

CANTONMENT BOARD JALANDHAR



SUPPLY, INSTALLATION, TESTING, COMMISSIONING,
OPERATION AND MAINTENANCE FOR 5 YEARS 65 kW
(25kW+ 20kW+10kW+10kW) GRID CONNECTED ROOF TOP
SOLAR PV SYSTEM AT CANTT. BOARD OFFICE, CANTT
GENERAL HOSPITAL, CANTT BOARD GIRLS SR. SEC.
SCHOOL, AND CANTT BOARD BOYS SR. SEC. SCHOOL,
JALANDHAR CANTT.

ISSUED BY CANTONMENT BOARD JALANDHAR.

O/O Chief Executive Officer
Cantonment Board Jalandhar,
Ministry Of Defence
Jindan road, Jalandhar Cantt.-144005.
Tel: 0181-2260250
Email-id: ceojalan-stats@nic.in


Chief Executive Officer
Cantonment Board,
Jalandhar Cantt. 18/1/24

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Cantonment Board,
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NOTICE INVITING TENDER**OFFICE OF THE CANTONMENT BOARD, JALANDHAR**

e-TENDER FOR ITEM RATE CONTRACT FOR SUPPLY, INSTALLATION, TESTING, COMMISSIONING, OPERATION AND MAINTENANCE FOR 5 YEARS 65 kW (25kW+20kW+10kW+10kW) GRID CONNECTED ROOF TOP SOLAR PV SYSTEM AT CANTT. BOARD OFFICE, CANTT GENERAL HOSPITAL, CANTT BOARD GIRLS SR. SEC. SCHOOL, AND CANTT BOARD BOYS SR. SEC. SCHOOL, JALANDHAR CANTT.

e-Tender reference No.JCB/Engg./Roof top Solar Panel/⁶⁹⁵...../C dated ²⁷⁻⁰⁸,2025.

Online e-tenders on item rate contract basis are hereby invited through electronic tendering system through the e-procurement portal <http://defproc.gov.in> for the Supply, installation, testing, Commissioning, Operation and Maintenance under two part bid system from the reputed and experienced firms/ agencies/contractors enlisted in P.W.D, C.P.W.D, M.E.S., and in any state/central Govt. departments having sufficient experience for the under mentioned work, who are technically and financially capable according to the terms and conditions as mentioned in the tender documents. The manual tenders shall not be accepted. The Tender documents, details of works, terms & conditions, details regarding critical dates and documents as required for the Technical Bids can be viewed/ downloaded from the def-procurement portal <http://defproc.gov.in> website.

(DESCRIPTION OF WORK)

S. N O.	PARTICULARS	APPROXIMATE ESTIMATED COST (in Rs.)	TENDER FORM COST (in Rs.)	EARNEST MONEY (in Rs.)	PERIOD
1)	SUPPLY, INSTALLATION, TESTING, COMMISSIONING, OPERATION AND MAINTENANCE FOR 5 YEARS 65 kW (25kW+20kW+10kW+10kW) GRID CONNECTED ROOF TOP SOLAR PV SYSTEM AT CANTT. BOARD OFFICE, CANTT. GENERAL HOSPITAL, CANTT. BOARD	31.14 Lakhs	2000/-	62,280/-	Six months from signing of agreement.

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S. N O.	PARTICULARS	APPROXIMATE ESTIMATED COST (in Rs.)	TENDER FORM COST (in Rs.)	EARNEST MONEY (in Rs.)	PERIOD
	GIRLS SR. SEC. SCHOOL, CANTT. BOARD BOYS SR. SEC. SCHOOL AT, JALANDHAR CANTT. i) Cantt. Board Office- 25 kW ii). Cantt. General Hospital - 20 kW iii) Cantt. Board Girls Sr. Sec School- 10 kW iv) Cantt. Board Board Boys Sr. Sec School- 10 kW Total Capacity- 65 kW.				

The tendered amounts mentioned above for the work are approximate, the actual works required to be executed shall depend upon the financial constraints of the Board. The amount of the estimated costs are approximate and may increase/decrease subject to the sanction of the budget estimates (Revised), availability of funds & as per Cantonment Board account rules.

CRITICAL DATES:-

1.	Tender publishing date and time	28.08 2025 (1800 hours)
2.	Documents downloading start date and time	28.08 .2025 (1830 hours)
3.	Online bid submission start date and time	29.08 .2025 (0900 hours)
4.	Online deposit of requisite Tender fee & requisite EMD	17.09 . 2025 (0900 hours)
5.	Online bid submission end date and time	17.09 . 2025 (1800 hours)


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6.	Date and time of opening of Technical bid (cover No.1)	18.09.2025 (1500 hours)
7.	Date and time of opening of Financial bid (cover No.2)	will be informed online.


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SUPPLY, INSTALLATION, TESTING, COMMISSIONING, OPERATION AND MAINTENANCE FOR 5 YEARS 65 kW (25kW+ 20kW+10kW+10kW) GRID CONNECTED ROOF TOP SOLAR PV SYSTEM AT CANTT. BOARD OFFICE, CANTT. GENERAL HOSPITAL, CANTT. BOARD GIRLS SR. SEC SCHOOL, CANTT. BOARD BOYS SR. SEC SCHOOL, JALANDHAR CANTT.

FORM OF e-TENDER

From

M/s _____

To

The Chief Executive Officer,
Cantonment Board,
Jalandhar Cantt.

SUB: APPLICATION FOR SUBMISSION OF BID

Sir/Madam,

Tender reference No.JCB/Engg./Roof Top Solar Panel/...../C dated 27-08-2025.

I/We do hereby offered to Cantonment Board, Jalandhar Cantt in accordance with the specifications & conditions of contract here to attached & at the rates & for the sum & prices entered in the annexed schedule of signed by me & agreed to abide by fulfilling the terms & conditions of the said specifications & conditions of the contract.

I/We have examined plans & details of all portion of the work & have carefully noted the terms of the specifications & conditions of the contract, with all the stipulations of which I/We agree to comply.

I/We have deposited with the Chief Executive Officer, Jalandhar Cantt a sum of Rs. Rs. 62,280/- (in the form of the copy of the receipt of the self generated challan through e-chhawani portal) as an Earnest Money & which will not bear interest & I/We do hereby agreed that the sum shall be forfeited by the Chief Executive Officer, Jalandhar Cantt, if in the event of your acceptance my/our tender, I/We fail

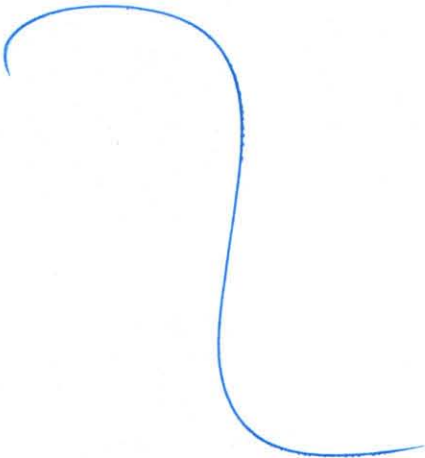

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to execute a formal contract embodying these conditions within the stipulated time or when asked for to do so, by the Chief Executive Officer, Jalandhar Cantt. The above sum is to remain in the hands of the Chief Executive Officer, Cantonment Board, Jalandhar Cantt until I/We have executed a stamped agreement & have deposited the requisite security for the due performance of my/our contract.

I/We are, Sir/Madam,

Yours faithfully,


(Contractor)




Chief Executive Officer
Cantonment Board,
Jalandhar Cantt

DETAIL OF WORKS

1.	Name of Work	Supply, Installation, Testing, Commissioning, Operation and Maintenance for 5 years 65kw (25kW+ 20kW+10kW+10kW) Grid Connected Roof Top Solar PV System at Cantt. board office, Cantt. General hospital, Cantt. board girls Sr. Sec. School, Cantt board boys Sr. Sec. School, Jalandhar Cantt.
2.	Approximate Estimated Cost	31.14 Lakhs
3.	Earnest Money	Rs. 62,280/- in favour of the Chief Executive Officer, Cantonment Board, Jalandhar.
4.	Tender Document Fee	Rs.2000/- (Non-Refundable)
5.	Security for the work	<p>a) Performance security 10% of the total amount of work done shall be deducted from running and final bills.</p> <p>b) The maintenance period shall be 05 Years from the date of completion of the executed works. The performance security money 10% shall be deducted from the bills and shall be released after 5Years from successful maintenance period.</p> <p>c) The lowest bidder (L-1) for this work shall have to deposit security money amounting to Rs 2,49,120/- (8% of the tendered amount) in the form of FDR duly pledged in the favour of the Chief Executive Officer, Cantonment Board, Jalandhar, immediately after the approval of this work by the Cantonment Board, Jalandhar. The security money amounting to Rs 2,49,120/- (8% of the tendered amount) shall be released after one year from the successful completion of the work.</p>
6.	Total Duration	Six months from the date of agreement.
7.	Place of Receipt of tender forms	CANTONMENT BOARD OFFICE, JALANDHAR CANTT.
8.	Documents enclosed with tender documents	<p>(i) Tender document fee (in the form of copy of the receipt of the self generated challan through e-chhawani portal.)</p> <p>(ii) Requisite earnest money (in the form of copy of the receipt of the self generated challan through e-chhawani portal.)</p> <p>(iii) Self attested copies of the documents as required for the Technical Bid.</p>
9.	Tender Notice Reference No.	JCB/Engg./Roof top Solar Panel/... 695 .../C dated 27-08 2025.


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INSTRUCTIONS TO BIDDERS

A. INTRODUCTION

Scope of work: Rate Contract for supply, installation, testing, commissioning, operation and maintenance for 5 years 65 kW (25kw+ 20kw+10kw+10kw) grid connected roof top Solar PV system at Cantt. board office, Cantt general hospital, Cantt board girls Sr. Sec. School, Cantt board boys Sr. Sec. School, Jalandhar Cantt. along with maintenance of Solar PV Plant include wear, tear, overhauling, machine breakdown, and replacement of defective modules, invertors / Power Conditioning Unit (PCU), spares, consumables & other parts for a period of 5 years . The Solar Power Plants will be installed on Rooftops. Bidders are instructed to quote the rates accordingly.

