

## Annexure -1

### Technical specification

**Name of work:** Installation of Power panels and its functional testing at FFF temp sub-station along with Class 1 bulkhead lights and solar panels installation & testing with charger in existing vehicle at FF INRP(O) , NRB BARC(T)

Following works are included in scope of work schedule:

Sr. No.	Description	Unit	Qty.
1	Shifting of 2 Nos PCC Panels 630 Amps and 250Amps (from FF store to FFF temp substation)	Job	1
2	Preparation of foundation and erection of 2 Nos PCC Panels	Job	1
3	Installation of 02 Nos power panels having incomers 630 Amp and 250 Amp. Including its Cable dressing, termination with all accessories i.e required size of copper Lugs, Anchor fasteners, Nut bolts and other materials as per site condition shall be in the scope of contractor.	Job	2
4	Supply and termination of LT XLPE FRLS Armoured Power cable , 3 1/2 C X 240 Sq.mm, Aluminium conductor as per IS 7098	Mtr	200
5	Supply , installation & testing of Class-1 emergency bulk head light 9Watt, 220VDC fixture at various location in FF Lab.	Nos	20
6	Supply, installation & testing of 03 No's 565 WP, Mono Solar panels with charger, controller and display panel in existing platform truck.	Job	1
7	LT Power cable (3 1/2 C X 185 Sq.mm) fault tracing and its jointing and termination work at FFF temp substation. For fault tracing and jointing work required excavation work, refilling the trench, Suitable size copper lugs for termination etc and all other works including materials as per site condition shall be in the scope of contractor.	Job	1

The work shall involve shifting of 02 Nos PCC panel having Incomer 630 Amp and 250 Amp from FF to FFF temporary substation site, preparation of foundation and its Installation shall be carried out, for this required size of copper lugs and other materials are in the scope of supplier. Supply, laying and termination of 240 sq mm x 4 core Armoured FRLSH XLPE insulated Aluminium conductor control cables of 1100V grade conforming to IS 7098 from control panel to individual towers.

Cables shall be laid at a depth of 900mm below ground level including excavation by mechanical means (Hydraulic excavator) / manual means in all types of soil other than soft and hard rock, sand bedding, sand cushioning all around, back filling, levelling, consolidation, removal / disposal of excess earth material within the radius of 500 m, providing cable identification tags at terminations as well as entry and exit of trenches / Pipes and at regular interval along the straight runs as per instruction of Engineer-in-charge. Cables shall be laid in DWC pipe of suitable dimension as per

cable sizes with sand bedding. Supply of DWC pipe, sand & other required material for installation shall be in the scope of this item.

End termination of the cables shall be carried out by crimping using tinned copper lugs, nickel plated single/ double compression type brass cable gland for armoured power cable, inhibitor compound and conducting grease, GI nuts, bolts, washers etc. Earthing of cable gland with suitable size of G.I strip/wire, including supply of all jointing materials, as required shall be carried out by the supplier. Before and after termination with main panel power cable IR value shall be measured with 500 Volt megger, and functional test of the power panel shall be carried out.

Supply and installation of Class I emergency bulk head light 9Watt, 220VDC fixture at various location in FF Lab, before procurement of the bulk head light fixture take approval from EIC and for installed these fixtures at various location of FF lab as per direction of EIC.

Supply, installation & testing of 03 No's 565 WP, Mono Solar panels with charger, controller and display panel in existing platform truck. While procurement of Solar panels to assure of the quality of panel inspection of the panel shall be carried out by EIC and after installation of the same with charger panel functional testing shall be carried out.

LT Power cable (3 1/2 C X 185 Sq.mm) fault tracing and its jointing and termination work at FFF temp substation. For fault tracing and jointing work required excavation work, refilling the trench, Suitable size copper lugs for termination etc and all other works including materials as per site condition shall be in the scope of contractor. For Jointing and termination work take prior approval of cable jointing kit make and the fault tracing work shall be scrutinized by EIC / department representative.

After completion of fault tracing and jointing work, Insulation resistance measured with suitable megger (Megger shall be arranged by contractor).

