

1.0 INTRODUCTION

NTPC – SAIL Power Company Limited (NSPCL) is a 50:50 joint venture of two Maharatna PSUs i.e. NTPC LTD, an integrated power major and SAIL, one of the largest steel producing companies of India. It has an installed capacity of coal based 814 MW at different SAIL locations i.e Bhilai, Rourkela & Durgapur. Out of 814 MW of installed capacity 564 MW capacity is for captive use of SAIL plant at respective locations. It is also undertaking the development of Coal based units of 1X250 MW at SAIL, Rourkela (RSP) & 2X20 MW at SAIL, Durgapur (DSP), which are under construction phase by BHEL & ISGEC Ltd respectively.

NSPCL is intending to set up a 50 MWp Solar PV plant in two splits (20 MWp & 30 MWp) at Salem Steel Plant of SAIL in Tamil Nadu. The 50 MWp Solar PV power project shall be implemented in a single EPC package under domestic competitive bidding using Non DCR (open category) manufactured PV modules and cells. Further this EPC package is proposed to be awarded to single bidder in single block of 50 MWp with suitable award criteria intimated separately in the bidding documents.

“Salient Technical Features of the equipment/ systems/ services covered in the IFB **No.CC/C&M/C-479** are mentioned below. These Salient Technical Features are mentioned only to facilitate the prospective bidders to prima-facie understand the requirements under the tender and shall not in any way limit or alter the scope of work and technical features/ specification of equipment/ systems/ services covered in the Bidding Documents. Detailed provisions in regard of scope of work and technical features/specification of equipment/ systems/ services, contained in the Bidding Document shall be final and binding.”

2.0 LOCATION AND APPROACH

District	Salem, Tamilnadu
Nearest Highway	Bengaluru and Coimbatore are connected with Salem by NH-7 and NH-47 respectively.
Nearest Railway Station	Salem (10 kms from the Proposed site)
Nearest Commercial Airport	Coimbatore - 160 kms Bengaluru - 250 kms

3.0 LAND AVAILABILITY

Approximately 264 acres of land on the north western side of Salem Steel Plant (SSP) in Salem district of Tamil Nadu

4.0 PROJECT CAPACITY

Name of the project	Salem Solar PV Power Project (50 MW)
Project capacity	50 MW Solar PV Project (To be awarded to single bidder)
Technology	Solar PV Technology with Crystalline Silicon cells.

5.0 BRIEF SCOPE OF WORK

The Brief Scope includes the following:

1. Design, engineering, manufacturing, supply, packing and forwarding, transportation, unloading storage, installation, testing and commissioning of Solar Photo Voltaic Plant based on open category PV modules and cells.
2. Geo-Technical Investigation and Topographic Survey of site.
3. Site-grading, clearing of vegetation.
4. Design and construction of foundation & mounting structure for SPV panels.
5. Water supply arrangement including supply and installation of water washing system, digging of bore well, pipe line for drawal of water from its source and associated power supply for water washing & construction purposes.

6. Construction of Pre-Engineered type Inverter room with Power conditioning unit associated LT and HT switchgear. In case of String Inverter, Construction of Pre-Engineered type HT Switchgear room.
7. Construction of Central Monitoring and Control Station with switchgear room, SCADA room, Store room, Battery room with all electrical fitting and furniture, fencing of SPV plant, security cabin etc.
8. All associated electrical and civil works required for interfacing with grid (i.e. transformer(s), breakers, isolators, panels, protection system, cables. metering at 33 kV level, earthing of transformer etc.).
9. The project capacity of 50 MWp shall be constructed in two splits. 20 MWp split shall be connected to 33 kV MRSS Sub-Station of Salem Steel Plant and 30 MWp split shall be connected to 110 kV WRSS Sub-station of salem Steel Plant after installing step-up transformer (33 kV/110 kV). Power evacuation lines of 2X75% capacity for each split (i.e 20 MWp & 30 MWp) by means of 33 kV Cables along with necessary control gear, metering & protection shall be constructed by the bidder.
10. Construction of internal roads, pathways, fencing, peripheral roads and drainage system.
11. SCADA system for remote monitoring and control of Inverters with all hardware & software.
12. Operation & maintenance of SPV Plant along with electrical equipment, associated power evacuation lines, consumables and spare parts for a period of five years from the date of successful completion of trial run.
13. Supply of Mandatory spares.

6.0 TECHNOLOGY

In Solar Photo Voltaic Power Generation the direct conversion of solar radiation into electricity is achieved by using semiconductor devices “Solar Cells” which work on the principles of photo electric effect.

7.0 POWER EVACUATION SYSTEM

50MW Solar Project capacity shall be electrically split into two parts (20MW & 30MW) for power evacuation purpose as per following,

- (i) Evacuation of 30MW power through two nos of 33kV cable feeder and two nos of 33kV/110kV, 25 MVA transformer along with associated 33kV bay, control, protection and metering systems complete in all respect.
- (ii) Evacuation of 20MW power through two nos of 33kV cable feeder from PV plant end to existing 33kV SSP MRSS Switchyard.

8.0 GENERATION GUARANTEE

The annual generation has to be quoted by the bidder in MU in the relevant section of the bid. The bidder shall guarantee the quoted annual generation at the metering points as per revised SLD (i.e. MRSS 33kV Switchyard end and 110kV side of 110kV SSP sub-station), in the first year of O&M period after trial run. Refer details given in PG test chapter (E-6). Bidder shall incorporate suitable tracking system as outlined in the specification to achieve the above generation. Alternatively bidder can also add extra DC capacity to achieve the target generation.

9.0 OTHER DETAILS

Sl	Item	Details
01	Water Requirement during construction	To be arranged by bidder
02	Power Requirement during construction	To be arranged by bidder
03	MOEF Clearance	To be arranged by NSPCL
04	SPCB Clearance	To be arranged by NSPCL
06	Chief Electrical Inspector clearance	To be facilitated by bidder