1. TERMS & CONDITIONS:

1.1 E-tenders shall be submitted on www.defproc.gov.in. Conditional tenders and tenders without EMD shall be rejected.

1.2 The Rates to be quoted in Financial Bid form should be for at site inclusive of all applicable taxes/octroi, installation, commissioning, maintaining & warrantee for 5 years. The rates shall be valid up till 31st March 2026 for placing the orders. The Goods supplied under the Contract shall be fully insured against the loss or damage, transportation, storage and delivery i.e. up till commissioning of the plants. Further the plant should be insured for the breakage of modules, theft, fire etc. by EPC company during AMC period of 5 years. The premium of the insurance shall be borne by EPC company.

1.3 The credentials /documents to be submitted (Should be as per the Technical Bid Format) as proof with the bid should be in sequence order and page marked along with the index. The bids found not in order or without index and conditional bids with addition/ omission to original T&C of Cantonment Board Jalandhar are liable to be rejected.

1.4 No additional documents will be accepted after opening of the technical bid as mentioned under critical dates. The sole criteria of qualification / disqualification will depend on the (should be as per the Technical bid format) documents uploaded by the bidders. However the Evaluation committee of Cantonment Board can sought any information/ paper regarding the papers/installation of the plant.

1.5 The installation of bi-directional meter for the net metering purposes is in the scope of bidder and the entire cost for net metering will be borne by bidder.

1.6 The Manufacturer's Authorization letter on the letter head of OEM company must be


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submitted along with the bid as per Annexure "17".

1.7 The bidder shall upload the bids as per formats on or before the date and time notified in this document/ NIT.

1.8 Cantonment Board Jalandhar Cantt. CEO reserves the right to accept or reject any or all the tenders without assigning any reason in the interest of user.

1.9 **Correspondence for enquiries and clarifications:**

All correspondence, clarifications in respect of the bid document shall be addressed to:

CEO,

Cantonment Board Jalandhar,

Jindan road, Jalandhar Cantt.,

Tel: 0181-2260250

and should reach before pre bid meeting in Cantonment Board office or through

Email: ceojalan-stats@nic.in

After due date no query will be entertained.

2. Eligible Bidders

· Bidder must meet the eligibility criteria (Should be as per the Technical Bid Format).

3. ELIGIBILITY CRITERIA

3.1 GENERAL

(a) The Bidder should be a body incorporated in India under the Companies Act, 1956 or 2013 including any amendment thereto, Government owned Enterprises who are registered and incorporated in India and engaged in the business of Power/ Infrastructure, Limited Liability Partnership Firms registered as per LLP Act 2008. Proprietorship Firms and Partnership Firms with valid GST number are also allowed to participate in the bidding process. The EPC companies, manufacturers, suppliers & system integrators of Solar PV Power Projects who have not been debarred/black listed by any Govt. organization for design, manufacture, supply, installation and commissioning of different capacity Solar Power Projects are eligible for this tender. No consortium is allowed.

(b) A copy of certificate of incorporation shall be furnished along with the bid in support of above.


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3.2 TECHNICAL ELIGIBILITY CRITERIA:

(i) The bidder should have experience of having successfully completed & commissioned Solar Power Plants in Government Department/ PSU during last seven years ending last day of month previous to the month of bid submission start date, should be either of the following :-

(a) One work of capacity not less than 80% of capacity specified in the NIT

or

(b) Two works of capacity not less than 50% of capacity specified in the NIT

or

(c) Three works of capacity not less than 40% of capacity specified in the NIT. The list Publishing of defproc.gov.in portal and certificate duly issued by Govt. Deptt./client/Owner shall be submitted along with bid. The performance certificate issued by SNA/Govt. Deptt./Client/Owner should not be older than 12 months from the date of publishing of defproc.gov.in portal. In the performance certificate it must be written that the plant is working satisfactory. It is clarified that Joint Commissioning report/ inspection report will not be considered towards performance certificate.

3.3 FINANCIAL ELIGIBILITY CRITERIA:

a) The applicant should have : (i) access to, or possess available liquid assets and other financial means (independent of any contractual advance payments) sufficient to meet the construction cash flow requirements for the subject contract, of the certain minimum amount specified; (ii) adequate sources of finance to meet the cash flow requirements of works currently in progress and for future contract commitments; and (iii) financial soundness as established by audited balance sheets and/or financial statements. Average annual Financial Turnover of the bidders during last three years ending 31ST March of the previous financial year should be at least 30% of the estimated cost.

4. SUBMISSION OF BID

4.1 The bidder shall upload the bids as per formats on or before the date and time notified in this document/ defproc portal.

4.2 Bids shall be uploaded in two parts.

(Part-I) Technical Bid

(Part – II) Financial Bids

4.3 It should be clearly noted that Part –I should not contain any price bid.

4.4 Part-I containing of those **bidders** who satisfy the requirement of bid security deposit will only be opened at the time & date notified for opening. If any bidder indicates the price in Part-I i.e.


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techno commercial bid , the bid will not be read out and bid would stand rejected. Part II containing will not be opened at the time of opening Part-I. The bidders who do not qualify in Part –I, their bid of Part –II (Price Bid) shall not be opened.

4.5 The Bidder shall submit complete e-bid through e-tender at website www.defproc.gov.in.

4.6 Bids shall remain valid for the period 90 days after the date of bid opening prescribed by the Purchaser for the purpose of evaluation. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive

5. Earnest Money Deposit

- The Earnest Money Deposit is required to protect the Purchaser against risk of Bidder's conduct which would warrant the security's forfeiture.
- The Earnest Money Deposit of Rs. 62,280/- (Rs. Sixty two thousand two hundred eighty only).
- Any bid not secured in accordance with above EMD will be rejected by the Purchaser as non responsive.
- Unsuccessful Bidder's Earnest Money Deposit will be discharged/returned after approval of the tender of the L-1 bidder.
- The EMD of successful Bidder will be released after the successful completion of the entire work
- The Earnest Money Deposit may be forfeited:
 - a) if a Bidder:
 - I. withdraws its bid during the period of bid validity specified by the Bidder
 - II. does not accept the correction of errors
 - b) in case of a successful Bidder, if the Bidder fails
 - i. to sign the Contract in accordance or
 - ii. As per the defproc portal guidelines, EMD in R/o MSME companies shall be exempted.

6. Deadline for Submission of Bids

- Bids must be submitted through defproc portal as mentioned in critical dates.
- The Purchaser may, at its discretion, extend this deadline for submission of bids by amending the Bid Documents, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended. .

7. Late Bids

After the deadline for submission of bids as per the critical dates mentioned in defproc portal, No e-bid and any physical bid shall not be entertained.


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8. Modification and Withdrawal of Bids

No bid can be modified subsequent to the deadline for submission of bids.

No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Form. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its EMD.

9. Evaluation of Financial Bids

The evaluation of financial Bid shall be carried out based on the information furnished in the uploaded financial Bid. The financial Bid submitted by the Bidders shall be scrutinized to ensure conformity with the defproc portal. Any Bid not meeting any of the requirements of this defproc portal may cause the Bid to be considered "Non-responsive" at the sole decision of the Cantonment Board Jalandhar Cantt. The Price bids for the each category shall be evaluated separately.

10. Award of Contract

a) Post qualification

10.1 In the absence of pre qualification, the Purchaser will determine to its satisfaction whether the Bidder selected as having submitted the lowest evaluated responsive bid is qualified to perform the contract satisfactorily.

10.2 The determination will take into account the Bidder's financial, technical and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, as well as such other information as the Purchaser deems necessary and appropriate.

10.3 An affirmative determination will be a pre requisite for award of the contract to the bidder. A negative determination will result in rejection of the bidder's bid, in which event the purchaser will proceed to the next lowest evaluated bid to make a similar determination of that bidder's capabilities to perform satisfactorily.

10.4 The Rates quoted should be on the basis of FOR destinations anywhere in the State of Punjab and inclusive of prevailing GST in the financial bid. However, the financial bid will be evaluated from the total cost, i.e., including taxes. Quoted rates shall be valid upto 90 days from the date of opening of Financial Bid. Any increase or decrease in taxes by Government of India will be entertained accordingly.


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10.5 The unit rate of the equipment and accessories must be listed in the Cost Break Up form. The tenderer must quote for each item contained in the Financial bid Performa.

11. Selection of Bidder

The Project Cost quoted in Price Bids of Qualified Bidders for different categories shall be ranked from the lowest to the highest for each category. For all the categories, lowest bidder will be declared as the successful bidder i.e L1.

12. Purchaser's Right to Accept Any Bid and to Reject Any or All Bids

The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders.

13. Notification of Award

13.1 Prior to the expiry of the period of bid validity, the Purchaser will notify the successful Bidder in writing by registered letter of Intent, that its bid has been accepted.

13.2 The notification of award will constitute the formation of the Contract .

14. Issue of Work Order

14.1 The work order/ orders shall be placed depending upon the requirement of the agency from time to time within the validity period of rates and work shall be allotted on L1 rates during the validity of bid subject to discretion of Cantonment Board Jalandhar, Jalandhar Cantt. However Cantonment Board Jalandhar, Jalandhar Cantt shall have no financial liability in any case if no work is allotted during rate validity period.

14.2 The expected orders of cumulative capacity 65 kW may be issued immediately which shall include (viz. 25kW, 20kW, 10kW, 10kW) at various location as mentioned earlier.

15. For the System & Other Software the following will apply:

The Supplier shall provide complete and legal documentation of hardware, all subsystems, operating systems, compiler, system software and the other software. The Supplier shall also provide licensed software for all software products, whether developed by it or acquired from others. The


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supplier shall also indemnify the purchaser against any levies/penalties on account of any default in this regard.

16. Acceptance Certificates cum Commissioning Certificate:

On successful completion of acceptability test, receipt of deliverables etc, and after the purchaser is satisfied with the working on the plant, the commissioning certificate/Joint commissioning report signed by the supplier and the representative of the purchaser will be issued. The plant will be handed over by the supplier to the owner of the building before release of final payment.

17. Prices

Prices payable to the L-1 Supplier as stated in the Contract shall be firm and shall be duly approved by the board and not subject to variation during period of the Contract.

18. Plant Installation:

The Supplier is responsible for all unpacking, assemblies, wiring, installations, cabling between solar modules and connecting to power supplies & inverter. The Supplier will test all equipment operations and accomplish all adjustments necessary for successful and continuous operation of the plant at the installation site.

