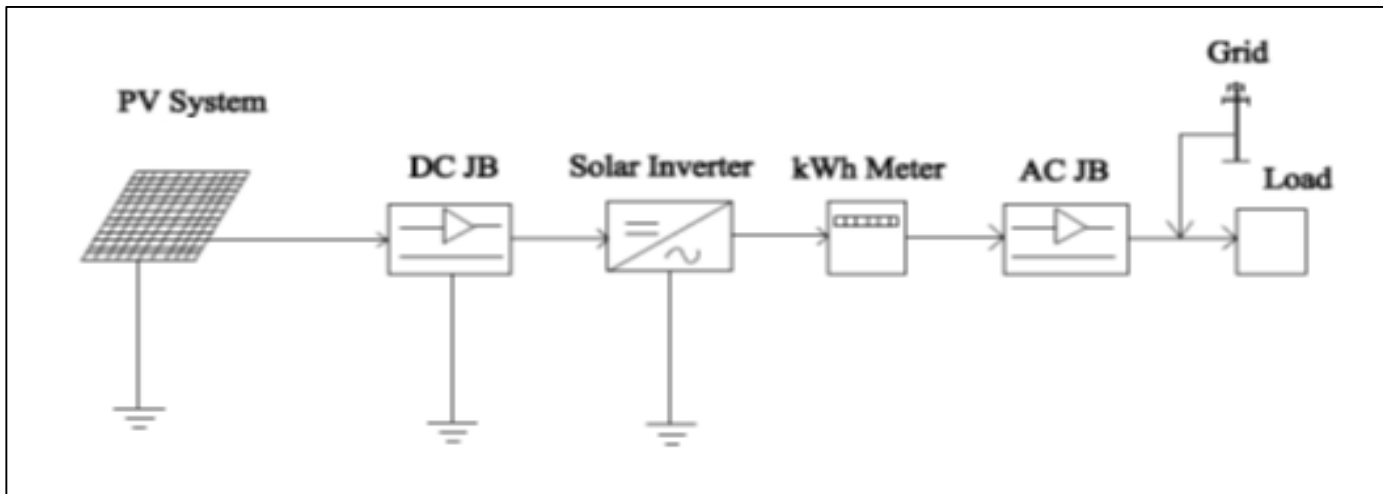
Inverter - SMA, 25 kW X 2 nos.

DC distribution and AC distribution boxes with various protections



Project Completed by Gram Oorja Solutions





Grid tie system - Single line diagram



Panel unloading at NCL rooftop



System earthing





DC junction box and Inverters




AC distribution box

Outcomes from the system

 Energy saving of 81,600 units (kWh) per year

 Cost saving of Rs. 10.2 lakhs per year

 Reduction in CO_2 for around 67 tonnes per year

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