## **IMPORTANT NOTES**

### **a. Liability for loss, damage, accident, etc.**

The Contractor shall note that if the work is awarded to him, he shall be liable to take a Contractor's All Risk Insurance (CARI) policy covering, inter-alia, not only his men and material but also the materials supplied on free or chargeable basis by BARC and BARC shall be named as the co-assured. A policy shall be taken progressively to cover the full value of the material and should cover the third party liability also.

### **b. Safety Measures**

To avoid possible accidents to staff and labour employed on the construction site, it is imperative to observe all the safety practices that may be laid down from time to time by BARC/Statutory Bodies. The Contractor shall provide all the transport facilities for their employees by their own means and at their own cost.

## **3. GENERAL INFORMATION**

- a. The contractor shall be deemed to have carefully examined the specification in its complete form and to have been fully informed and satisfied himself as to the details, nature, character and qualities of the work to be carried out, site conditions and other pertinent matters and details.
- b. The contractor shall furnish all the data called for in the relevant standard pro-forma to facilitate correct evaluation of his offer in a most expeditious manner. It is in the interest of the contractor to submit the offer in the above manner, failing which it is likely that his offer may not be considered.

## **4. SUPERVISION OF ERECTION AND INSTALLATION AT SITE**

- a. The contractor shall depute his authorized engineer/supervisor to supervise and carry out the erection activities as described in this tender document at site. No erection shall be permitted if contractor's competent supervisor is not present.
- b. The contractor or his representative shall be deemed to have inspected and examined the site and surrounding before submitting his tender and shall gather all necessary information as to

risks, safety compliances and requirements of the organization, security rules and regulation of the organization and contingencies and other circumstances which may influence or affect his tender.

- c. Co-ordination of work: The contractor shall plan his operations so as to avoid interference with the operations of the Department or of other contractors or sub-contractor at site.

**5. GUARANTEE**

- a. The Contractor shall guarantee that the goods furnished by him shall be in full accordance with the requirements of the specifications.
- b. The Contractor shall warrant that the goods are new and of high quality and that the goods will be free of defects in design, materials or workmanship for a period of forty Eight (48) months backed by PBBG from the date of commissioning of the corresponding equipment system.

If within the expiry of the above stipulated guarantee period, the subject goods or any parts thereof are found defective because of workmanship or materials, the Contractor at his own expense, shall repair or furnish and install.

(Somit Chatterjee)

**ANNEXURE – II**  
**General Terms and Conditions**

**Conditions Pertaining To Work In Scope Of Contractor**

- 1 The work should be carried out at supplier's facility as per the details given in this work order.
- 2 No tools, machines, or manpower will be provided by the purchaser's department.
- 3 Normally work at user's place (if any) should be carried out between 09.00 hrs to 17.00 hrs on working days (i.e Monday to Friday).
- 4 No charges will be paid by the department towards lodging, boarding, and travelling.
- 5 Fabrication work details should be discussed with the department prior to actual work to gain complete understanding and to prevent any mismatch of the existing structure and design.
- 6 **The entire work should be completed within 6 months which shall be reckoned from 15th day of issue of work order or date of commencement of work, whichever is earlier.**
- 7 Contractor shall be responsible for the safety of their personnel. BARC shall not be liable to pay any compensation in this regard.
- 8 It will be the responsibility of the contractor to get the Character & Antecedents of the labourers, engaged by him, for carrying out the work being awarded to him, verified from the police authorities, and produce the report of the verification to the Security at the gate under intimation to the Engineer-in-charge of the work.  
It will be the responsibility of the contractor, to surrender all the entry permits, RFID, photo passes, issued to their representatives, supervisors, or any other staff upon completion of this work or on expiry of the said entry passes/ RFID/ photo permits whichever is earlier to the issuing authority and obtain a "No Dues Certificate" to that effect. The final bill in respect of this work will not be cleared till the production of such "No Dues Certificate" from CISF, BARC Tarapur.
- 9 **Disposal of Scrap**  
EIC (SMO -Swachhata Monitoring Officer) may certify after verifying the site that the premises have been cleared of all scrap/garbage/debris and unserviceable equipments by the contractor and forward the clearance certificate issued by Stores Officer, DPS, BARC (T) along with the bill for
- 10 Vehicle carrying the items against this work order should have valid documents of vehicle and driver should have valid driving license while delivering the item to our stores and FF will not take any kind of responsibility for making arrangement to carry the item inside the BARC premises.