19. Plant Performance Evaluation

The successful bidder shall be required to meet minimum guaranteed generation. Of minimum CUF of 15% for a period of 5 years. The bidder should send the periodic plant output details to Jalandhar Cantonment Board for ensuring the CUF. *If there would be any shortfall in CUF i.e. 15% on yearly basis , then, company shall be liable to pay the cost of the less generated power @ PSPCL tariff rates of that building to the beneficiary department. If not paid, the same amount will be deducted from their Bank Guarantee or any payment lying with Jalandhar Cantonment Board.*

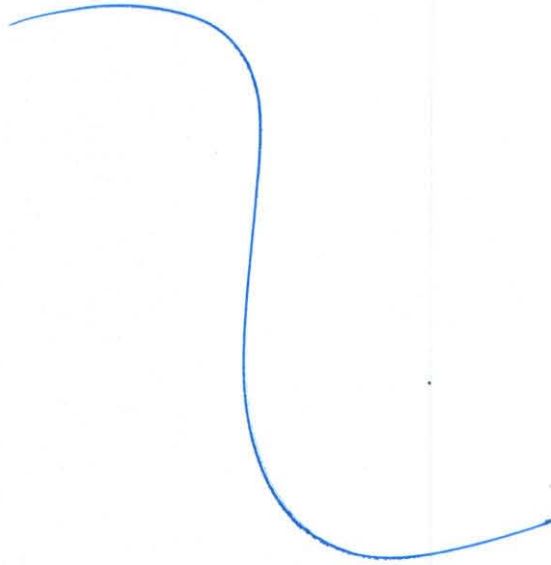
20. Bidder should furnish performance Statement in Annexure “16”, Service Centre support detail in


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Annexure "20", technical details of its offer in Annexure "18".

21. GOVERNING LANGUAGE

The governing language shall be English.



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AD

CONDITIONS OF THE CONTRACT

1. The Bidders are informed to deposit the requisite EMD, only in the form of self generated challan, through the e-Chhawani portal of Cantonment Board, Jalandhar (copy of the receipt of the self generated challan is to be uploaded online and original to be submitted as requisite EMD) as mentioned under critical dates.

(Note :- While generating the self generated challan under remarks column, mention the Tender ID).

2. The Bidders are informed to deposit the requisite Tender Fee amounting to Rs.2000/- only in the form of self generated challan, through the e-Chhawani portal of Cantonment Board, Jalandhar (copy of the receipt of the self generated challan is to be uploaded online and original to be submitted as requisite Tender documents fee) as mentioned under critical dates .

(Note :- While generating the self generated challan under remarks column, mentioned the Tender ID)

3. For submission of e-tender, bidders are requested to get themselves registered with e-procurement portal <https://defproc.gov.in>. website along with class III Digital signature certificate (DSC) issued by authorized CA under IT Act 2003. For complete details of the Tender, please refer e-procurement portal <https://defproc.gov.in>.

4. Earnest Money Deposit (EMD) and Cost of tender for an amount as specified in NIT, is to be made in online mode. The bidder are required to make all the payment i.e. tender cost and EMD through self service mode only by way of self generation of Challan from M-Collect after login at e-Chhawani portal as under:-

Step 1: Login to e-chhawani.gov.in/citizen.

Step 2: Login using phone no. & OTP (if registered) if not registered, register your self first.

Step 3: Open Challan System.

Step 4: Click on new challan (Select Cantonment Jalandhar)

Step 5: For tender cost, select other fees and fine in service category, then select Earnest money deposit in service type, fill details, enter amount and click on generate challan.

Then follow step 7.


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Step 6: For earnest money, select creditor deposits in service category, then select Earnest money Deposit in service type, fill details, enter amount and click generate challan.

Step 7: Then proceed to payment via net banking, credit card, UPI wallet etc. The Proof of payment on account of Earnest Money and cost of tender is to be uploaded by the tenderer with tender document. In case of Non receipt of payment of EMD and cost of tender, the tender document of the tenderer cannot be entertained.

5. Any change/modification in the tender enquiry will be intimated & updated through above mentioned website only. Bidders are therefore to visit the <https://defproc.gov.in> website regularly to keep themselves updated.

6. No conditional tenders will be accepted.

7. The Bidder/contractor is bound by all rules and regulations and terms and conditions fixed by Cantonment Board and any violation may invite forfeiture of his earnest money.

8. Uploading of bid does not constitute any guarantee for opening of price bid of bidder. Opening of financial/price bid (cover No.2) of the tender will be decided by the competent authority/accepting officer based on interalia, past track record, financial position and experience of the similar work executed by the applicant/contractor and other terms and conditions regarding eligibility.

9. Tender documents shall be published on the e-procurement portal <https://defproc.gov.in>. On the date and time mentioned in the critical dates and shall be submitted through e-tendering portal only.

10. The tenders will not be accepted in any other form. Tenderers/contractors are advised to get themselves acquainted with requirement for e-tendering at portal mentioned above.

11. The bidders also required to obtain Digital Signature Certificate (DSC) from one of the authorized certifying authority as Digital Signature Certificate is mandatory to participate in the e-tendering system.


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12. The bidders are required to upload the soft copies of the all the requisite documents as required for the Technical Bids and hard copies of all that documents are required to be submitted offline as mentioned under the critical dates.
13. The bids shall be opened in o/o the Chief Executive Officer, Cantonment Board Jalandhar.
14. The bidders have to submit the rates for the Item Rate contract for each item with respect to the online B.O.Q. of the tender documents only.
15. The quantities of works shown to be done are not a guarantee but merely as rough guide. If the work costs more or less the tenderer will have to do it at their tendered rates & shall have no extra claim on this account.
16. The C.E.O./Board reserves the right either to increase or decrease the amount of work order or tendered works as mentioned above depending upon the availability of the funds and Budget estimates without assigning any reason thereof & contractor shall have no claim whatsoever & to do the work at approved rates.
17. The materials used and work to be executed shall be in strict accordance with the specifications laid down in the above-mentioned schedule of rates. In case any inferior or alternative material is ordered to be used, deductions as a cost of such material may warrant will be made.
18. The Cantonment Board/C.E.O., Jalandhar Cantt reserves the right to accept or reject the lowest or any tender without assigning any reason thereof.
19. Further information if any can be obtained from o/o Cantonment Board, Jalandhar Cantt on any working day during office hours.
20. Performance security 10% of the total amount of work done shall be deducted from running and final bills.
21. The work will have to begin immediately on receipt of work order & completed within the period prescribed therein. The contractor shall have to give commencement & completion report in writing to the C.E.O. on the basis of work done, estimates & agreement.
22. The contractor shall have to keep a book at the site of work for recording instructions by the C.E.O./Engineer-in-Charge.


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23. No claim for compensation from the contractor will be entertained which is based on the verbal order of any subordinate unless approved by the C.E.O. in writing. Any action by the contractor before receipt of such approval from the Chief Executive Officer will be at his own risk.
24. The conditional tenders, unsigned, any alteration made in the tender are liable to be rejected.
25. In case the work is not completed on time or the progress of the work is not to the satisfaction of the C.E.O./Board, the contract may be cancelled or penalty may be imposed to the extent of delay/to the extent of defective work done. In this regard the decision of the C.E.O./Board shall be final & binding. According to breach of conditions of contract agreement the permanent security or Earnest Money or any payment due to the contractor from the Board will be forfeited. The Board will be at liberty to get the work done through any other agency at risk & cost of the contractor.
26. The Tenderers/bidders participating in the e-tendering process are expected to examine carefully & physically the sites, scope of the respective Item Rate contract works & they should satisfy themselves as to the entire scope of the various Item Rate contract works, before quoting the respective rates.
27. The lowest/successful tenderers when take the contract, will have to pay water charges, Income Tax, Labour Cess, G.S.T. & T.D.S. under G.S.T. at the rates as laid down by the Board/Govt.
28. The contractor shall be responsible for maintenance and rectifications for any structural defects which occur and which are found within five years of completion of the work and in the event of his not making necessary rectifications etc. Their cost will be recovered from any amount due to him now or in future from his security or earnest money or any other amount/dues lying with the Board or by civil suit.
29. The conditions in the notice of tender will form part of the contract agreement.
30. Tendered rates should be inclusive of all taxes & will remain valid for three months from the date of opening of tenders. Intimation of acceptance of tenders given to the contractor within this period will render him liable to execute the work failing which the permanent security and earnest money will stand forfeited.
31. Tenderer must give their full address in the tender and will keep the Cantt Board office informed about the change of their address if any.
32. Submission of a tender implies that the tenderer had read this notice, he is aware of the details of the work, conditions of agreement to be executed at the site and that abides by these conditions.


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33. In case it is found that any workman so suggested by the contractor is unfit for the job the contractor shall have to remove that workman.
34. It shall be the responsibility of the contractor to use the standard material as per the technical specifications & get the same approved from the Engineer-in-charge before execution of the work.
35. The contractor shall not transfer/sublet the contract to any other contractor/person, without the permission of the Board.
36. The Draft agreement to be executed between the successful contractor & the Cantonment Board, Jalandhar Cantt, which can be seen in the o/o Cantonment Board, Jalandhar Cantt.
37. Other terms & conditions can be seen in the o/o Cantonment Board, Jalandhar Cantt on any working day during office hours.
38. No material, Tools & PV Panels will be issued by the Board. The contractor should own their Tools & PV Panels.
39. Payments of the work done may be as under: subject to satisfaction of C.E.O. who may release the entire payment at the satisfactory completion of the work.
- a) First R.A.R. : After 40% of completion of work.
- b) Final Bill : After 100% of completion of work.
40. Maintenance period for all the executed work for which security will be kept with the Cantonment Board, Jalandhar Cantt, will be 5 years from the date of completion.
41. This contract is valid for one year & will be expired on completion of one year from the date of signing of agreement. As such that work entrusted to the contractor will require to be completed in time to enable the office to give completion. If the contractor fails to complete the work and clear the site on or before the date(s) fixed for completion, he shall without prejudice to any other right or remedy of Govt. on account of such breach, he shall liable to pay penalty as under:-
- 1% of the estimated value of the requisition or the work order for every week that the whole of the work remains uncompleted. When the delay is not a full week or in a multiple of a week but involves a fraction of a week the penalty payable for that fraction shall be proportional to the number of days involved. In case of delay in completion of work beyond one month from date prescribed in work order, Board


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reserves the rights to cancel the contract by forfeiting security money and getting work executed at risk and cost of contractor.

However, C.E.O./Board has the right to extend this contract to further period as acceptable to the both parties or may grant extension of completion of work beyond stipulated period without any extra rates. In such a situation the contractor will require to complete the work at same approved rate of this contract.

42. If the date of opening of tenders is declared as holiday then tenders will be received and opened on the next working day at the same time.

43. Earnest money deposits in respect of the unsuccessful tenderers shall be released only after the approval of the rates for each type of work, by the Cantonment Board, Jalandhar in the Board meeting.

