



सीएमपीडीआई
cmpdi
A Mini Ratna Company

TENDER DOCUMENT

**FOR
DESIGN, SUPPLY, ERECTION, COMMISSIONING
AND TESTING
OF
GRID CONNECTED 1.03 MWp SOLAR POWER PLANT
HAVING FIVE YEARS O&M
FOR
CENTRAL COALFIELDS LIMITED, RANCHI
AT
AMRAPALI, MAGADH, PIPARWAR, NK, GIRIDIH & KATHARA AREA**

VOLUME – II

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PROJECT SUMMARISED DATA

Sl. No.	Particulars	Description
A) Roof Top Solar Power Plant- 930kWp (Mono Crystalline)		
1.	Amrapali Area (3 nos. of Building) and out of 100kWp around 40kWp is ground mounted in Amrapali Area	100 kWp
2.	Magadh Area (2 nos. of Building)	50 kWp
3.	Piparwar Area (6 nos. of Building)	190 kWp
4.	NK Area (3 nos. of Building)	310 kWp
5.	Giridih Area (5 nos. of Building)	280 kWp
B) Solar Power Plant- 100kWp Mono Crystalline (Ground Mounted)		
1.	Location	Near Kathara Project Office
2.	Latitude-Longitude	23.798 ⁰ N – 85.846 ⁰ E
3.	Nominal/system Power (DC)	100 kWp
C) General for Both Locations		
1.	Aggregate Plant Capacity (Nominal/system Power (DC))	1030kWp (Min)
2.	PV Module (Min.)	535 Wp, Mono Crystalline
3.	Plant Life	25 Years
4.	Comprehensive Operation and Maintenance of Plant	5 Years
5.	Power Feeding Point	Local Distribution Switchboard of the respective building

CHAPTER-I

INTRODUCTION

1.1 GENERAL

Central Coal Limited (CCL) has a number of projects which are spread in the state of Jharkhand. Geological Coal Reserves in CCL command area are up to 300m & above depth. For administrative purpose there are seven operating coalfields in the command area of CCL. The company operates around 62 coal projects which include underground and opencast mine. Out of 62 operative mines around 40 mines are opencast mine and remaining UG mines. Additionally, 7 coal washeries, (5 Coking Coal and 2 Non-Coking Coal washeries) are running under administrative control of CCL.

To supply power to various projects and other power consuming centers of the project, a number of substations have been installed. These substations receive power from DVC and other DISCOM.

1.2 Grid connected solar power plant

A solar photovoltaic (PV) system is a renewable energy power generation technology that uses photovoltaic modules to generate electricity directly from solar radiation, using a phenomenon called the photovoltaic effect. The electricity generated can be stored, used directly, or fed back into grid. Solar PV is a reliable and clean source of electricity that can suit a wide range of power generation applications for residential, industrial, agricultural, etc. consumers. Some common applications include solar generation for captive consumption, power sale and savings in electricity costs.

A grid-connected solar power plant refers to a solar PV system that is connected to the local distribution grid. It is a form of distributed power generation. This system includes different components that are selected depending on the system type, site location and application. Generally, components of this system comprise PV modules, mounting structures, inverter, transformers and miscellaneous items like meters, junction box, cables, etc.

A grid-connected solar PV system has following main features:

- Electricity generation during daytime
- Low maintenance requirement
- Simple installation
- Easy scalability
- Robustness
- Low investment compared to stand alone system with battery backup.