44. The contractor will be bound by provisions of minimum wages Act, Industrial Dispute Act and other laws in force.

45. The contractor shall comply with all the orders of the C.E.O. relating to the work and shall have to employ qualified Engineer or expert Supervisor to control and supervise the works.


46. If any financial bid/bids could not be opened due to "Document Decryption failed" reason and if minimum three financial bids opened successfully, then the tender will succeed for further action. The bidder/bidders whose financial bid could not be opened successfully will be considered to be rejected.

47. The liability of Income Tax, Trade Tax, Service tax, G.S.T, Labour Cess and other taxes as imposed from time to time by the central/state Govt. will be of the contractors.

48. The quality/monitoring of the major works (at random) for different categories of the works shall got be checked/monitored/inspected from the Govt. approved third party agency as deputed and directed by the higher authorities and the Cantonment Board, Jalandhar. The final payment for that works shall be made to the contractors only after the work has got approved from the third party evaluators.

49. For successful tenderer earnest money will be kept as security at the time of receipt of intimation of acceptance of rate, which will be released after satisfactory completion of all the works.

50. In the event of submission of tender by a firm, it must be signed separately by each member. Or in the event of any partner, it must be signed on his behalf by a person holding power of attorney authorizing him to do so.


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51. In case of non-execution of agreement by the lowest tenderer, the earnest money deposited by the tenderer shall be forfeited.
52. Tenders duly filled in, should be uploaded upto the time and date fixed for submission of tender and opened on the prescribed date and time. The bidders or their authorized representatives may, if they so desire to present at the time of opening of tenders.
53. JCB/CEO reserve the right to postpone and/or extend the date of opening of tenders or to withdraw the tender notice, without assigning any reason thereof. In such a case the bidders shall not be entitled to any form of compensation from the JCB.
54. The bidders/contractors are required to upload the complete tender documents only after satisfying each and every term and condition as laid down in the tender documents.
55. The tender submitted by any tenderer indebted to the Board will not be entertained.
56. The contractor shall be responsible to clear the site in all respect after satisfactory completion of the work.
57. In case of any dispute on any matter, the decision of the CBJ shall be final and binding on both parties.
58. The contractor/company/agency submitting a tender would be presumed to have considered and accepted all the terms and conditions. No inquiry, verbal or written, shall be entertained in respect of acceptance/rejection of the tender.
59. The tenderers are informed that to quote the rates very carefully, as the tendered rates quoted by the tenderers are inclusive of carriage, railway freight, all types of Govt. taxes including G.S.T. , T.D.S. under G.S.T. and other taxes whatsoever as levied by the Govt. from time to time.
60. The work during the construction shall be under the charge of the contractor who shall be solely responsible for any damage or loss until it is taken over by the CBJ duly completed in all respect.
61. The contractor shall be held responsible for any loss to property or life caused during the execution of the work.


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62. The Technical bids received from the tenderers/bidders for various works shall be scrutinized/verified through the technical advisor of the Board M.E.S.-Authorities, JRC (if found required). If in the Opinion of the Technical Advisor of the Board, M.E.S.-Authorities, Jalandhar Cantt, that the credentials / documents submitted by any tenderer / bidder for any work are not as per the list of Technical Bid (Criteria for Pre-qualification of Bids), then the matter shall be refer to the M.E.S.-Authorities, Jalandhar Cantt and their decision in this regard and the decision of the Board shall be binding on the tenderer / Bidders.

63. The contractor shall indemnify the Cantonment Board in respect of all claims, damages, compensation or expenses payable in consequence of any accident or injury sustained or any workman or other persons whether in the employment of contract or not while in or upon the said work or on the site/side of work, and the Board shall not be bound to defend any claim brought under Workmen Compensation Act unless the contractor first deposits with the Board a sum sufficient to cover any liability, as will be fixed by the CEO which the Board incur by reasons of defending any such claim. The contractor shall be wholly liable for any amount or compensation required to be paid under the Workman's Compensation Act any other provision of law.

64. Cantonment Board, Jalandhar is not responsible for any delay due to link failure /internet problem etc. in respect of uploading of any documents or in submission of e-bid. It is the responsibility of bidder to make sure that the required documents /e-bid shall be uploaded in time.

65. CEO/Cantonment Board, Jalandhar reserve the right to postpone and/or extend the date of receipt or opening of tenders or to withdraw the tender notice, without assigning any reason thereof. In such cases, the bidders shall not be entitled to any form of compensation from the Cantonment Board.

66. In case of any contradiction in the terms and conditions of tender document, the decision of CEO/Cantt Board shall be final with regard to such term and conditions.

67. In case of any clerical/typographical/grammatical mistake in the Tender Documents, the decision of CEO/Cantt Board shall be final and binding in this regard.

68. Incomplete online applications will be summarily rejected. The contractors should upload required relevant documents in support of the information furnished in the application.

69. No Technical Bid will be accepted without technical details form Annexure "18".


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70. The rates quoted by the bidder shall be applicable throughout the tenure of the contract (including extension of time, if any, granted) and will not be subject to any fluctuation due to increase in cost of materials, labour cess, service tax, works contract tax, Income tax, GST, and charges etc., unless specifically stated in the tender documents.

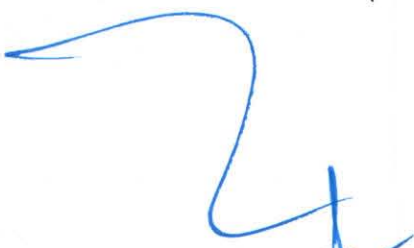

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AFOREMENTIONED TERMS & CONDITIONS ARE ACCEPTED TO ME IN ALL RESPECT:-

Signature of Bidder/Contractor _____

Date: _____

Place: _____


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SPECIFICATIONS AND ALLIED TECHNICAL DETAILS

1. ROOF TOP SOLAR PHOTOVOLTAIC POWER GENERATION SYSTEM WITHOUT BATTERY BACKUP, INTEGRATION WITH GRID 65 KWP SOLAR POWER PLANT AT CANTT BOARD OFFICE AT JALANDHAR CANTT.

Supply, installation and interconnection of 110 Mono-Perc Half cut crystalline high efficiency Cell Dual Glass 3.2 MM thick Solar PV module(305P6C-36-DG)/>140Cell Single glass multicrystalline 4mm thick Solar PV module with AR Coating with Power output Capacity of each solar PV module >545W.Total Solar PV module arrays Capacity a set of (65kW)at STC. The Solar Panels should Comply as per IEC 61215 and IEC 61730 standard. DC cable/wire of suitable size upto 2Mt/Solar PV module with Solar PV connectors (MC4)/couplers etc. shall be included in this item. Efficiency of Solar PV modules should be equal or more than 16%.

2. ACDC DISTRIBUTION BOARD

DCDB

Supply & installation of DC combiner box/Array Junction Box made out of the thermoplastic IP65 protected DIN rail mounting type of following size for interconnection of DC cable of the solar module arrays & DC outgoing cable to DC distribution box complete with termination with cu lugs/ferrule /connectors (MC4) and fixing accessories as required.

Outdoor IP 65 Enclosure – Tribox/Fibox/Equivalent – 560mm X 380mm X 130mm

Input Postive & Negative Fuse 15A – Mersen/Elmex/Havells/Equivalent

Solar Output Terminal Block – Elmex/Salzer/Pheonix/Equivalent

SPD DC SPD 1000V 40KA type 2 – Elpro/Elmex/Pheonix Contact/Equivalent

Input & Output PG Gland – Jigo/Equivalent

Cables – Polycab/Equivalent.


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ACDB

Supply & installation of AC distribution box made out of the thermoplastic IP65 protected DIN rail mounting and front lid transparent type of following size with Phase indication LED lamp, busbar, earth link terminal etc. complete with all fixing accessories as required.

- (a) Metal Enclosure 600*400*180MM Metal Box With IP65 Rating
- (b) ABB MCCB 100A
- (c) FP10KA
- (d) Spreder100AFP,
- (e) Phoenix SPD4 Pole
- (f) Metal Gland Etc
- (g) Spreder100AFP,
- (h) Busbar Supportor100A
- (i) RYB Indicator Reputed Make
- (j) Copper Cable Flexible 25Sq.mm
- (k) Connect well terminal Block
- (l) Earthing Terminal Green & Yellow Color
- (m) Double Compression Gl and (Brass)
- (n) Standard Indicating Sticker

6. Earthing Protection System: As per BOQ

7. Lightning Protection System: As per BOQ

8. Make/Manufacture of Equipment Materials

The equipment/materials shall be of various makes and manufacturers as stipulated in BOQ and particular specifications of this contract, and as per Annexure "19". In case of equipment and material where make/manufacturer is not mentioned, the order of acceptance shall be as under:-

- (a) Materials bearing ISI Markings
- (b) In the absence of (a) above, materials conforming to IS standards.
- (c) In the absence of (a) & (b) above, the materials shall conform to or


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superior in quality to the 'Samples' referred to in tender and/or shall comply with the specifications given here-in- after.

9. PRODUCTION OF TEST CERTIFICATES

i. The contractor shall submit manufacturer's test certificates for the following material/equipment along with original purchase vouchers to Engineer in Charge before incorporating the same in the work and before claiming the payments.

1. HT/LTXLPE insulated cable
2. Cable jointing kit
3. Solar Power Equipment
4. Solar PV Panels

10. MAINTENANCE AND TRAINING

Routine exercise and routine Maintenance services for the equipment furnished under these specifications shall be provided by the contractor without any extra cost to the department.

11. PRODUCTION OF PURCHASE VOUCHERS

The Contractor shall be required to purchase the articles required to be incorporated in the work directly from the manufacturer to ensure that the material is genuine. He shall submit the original purchase vouchers of manufacturers, guarantee certificates excise duty and test certificates to the Engineer-in-Charge for his verification before claiming his payment. However where the manufacturer do not have the system policy of sales directly by them and deals their sales through dealers network only, the contractor may purchase the material/articles from the authorized dealers of the company who are required to show on the cash memo/bills all the taxes etc makes and numbers as required. The contractor shall submit machine numbered purchase voucher for

- (a) HT/LTXLPE insulated cable
- (b) Cable jointing kit
- (c) Solar Power Equipements


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- (d) Earthing plate
- (e) Lightning arrestor

And any other item as desired by the Engineer-in-Charge. Two copies of CTC of the same shall be made by the Engineer-in-Charge for reference and record. The said original purchase vouchers shall be released to the Contractor after defacing the same as having verified with respect to this Contract.

12. CABLES

Cables of appropriate size to be used in the system shall have the following characteristics:

- i. Shall meet IEC60227/IS694, IEC60502/IS1554 standards
- ii. Temp. Range-10°C to +80°C.
- iii. Voltage rating- 1100V
- iv. Excellent resistance to heat, cold, water, oil, abrasion, UV radiation
- v. Flexible
- vi. Sizes of cables between array interconnections, array to junction boxes junction boxes to Inverter etc. shall be so selected to keep the voltage drop (power loss) of the entire solar system to the minimum (2%).
- vii. For the DC cabling, XLPE or, XLPO insulated and sheathed, UV-stabilized single core multi- stranded flexible copper cables shall be used; Multi-core cables shall not be used.
- viii. For the AC cabling, PVC or, XLPE insulated and PVC sheathed single or, multi-core multi stranded copper cables shall be used till ACDB; Outdoor AC cables shall have a UV-stabilized outer sheath. However, from ACDB till LT panel of substation, suitable sized XLPE insulated and PVC sheathed Aluminium cable shall be used.
- ix. The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use. Outer sheath of cables shall be electron beam cross-linked XLPO type and black in colour.
- x. The DC cables from the SPV module array shall run through a UV-stabilized PVC conduit pipe of adequate diameter with a minimum wall thickness of 1.5mm.


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xi. Cables and wires used for the interconnection of solar PV modules shall be provided with solar PV connectors (MC4) and couplers.

xii. All cables and conduit pipes shall be buried in ground not exceeding 50cm; the minimum DC cable size shall be 4.0 sq mm copper; the minimum AC cable size shall be 4.0 sq mm copper. In three phase systems, the size of the neutral wire size shall be equal to the size of the phase wires.

xiii. Cable Routing/Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified. In addition, cable drum no./Batch no. to be embossed/printed at everyone meter.

xiv. Cable Jacket should also be electron beam cross linked XLPO, flame retardant, UV resistant and black in colour.

xv. All cables and connectors for use for installation of solar field must be of solar grade which can with stand harsh environment conditions including High temperatures, UV radiation, rain, humidity, dirt, salt, burial and attack by moss and microbes for 25 years and voltages as per latest IEC standards. DC cables used from solar modules to array junction box shall be solar grade copper (Cu) with XLPO insulation and rated for 1.1kV as per relevant standards only.

The ratings given are approximate. Contractor shall indicate size and length as per system design requirement. All the cables required for the plant shall be provided by the contractor. Any change in cabling sizes if desired by the contractor shall be approved after citing appropriate reasons. All cable schedules/ layout drawings shall be approved prior to installation.

xvi. Multi Strand, Annealed high conductivity copper conductor PVC type 'A' pressure extruded insulation or XLPE insulation. Overall PVC/XLPE insulation for UV protection armoured cable for underground laying. All cable trays including covers to be provided. All cables conform to latest edition of IEC/ equivalent BIS Standards as specified below: BOS item / component Standard Description Standard Number Cables General Test and Measuring Methods, PVC/XLPE insulated cables for working Voltage up to and including 1100 V, UV resistant for outdoor installation


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IS /IEC 69947.

xvii. The total voltage drop on the cable segments from the Solar PV modules to the Solar grid inverter shall not exceed 2.0%.

xviii. The total voltage drop on the cable segments from the solar grid inverter to the building distribution board shall not exceed 2.0.

13. SOLAR PV MODULES

Modules provided must use a RF identification tag. The following information must be mentioned in the RFID used on each modules. This should be inside the laminate only.

- a) Name of the manufacturer of the PV module
- b) Name of the manufacturer of Solar Cells.
- c) Month & year of the manufacture(for solar cells and modules)
- d) Country of origin (It should be of Indian origin)
- e) I-V curve for the module Wattage, I_m , V_m and FF for the module
- f) Unique Serial No and Model No of the module
- g) Date and year of obtaining IEC PV module qualification certificate.
- h) Name of the test lab issuing IEC certificate.
- i) Other relevant information on trace ability of solar cells and module as per ISO 9001 and ISO 14001.

14. WARRANTY OF PRODUCT OF SOLAR POWER PLANT

SOLAR PV MODULES:

- (i) PV modules shall be warranted for their output peak watt capacity, which shall not be less than 90% at the end of 10 years and 80% during the consecutive 15 years. PV modules shall be warranted for any manufacturing defect or bad workmanship for a period of 10 years from the date of completion of the work. The contractor shall submit necessary warranty certificate for 10 years to CEO on stamp paper Rs 100 duly notarized and duly signature of contractor and manufacturer.


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- (ii) Modules should be in conformity of latest technical specification issued by MNRE from time to time and makes as approved by MNRE. **& should be of reputed brand as mentioned in Annexure "19"**.
- (iii) **An additional amount equal to 10% of total value shall be retained from contractor's bill or in FDR form against the warranty as performance Security of solar plant (SOLAR PV MODULES) for a period of five years from the date of completion excluding Defect liability period of contract.** Alternately the contractor may give separate interest bearing security deposit in favour of CEO. During the period of warranty the contractor shall remain liable to replace the defective parts that become defective in the plant, under the conditions provided for by the contractor and arising solely from faulty materials or workmanship, provided such defective parts are not repairable at site.
- (iv) During the period of warranty the contractor shall remain liable to replace any defective parts that become defective in the plant, under the conditions provided for by the contract and arising solely from faulty materials or workmanship, provided such defective parts are not repairable at site.

SOLAR INVERTER AND PCU:

(i) **SOLAR INVERTER AND PCU** shall be warranted for minimum period provided by the manufacturer but not less than 5 years. PCUs shall be warranted for any manufacturing defect or bad workmanship for a minimum period of 05 years from the date of completion of the work. The contractor shall submit necessary warranty certificate for 5 years to CEO on stamp paper Rs 100 duly notarized and duly signature of contractor and manufacturer.

(ii) During the period of warranty the contractor shall remain liable to replace any defective parts that become defective in the plant, under the conditions provided for by the contract and arising solely from faulty materials or workmanship, provided such defective parts are not repairable at site.

15. FINAL COMMISSIONING AND PLANT ACCEPTANCE:

The General Scope of Work includes commissioning of the power plant and


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evaluation of power corresponding to the guaranteed performance at the Evaluation Point. Contractor shall operate and maintain the facility and shall demonstrate guaranteed performance of the plant as plant acceptance test.

Evaluation shall happen after completion of all activities mentioned here-in-above and by giving in writing to CEO for witnessing and approving the same. Obtaining written certificate of commissioning of the facility and permission to connect to the grid from the office of the Chief Electrical Inspector of the state, if applicable. Satisfactory completion certificate towards completion of all other contractual obligations by the Contractor from the CEO.

16. Any new guidelines issued from time to time by Engineer – in - Charge Branch or MNRE will be deemed to be incorporated during currency of contract.

17. **PERFORMANCE WARRANTY:**

The predicted electrical degradation of power generated not exceeding 20% of the minimum rated power for the 25 year period and not more than 10% after ten years period of the full rated original output and all as per MNRE guidelines.

18. Quality Certification, Standards and Testing for Grid-connected Solar PV Systems/Power Plants Quality certification and standards for grid-connected rooftop solar PV systems are essential for the successful mass-scale implementation of this technology. It is also imperative to put in place an efficient and rigorous monitoring mechanism, adherence to these standards. Hence, all components of grid-connected rooftop solar PV system/ plant must conform to the relevant standards and certifications given below:-

a) **Solar PV Modules/Panels:**

IEC 61215/ IS 14286: Design Qualification and Type Approval for Crystalline Silicon Terrestrial Photovoltaic [PV] Modules

IEC 61853- Part 1/ IS 16170: Part 1: Photovoltaic [PV] module performance testing and energy rating: Irradiance and temperature performance measurements, and power rating


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IEC61730-Photovoltaic [PV] Module Safety Qualification–Part1: Requirements for Construction, Part 2: Requirements for Testing

IEC62804: Photovoltaic [PV] modules-Test methods for the detection of potential induced degradation.

IEC TS 62804-1: Part 1: Crystalline silicon [mandatory for applications where the system voltage is >600VDC and advisory for installation is where the system voltage is < 600VDC.

b) **Solar PV Inverters:**

IEC62109-1, IEC62109-2:Safety of power converters for use in photo voltaic power systems – Part 1:General requirements, and Safety of power converters for use in photovoltaic power systems Part2: Particular requirements for inverters. Safety compliance[Protection degree IP 65 for outdoor mounting, IP 54 for indoor mounting] IEC/IS61683[as applicable]: Photovoltaic Systems – Power conditioners: Procedure for Measuring Efficiency [10%, 25%, 50%, 75% & 90-100% Loading Conditions] BSEN 50530:Over all efficiency of grid- connected photo voltaic inverters:[as applicable] This European Standard provides a procedure for the measurement of the accuracy of the maximum power point tracking[MPPT] of inverters, which are used in grid-connected photovoltaic systems. In that case the inverter energizes a low voltage grid of stable AC voltage and constant frequency. Both the static and dynamic MPPT efficiency is considered. IEC 62116/ UL 1741/: Utility-interconnected Photovoltaic Inverters - Test Procedure of IEEE 1547 [as applicable] : Islanding Prevention Measures IEC 60255-27 : Measuring relays and protection equipment – Part 27: Product safety requirements.

IEC 60068-2 [1, 2, 14, 27, 30 & 64]: Environmental Testing of PV System – Power Conditioners and Inverters

- i. IEC60068-2-1: Environmental testing-Part2-1:TestsTestA:Cold
- ii. IEC60068-2-2: Environmental testing-Part2-2:Tests-TestB:Dry heat
- iii. IEC 60068-2-14: Environmental testing - Part 2-14: Tests - Test N: Change of temperature
- iv. IEC60068-2-27: Environmental testing - Part 2-27: Tests - Test E and guidance: Shock
- v. IEC 60068-2-30: Environmental testing – Part 2-30:Tests -Test Db: Damp heat, cyclic


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[12 h + 12 h cycle]

- vi. IEC 60068-2-64: Environmental testing - Part 2-64: Tests - Test F
- vii. Vibration, broadband random and guidance IEC 61000 – 2, 3, 5 [as applicable] : Electromagnetic Interference [EMI] and
- viii. Electromagnetic Compatibility [EMC] testing of PV Inverters.

c) **Fuses:** IS/IEC 60947 [Part 1,2 & 3], EN 50521:General safety requirements for connectors, switches, circuit breakers [AC/DC]:

i) Low-voltage Switch gear and Control-gear,

ii] Low-Voltage Switch gear and Control gear, Part2: Circuit Breakers

iii] Low-voltage switch gear and Control-gear, Part3: Switches, Dis-connectors, switch-disconnectors and fuse-combination units.

iv] EN 50521: Connectors for photovoltaic systems – Safety requirements and tests
IEC 60269-6 : Low-voltage fuses - Part 6: Supplementary requirements for fuse links for the protection of solar photovoltaic energy systems.

d) **Surge Arrestors**

IEC 62305-4: Lightning Protection Standard

IEC 60364-5-53/IS15086-5[SPD]: Electrical installations of buildings-Part 5-53: Selection and erection of electrical equipment - Isolation, switching and control

IEC 61643-11:2011: Low-voltage surge protective devices-Part11:

Surge protective devices connected to low-voltage power systems– Requirements and test methods.

e) **Cables:**

IEC60227/IS694, IEC60502/IS1554: General test and measuring method for PVC [Polyvinylchloride] insulated cables for working voltages upto and including1100V, and UV resistant for outdoor installation] [Part1&2]

IEC69947 BSEN 50618: Electric cables for photo voltaic systems [BT[DE/NOT]258] mainly for DC Cable.



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f) **Earthing/Lightning:**

IEC 62561 [Chemical earthing] : Series IEC 62561-1 Lightning protection system components [LPSC] –

Part 1: Requirements for connection components

IEC62561-2 Lightning protection system components

[LPSC]-Part2: Requirements for conductors and earth electrodes

IEC62561-7 Lightning protection system components

[LPSC]-Part7: Requirements for earthing enhancing compounds.

g) **Junction Boxes:**

IEC60529: Junction boxes and solar panel terminal boxes shall be of the thermo-plastic type with IP65 protection for outdoor use, and IP54 protection for indoor use.

h) **Solar PV Roof Mounting Structure:**

IS2062/IS4759: Material for the structure mounting.

- i. Supply, installation, erection and acceptance of module mounting structure (MMS) with all necessary accessories, auxiliaries and spare part shall be in the scope of the work.
- ii. Module mounting structures can be made from three types of materials. They are Hot Dip Galvanized Iron, Aluminium and Hot Dip Galvanized Mild Steel (MS). However, MS will be preferred for raised structure.
- iii. MMS Steel shall be as per latest IS 2062:2011 and galvanization of the mounting structure shall be in compliance of latest IS4759. MMS Aluminium shall be as per AA6063 T6. For Aluminium structures, necessary protection towards rusting need to be provided either by coating or anodization.
- iv. All bolts, nuts, fasteners shall be of stainless steel of grade SS 304 or hot dip galvanized, panel mounting clamps shall be of aluminium and must sustain the adverse climatic conditions. Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts.
- v. The module mounting structures should have angle of inclination as per the site conditions to take maximum insolation and complete shadow-free operation during generation hours. However, to accommodate more capacity the angle of inclination may be reduced until the plant meets the specified performance ratio requirements.
- vi. The Mounting structure shall be so designed to withstand the speed for the wind zone of the


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- vii. location where a PV system is proposed to be installed. The PV array structure design shall be appropriate with a factor of safety of minimum 1.5.
- viii. The upper edge of the module must be covered with wind shield so as to avoid build air ingress below the module. Slight clearance must be provided on both edges (upper & lower) to allow air for cooling.
- ix. Suitable fastening arrangement such as grouting and calming should be provided to secure the installation against the specific wind speed. The Empanelled Agency shall be fully responsible for any damages to SPV System caused due to high wind velocity within guarantee period as per technical specification.
- x. The structures shall be designed to allow easy replacement, repairing and cleaning of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels. Necessary testing provision for MMS to be made available at site.
- xi. Adequate spacing shall be provided between two panel frames and rows of panels to facilitate personnel protection, ease of installation, replacement, cleaning of panels and electrical maintenance.
- xii. The structure shall be designed to with stand operating environmental conditions for a period of minimum 25 years.

Ballast Structure

- a. The mounting structure must be Non-invasive ballast type and any sort of penetration of roof to be avoided.
- b. The minimum clearance of the structure from the roof level should be in between 70-150 mm to allow ventilation for cooling, also ease of cleaning and maintenance of panels as well as cleaning of terrace.
- c. The structures should be suitably loaded with reinforced concrete blocks of appropriate weight made out of M25 concrete mixture.

Tin shed

- a. The structure design should be as per the slope of the tin shed.




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- b. The inclination angle of structure can be done in two ways-
Parallel to the tin shed (flat keeping zero-degree tiling angle), if the slope of shed in Proper south direction with same tilt angle based on the slope of tin shed to get the maximum output.
- c. The minimum clearance of the lowest point from the tin shade should be more than 100mm.
- d. The base of structure should be connected on the Purlin of tin shed with the proper riveting.
- e. All structure member should be of minimum 3 mm thickness.

RCC Elevated structure: It can be divided into further three categories:

A. minimum Ground clearance: (300 MM–1000 MM)

- a. The structure shall be designed to allow easy replacement of any module and shall be in line with site requirement. The gap between module should be minimum 30MM.
- b. Base Plate – Base plate thickness of the Structure should be 5MM for this Segment.
- c. Column – Structure Column should be minimum 2MM in Lip section / 3MM in C-Channel section. The minimum section should be 70MM in Web side and 40MM in flange side in Lip section.
- d. Rafter-Structurer should be minimum 2MM in Lip section/3MM in C-Channel section. The minimum section should be 70MM in Web side(y- axis) and 40MM in flange side (x-axis).
- e. Purlin - Structure purlin should be minimum 2MM in Lip section. The minimum section should be 60MM in Web side and 40MM in flange side in Lip section.
- f. Front/back bracing–The section for bracing part should be minimum 3MM thickness.
- g. Connection–The structure connection should be bolted completely. Leg to rafter should be connected with minimum 12 diameter bolt. Rafter and purlin should be connected with minimum 10 diameter bolt. Module mounting fasteners should be SS-304 only and remaining fasteners either SS-304 or HDG 8.8 Grade.
- h. For single portrait structure the minimum ground clearance should be 500MM.


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B. Medium Ground clearance (1000MM–2000MM) (for reference only)

- a. Base Plate–Base plate thickness of the Structure should be Minimum 6MM for this segment.
- b. Column – Structure Column should be minimum 2MM in Lip section / 3MM in C-Channel section. The minimum section should be 80MM in Web side and 50MM in flange side in Lip section.
- c. Rafter-Structurer after should be minimum 2MM in Lip section/3MM in C-Channel section. The minimum section should be 70MM in Web side and 40MM in flange side in Lip section.
- d. Purlin - Structure purlin should be minimum 2MM in Lip section. The minimum section should be 70MM in Web side and 40MM in flange side in Lip section.
- e. Front/back bracing–The section for bracing part should be minimum 3MM thickness.
- f. Connection–The structure connection should be bolted completely. Leg to rafter should be connected with minimum 12 diameter bolt. Rafter and purlin should be connected with minimum 10 diameter bolt. Module mounting fasteners should be SS-304 only and remaining fasteners either SS-304 or HDG 8.8 Grade.

C. Maximum Ground clearance (2000MM – 3000MM) (for reference only)

- a. Base Plate–Base plate thickness of the Structure should be minimum 8MM for this segment.
- b. Column – Structure Column thickness should be minimum 2.6MM in square hollow section (minimum 50x50) or rectangular hollow section (minimum 60x40) or 3MM in C-Channel section.
- c. Rafter Structurer should be minimum 2MM in Lip section/3MM in Channel section. The minimum section should be 80MM in Web side and 50MM in flange side in Lip section.
- d. Purlin - Structure purlin should be minimum 2MM in Lip section. The minimum section should be 80MM in Web side and 50MM in flange side in Lip section.
- e. Front/back bracing–The section for bracing part should be minimum 3MM thickness.
- f. Connection–The structure connection should be bolted completely. Leg to rafter should be connected with minimum 12 diameter bolt. Rafter and purlin should be connected with minimum 10 diameter bolt. Module mounting fasteners should be SS-304 only and remaining fasteners either SS-304 or HDG 8.8 Grade.

D. Super elevated structure (More than 3000MM) (for reference only)


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Base structure

- a. Base Plate–Base plate thickness of the Structure should be 10MM for this segment.
- b. Column–Structure Column minimum thickness should be minimum 2.9MM in square hollow section (minimum 60x60) or rectangular hollow section (minimum 80x40).
- c. Rafter-Structure Rafter minimum thickness should be minimum 2.9MM in square hollow section (minimum 60x60) or rectangular hollow section (minimum 80x40).
- d. Cross bracing – Bracing for the connection of rafter and column should be of minimum thickness of 4mm L-angle with the help of minimum bolt diameter of 10mm.

Upper structure of super elevated structure –

- a. Base Plate–Base plate thickness of the Structure should be minimum 5MM for this segment.
- b. Column – Structure Column should be minimum 2MM in Lip section / 3MM in Channel section. The minimum section should be 70MM in Web side and 40MM in flange side in Lip section.
- c. Rafter Structure should be minimum 2MM in Lip section/3MM in Channel section. The minimum section should be 70MM in Web side and 40MM in flange side in Lip section.
- d. Purlin - Structure purlin should be minimum 2MM in Lip section. The minimum section should be 60MM in Web side and 40MM in flange side in Lip section.
- e. Front/back bracing–The section for bracing part should be minimum 3MM thickness.
- f. Connection–The structure connection should be bolted completely. Leg to rafter should be connected with minimum 12 diameter bolt. Rafter and purlin should be connected with minimum 10 diameter bolt. Module mounting fasteners should be SS-304 only and remaining fasteners either SS-304 or HDG 8.8 Grade.

If distance between two legs in X-Direction is more than 3m then sag angle/Bar should be provided for purlin to avoid deflection failure. The sag angle should be minimum 2MM thick, and bar should be minimum 12 Dia.

Degree - The Module alignment and tilt angle shall be calculated to provide the maximum annual energy output. This shall be decided on the location of array installation.

Foundation–Foundation should be as per the roof condition; two types of the foundation can be done either penetrating the roof or without penetrating the roof.

- a. If penetration on the roof is allowed (based on the client requirement) then minimum 12MM



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diameter anchor fasteners with minimum length 100MM can be used with proper chipping. The minimum RCC size should be 400x400x300 cubic mm. Material grade of foundation should be minimum M20.

b. If penetration on roof is not allowed, then foundation can be done with the help of 'J Bolt' (refer IS 5624 for foundation hardware). Proper Neto bond solution should be used to adhere the Foundation block with the RCC roof. Foundation J - bolt length should be minimum 12MM diameter and length should be minimum 300MM.

20. Material Standards:

- i. Design of foundation for mounting the structure should be as per defined standards which clearly states the Load Bearing Capacity & other relevant parameters for foundation design (As per IS 6403 / 456 / 4091 / 875).
- ii. Grade of raw material to be used for mounting the structures so that it complies the defined wind loading conditions (As per IS 875 - III) should be referred as follows (IS2062—for angles and channels, IS1079—for sheet, IS1161 & 1239 for round pipes, IS 4923 for rectangular and square hollow section)
- iii. Test reports for the raw material should be as per IS 1852 / 808 / 2062 / 1079 / 811.
- iv. In process inspection report as per approved drawing & tolerance should be as per IS 7215.
- v. For ascertaining proper welding of structure part following should be referred:
 - a. D.P.Test (Pin Hole/Crack)(IS822)
 - b. Weld wire grade should be of grade(ER70 S-6) or ascertaining hot dip galvanizing of fabricated structure following should be referred: -
 - c. Min coating required should be as per IS4759 & EN1461.
 - d. Testing of galvanized material
 - Pierce Test (IS2633)
 - Mass of Zinc (IS 6745)
 - Adhesion Test (IS2629)
 - CuSO4 Test (IS 2633)


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- Superior High-Grade Zinc Ingot should be of 99.999% purity (IS 209)
(Preferably Hindustan Zinc Limited or Equivalent).
- vi. Foundation Hardware– If using foundation bolt in foundation then it should be as per IS 5624.
- 21 **SAFETY MEASURES:** The contractor shall take entire responsibility for electrical safety of the installation(s) including connectivity with the grid and follow all the safety rules & regulations applicable as per Electricity Act, 2003 and CEA guidelines etc.
- 22 **DISPLAY BOARD:** The contractor has to display a board at the project site mentioning the following:
- a). Plant Name, Capacity, Location, Type of Renewable Energy plant (Like solar wind etc.), Date of commissioning, details of tie-up with transmission and distribution companies, Power generation and Export FY wise.
 - b). The size and type of board and display shall be approved by Engineer-in-charge before site inspection.
- 23 **MISCELLANEOUS:**
- Shadow Analysis: The Shadow analysis report with instrument such as Solar Pathfinder or Professional Shadow analysis software of each site should be provided and the consumer should be educated to install the system only in shadow free space. Lower Performance of the system due to shadow effect shall be liable for penalty for lower performance.
- 24 A Solar Photo Voltaic (PV) system shall consist of following energy meters:
- a) Net meter: To record import and export units.
 - b) Generation meter: To keep record for total generation of the plant.
- The installation of meters including CTs & PTs, wherever applicable, shall be carried out by the empanelled vendor as per the terms, conditions and procedures laid down by the concerned PSPCL/DISCOMS.
- 25 Periodic Cleaning and washing of the Solar PV Panels must be the responsibility of the vendor for five years from the commissioning of the project.
- 26 Solar PV Panels should be Make In India and conforming to the Companies shown in Annexure '19'.

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ANNEXURES

Annexure '05'

FORM OF SOLVENCY CERTIFICATE FROM A SCHEDULED/NATIONALIZED BANK

(SPECIMEN)

This is certified that to the best of our knowledge and information
M/s/Shri/Smt. _____ having
address _____ a customer
of our bank are/is respectable and can be considered solvent for any engagement upto Rs. _____
(Rupees _____). This certificate is issued without any guarantee
or responsibility on the bank or any of the officers.

(Signature)

Name, No., Seal of Bank

Note: In case of partnership firm, certificate to include names of all partners as recorded with the Bank.


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Annexure "06"

FORM OF WORKING CAPITAL CERTIFICATE FROM A SCHEDULED/NATIONALIZED BANK OR FROM CHARTERED ACCOUNTANT

This is certified that M/s/Shri/Smt. _____ having address _____ has/have been maintaining a saving bank account/current account/fixed deposit account with this branch of bank since _____ and an amount not less than Rs. _____ (Rupees _____) has been available to the credit in his/her/their account No.(s) _____ for the last three months. The firm is enjoying overdraft/credit facility up to limit of Rs. _____.

(Signature)

Name, No., Seal of Bank

Note:- (Tenderers/Bidders are required to prepare the above mentioned solvency certificate and working capital certificate from a scheduled/nationalized bank as required for the Technical Bid).


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Annexure "10"

UNDERTAKING (IN AFFIDAVIT FORM) BY THE FIRM/AGENCY

Before:

The Chief Executive Officer,
Cantonment Board,
Jalandhar

I, _____ on, behalf
of _____ (Name of the firm/agency)
hereby declare that there is no legal suit/criminal case pending or contemplated or legal notice having
been served to this effect against the Proprietor of the Agency or any of its Directors (in case of Pvt. Ltd.
Company) against any of the State/ Central Govt. Department on grounds of moral turpitude or for
violation of any of the laws in force and my firm /agency has never been black listed in any state/Central
Govt. department.

I, _____, on behalf
of _____ (Name of the firm/agency) hereby
declare that our organization or the staff to be provided has no business or direct family relationship with
JCB employees or persons positioned in or on the Board of this organization by whatever process.

I, _____, on behalf of
_____ (Name of the firm/agency) hereby
declare that our organization or the staff have no recovery outstanding in any Govt. Department.

I, _____, on behalf
of _____ (Name of the firm/agency) hereby
undertake that all relevant statutory requirements will be complied with.


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I, _____, on behalf of _____ (Name of the firm/agency) hereby undertake that if the above declaration is found incorrect, the present engagement would be terminated and _____ (Name of the firm/agency) would be debarred/blacklisted from any further engagement by Cantonment Board, Jalandhar ever.

Authorized Signatory _____

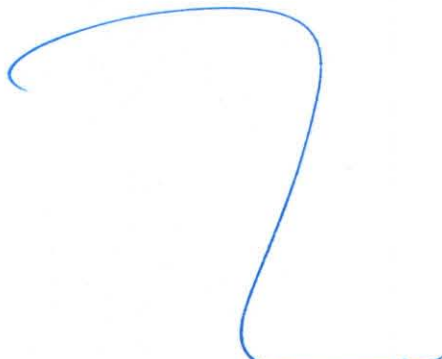
Name _____

Designation _____

Address _____

Dated:- _____

Note:- (Tenderers/Bidders are required to type this Proforma on Non Judicial stamp paper worth Rs. 50/- only in the form of affidavit as required for the Technical Bid).



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Annexure "13"

Details Regarding the Supervisory Staff(Specimen)

S.No.	Name of Supervisory Staff	Educational & Professional Qualifications (Diploma/Degree in Electrical/ Civil Engineering)	Field of Experience (in years)
1.			
2.			
3.			
4.			


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Annexure '16'

PERFORMANCE STATEMENT FORM (for a period of last three years)

Bid no. _____ Date of opening _____

_____ Time _____ hours.
Name of the firm _____

Order placed by (full address of purchaser)	Order no. and date	Description and quantity of ordered equipment	Value of order	Date of completion of delivery		Remarks indicating reasons for late delivery, if any	Has the equipment been satisfactorily functioning? (attach a certificate from the purchaser/ consignee)
				As per contract	Actual		
1	2	3	4	5	6	7	8

Signature and seal of the bidder : _____


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Annexure '17'

MANUFACTURERS AUTHORIZATION FORM
(ON THE LETTER HEAD)

To
Dear Sir:

No. Dated.....

IFB No. _____

We who are established and reputable manufacturers of _____ (*name & descriptions of goods offered*) having factories at (*address of factory*) do hereby authorize M/s _____ (*Name and address of Agent*) to submit a bid, and sign the contract with you for the goods manufactured by us against the above IFB.


We hereby extend our full guarantee and warranty as per Clause 15 of the General Conditions of Contract for the goods and services offered for supply by the above firm against this IFB.

Yours faithfully,

(Name)
(Name of manufacturers)

Note: This should be signed by a person competent and having the power of attorney to legally bind the manufacturer. It should be included by the Bidder in its bid.

(The list of items for which this is required should be indicated by Purchaser).


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Annexure '18' (TECHNICAL DETAILS) (on Bidder Letter Pad)


S. No.	ITEM	PARTICULARS
1.	SOLAR PHOTOVOLTAIC MODULES	
1.1	MANUFACTURER	
1.2	SIZE	
1.3	TESTING AND QUALIFYING STANDARDS	
1.4	P_{nom}	
1.5	P_{max}	
1.6	I_{mp}	
1.7	V_{mp}	
1.8	CELL EFFICIENCY	
1.9	No. of cells in module	
1.10	Warranty Offered (Attach Certificate)	
2	INVERTERS	
2.1	Type and Make	
2.2	AC output Voltage	
2.3	DC input voltage range	
2.4	DC operating voltage	


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S. No.	ITEM	PARTICULARS
2.5	Continuous Rating	
2.6	Grid Voltage Tracking range	
2.7	Grid Frequency Tracking Range	
2.8	Grid Phase imbalance	
2.9	Efficiency	
2.10	Operating Temperature Range	
2.11	Power Control	
2.12	Protection Features	
2.13	Overload Capacity	
2.14	Total Harmonic Distortion	
2.15	Islanding Protection	
2.16	Ingress Protection	
2.17	Hardware Platform	
2.18	DC input Overload Capacity	
2.19	Electronic Metering Accuracy	
2.20	Data Logger Accuracy	

Signature of Bidder:-.....

Business Address :.....


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Technical Details (on Bidder Letter Pad)

Sr. No.	ITEM	Particulars
	SOLAR PHOTOVOLTAIC MODULES	
1.1	Make: Model No: Wattage: Module Efficiency % (if bidder is not the manufacturer, Authorization letter from manufacturer to be enclosed)	
2	Power Conditioning Units	
2.1	Make: Model No: Rated Capacity:: Maximum Efficiency (if bidder is not the manufacturer, Authorization letter from manufacturer to be enclosed)	


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Annexure '19'

LIST OF MAKE/MANUFACTURERS OF EQUIPMENT INTERNAL & EXTERNAL ELECTRIFICATION

S No	Product	GROUP OF PRODUCTS BASED ON MAKES/BRANDS		
		GROUP 1	GROUP 2	GROUP 3
1	HT XLPE CABLES 132/66/33 KV & 11 KV	LS CABLE,V-MARC,GEM SCAB(UPTO 66KVA),GRANDLAY(HT/ABCABLES UPT O33 KV), RALLISON, POLYCAB, HAVELLS, JMW KABEL, MAKES/BRANDS CABLE CORPORATION OF INDIA,UNIVERSALCABLE,ELEKTRO N,PARAGON	PLATIMA	
2	LTPOWER&CONTROL CABLES ,1100VOLTS,XLPE	SHALABH,RALLISON,POLYCAB,HAV ELLS,GRANDLAY,HPL,JMW KABEL, MAKES/BRANDS CABLE CORPORATION OFINDIA, ELEKTRON, PARAGON	SCI,CIRTINA CABLES,PLAZA CABLES,PLATI MA, BMI CABLES, VTL	
3	PVC COPPER WIRES & AC CABLES650/1100 VOLTS	SHALABH,POLYCAB,HAVELLS (PVC Copper Wires),BENLO,GRANDLAY,HPL(PV C Copper Wires), RALLISON, JMW KABEL, PLAZA CABLES, MAKES/BRANDS FINOLEX,ELEKTRON,PARAGON	SCI,CIRTINACABL ES,NEC(WIRE & CABLES),PLATIM A, BATRA HENLEY, BMI CABLES	
4	HT/LTXLPE AERIAL BUNCHED CABLES	V-MARC (POWER & AERIAL BUNCHED CABLE),JMWKABEL,PLAZACABLES(L T XLPE UNDER GROUND CABLES),GRANDLAY,LSCABLES,SCI(LTXLPE)	-	-
5	MCCBS	INDOASIAN,HAVELLS,BENLO,HPL,G OLD MEDAL,SSK,SHALABH		ASCO
6	MCB/ELCB/RCCB/RCB O/ISOLATORS/MCBDI STRIBUTIONBOARD	INDOASIAN,HAVELLS,BENLO,HPL,P OLYCAB,GOLDMEDAL,SSK,SHALAB H(MCB & DISTRIBUTION BOARD)	PRECISION SYSTEM CONTROL(PSC)	METALLO, ASCO,FINE SWITCHS
7	CHANGE OVER SWITCHES	CRYSTAL,GM&G,IN DOASIAN,STANDAR D,HAVELLS,C&S ELECTRIC,ANCHOR/ PANASONIC, HPL, MEGAWIN 2025		ASCO, METALLO


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S No	Product	GROUP OF PRODUCTS BASED ON MAKES/BRANDS		
		GROUP 1	GROUP 2	GROUP 3
8	UPS/INVERTER/STABILIZER/ CIRCUIT PROTECTION DEVICE/WIRES & CABLES	MICROTEK		
9	UPS(OFFLINE&ONLINE)	SINETRAC,	POWERONE	
10	RIGID PVC CONDUIT PIPES	VPL, MAKES/BRANDS KALINGA,PLAZA	JPC PIPES,PARAFLEX,K AMPLAST,PLAZAC ABLES	ASIAN UBES, POLYFI N
11	GI/MSCONDUIT/ERWCONDUIT PIPE	VPL, MAKES/BRANDS AKG,BEC,BHARATSTEELTUBES, JINDAL	JPC PIPES	
11	OutdoorIP65 Enclosure	MAKES /BRANDS Tribox, Fibox		
12	Input Postive & Negative Fuse15A	MAKES/BRANDS Mersen,Elmex,Havells		
13	Solar Output Terminal Block	MAKES/BRANDS Elmex,Salzer,Pheonix		
14	SPDDC SPD1000V40 KA type2	MAKES/BRANDS Elpro/Elmex,Pheonix Contact		
15	Input & Output PG Gland	MAKES/BRANDS Jigo		
16	SOLAR PV Module (Make In India)	MAKES/BRANDS TATA POWER SOLAR,ADANI,LUMINOUS,VIKRA M SOLAR, WAAREE, JAKSON,KIRLOSKAR		
17	SOLAR INVERTER	MAKES/BRANDS TATA POWER SOLAR,ADANI,LUMINOUS,VIKRA M SOLAR, WAAREE, JAKSON,KIRLOSKAR		


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LIST OF MAKE/MANUFACTURERS OF EQUIPMENT/MATERIALS TECHNICAL SPECIFICATIONS

S No	Product	GROUP OF PRODUCTS BASED ON MAKES/BRANDS		
1	Cement	(a) M/s The Associated Cement Companies Ltd. 414-421, Splendor Forum (4 th Floor), 3, District Centre, Jasola, New Delhi-110044	"ACC"	
		(b) M/s UltraTech Cement Ltd. 'B' Wing, 2 nd floor, Mahakali Caves Road, Andheri (East), Mumbai-400093	"Ultratech"	
		(c) M/s The India Cement Dhun Building, 827, Anna Salai, Chennai-600002		
		(d) M/s Dalmia Cement (Bharat) Ltd. Dalmiapuram Dist-Truchirappalli, Tamil Nadu-621651	"Dalmia Infra Pro"	
		(e) M/s Century Cements Industry House, 159 Church gate, Reclamation, Mumbai-400020	"Century"	
		(f) M/s Saurashtra Cement Gala No A-1, Ground Floor, Udhyog Sadan No 3 MIDC, Central Road, Andheri (East), Mumbai-400093	"Saurashtra"	
		(g) M/s The Ramco Cements Ltd. Auras Corporate Centre, 98-A, Dr. Radhakrishnan Salai, Mylapore, Chennai-600004	"Ramco"	
		(h) M/s Mangalam Cement Ltd POA dityanagar, Morak, Distt-Kota, Rajasthan-326520	"Mangalam"	
		(j) M/s Birla Corporation Ltd Birla Building (3 rd & 4 th floor) 9/1, R.N. Mukherjee Road, Kolkata-700001	"Birla"	
		(k) M/s Orient Cement 5-9-22/57/D, 2 nd and 3 rd Floor, GP, Birla Centre, Adarsh Nagar, Hyderabad-500063	"Birla-A1"	
		(l) M/s NUVOCO Vistas Corporation Ltd (Formerly Lafarge Cement), Equinox Business Park, Tower-3, East Wing, 4 th floor, LBS Marg, Kurla (West), Mumbai-400070	"NUVOCO"	
		(m) M/s Shree Cement Bangur Nagar, Beawar, Distt-Ajmer, Rajasthan-305451	"Shree"	
		(n) M/s JK Cement Kamla Tower, Kanpur-208001	"JK"	
		(o) M/s JK Lakshmi Cement Ltd Jaykaypuram, Distt-Sirohi, Rajasthan	"JK Lakshmi"	
		(p) M/s Jaypee Rewa Cement Jaypee Nagar, PO-Jaypee Nagar, Rewa-486450 MP	"Jaypee"	
		(q) M/s Ambuja Cement Ltd Kodinar, PO-Ambujanagar, Taluka-Kodinar, Distt- Junagadh, Gujarat-362715	"Ambuja"	


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(TECHNICAL BID EVALUATION CRITERIA)

Name of work:- Supply, Installation, Testing, Commissioning, Operation and Maintenance for 5 years 65 kw (25kw+ 20kw+10kw+10kw) Grid Connected Roof Top Solar PV System at Cantt. Board Office, Cantt General Hospital, Cantt Board Girls Sr. Sec. School, Cantt Board Boys Sr. Sec. School, Jalandhar Cantt.

Sir,


As per the e-tender notice vide No.JCB/Engg./Roof Top Solar/695./C dated 27-08-2025.

I/We hereby submitting the attested copies of the following documents as required for the Technical Bid as under:-

Sr. No	Name of documents	Annexure Nos.	Whether enclosed or not	
			YES	NO
1.	Tender documents fee (in the form of copy of the receipt of the challan to be generated through O/o C.B.J.). (To be Provided by the bidder)	Annexure "01"		
2.	Requisite Earnest Money (in the form of copy of receipt of the self generated challan through e-chhawani portal). (To be Provided by the bidder)	Annexure "02"		
3.	Copy of Pan Card. (To be Provided by the bidder)	Annexure "03"		
4.	Income Tax Return for the last three years. (To be Provided by the bidder)	Annexure "04"		
5.	Form of Solvency Certificate issued by scheduled/Nationalized Bank (as prescribed in DNIT documents) of Rs 20 (Twenty Lacs)	Annexure "05"		
6.	Form of working capital certificate issued by Scheduled/Nationalized Bank or from chartered Accountant (as prescribed in DNIT documents) of Rs 20 (Twenty Lacs).	Annexure "06"		
7.	Experience certificate for the Work of Roof Top Solar Panels in any Govt. department/PSU duly signed by the competent authority as per technical eligibility criteria clause no. 02 page no. 09.	Annexure "07"		

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Sr. No	Name of documents	Annexure Nos.	Whether enclosed or not	
			YES	NO
8.	Registration with Commissioner, Employees Provident Fund ESI corporation and valid labour license if applicable/required as per rules. (To be Provided by the bidder).	Annexure "08"		
9.	Registration of G.S.T. Certificate mentioning G.S.T. No. as issued by Govt. of India. (To be Provided by the bidder).	Annexure "09"		
10.	Undertaking by the agency (in the affidavit form on Non-judicial stamp paper worth Rs.50/- only as prescribed in DNIT documents).	Annexure "10"		
11.	Details of moveable and immoveable property/fixed assets(in the affidavit form on Non-judicial stamp paper worth Rs.50/- only). (To be Provided by the bidder)	Annexure "11"		
12.	Details of Tools and PV Panels/Machinery (in the affidavit form on Non-judicial stamp paper worth Rs.50/- only) . (To be Provided by the bidder)	Annexure "12"		
13.	Details of the supervisory staff mentioning requisite Technical/ Professional qualification certificates for the supervision of the works ((in the affidavit form on Non-judicial stamp paper worth Rs.50/- only)	Annexure "13"		
14.	Annual Turn-Over certificate for last three years issued by the Chartered Accountant. (To be Provided by the bidder)	Annexure "14"		
15.	Copy of Adhaar Card. (To be Provided by the bidder)	Annexure "15"		
16	Performance Statement Form (for last three years)	Annexure "16"		


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Sr. No	Name of documents	Annexure Nos.	Whether enclosed or not	
			YES	NO
17	Manufacturer Authorization Form	Annexure "17"		
18	Technical Details	Annexure "18"		
19	Manufacturer make for equipments and PV Panels	Annexure "19"		
20	Service support Details	Annexure "20"		

Authorized Signatory _____

Name _____

Designation _____

Address _____

Dated: _____


Chief Executive Officer
Cantonment Board,
Malandhar Cantt

(18)