

NOTICE INVITING TENDER (SECOND CALL)
ADVERTISED TENDER ENQUIRY

GOVT OF INDIA, MINISTRY OF HOME AFFAIRS

Tender No. VIII.11014/7157/COB/Solar/Engr-20/IGAR(S)

Dated : 25 Jun 2021

Director General Assam Rifles, on behalf of the President of India, Invites e-tenders for the **“Provn of Solar Power Plants of capacity 06 x 30 KWp for COBs of AR Bn at Jwalamukhi, HQ IGAR (S)”** from eligible MNRE Channel Partners / Assam Rifles, Registered / Eligible Bidders as per tender conditions.

Date of uploading in CPP Portal	:	25 Jun 2021.
Last date and time of receipt of online tender	:	03 Jul 2021 at 1800 hrs.
Date and time of online tender opening	:	05 Jul 2021 at 1200 hrs.
#Earnest Money	:	Nil
*Tender Fees	:	Rs 1,000/-

Please see Appx-7 (Chapter-V) for Bid Security Declaration.

*** To be deposited through NEFT/RTGS (In favour of HOO, HQ DGAR, A/c No 34458995139 Code No SBIN0013883) and scanned copy of receipt/counterfoil be uploaded.**

Note : The complete tender documents can be accessed & downloaded from CPP Portal <http://eprocure.gov.in/eprocure/app>. Please check regularly the website for any changes/modification/amendment in the Tender Enquiry. This Tender Enquiry is being issued with no financial commitment and DGAR reserves the right to change or vary any part thereof at any stage. He also reserves the right to withdraw the Tender Enquiry, should it become necessary at any stage.

MNRE Channel Partner/ Assam Rifles, Registered/Eligible Bidders are advised to ensure that their tenders are complete in all respects, all documents have been filled in and all supporting documents are uploaded only in CPP Portal <http://eprocure.gov.in/eprocure/app>. **Change of format of Tender Enquiry / incomplete tender enquiry will be become invalid and are liable to be rejected.**

Model Certificate for Tenders for Works involving possibility of sub-contracting. I have read the clause regarding restrictions on procurement from a **supplier of a country which shares a land border with India and on sub-contracting to contractors from such countries**; I certify that this supplier is not from such a country or; if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this supplier fulfills all requirements in this regard and is eligible to be considered. [Evidence of valid registration by the Competent Authority shall be attached].

Signature of the Tenderer
& Stamp

Sd/- xx xx xx
(Ashish Chauhan)
Lt Col
SO-1 (Wks)
For Chief Engineer

INVITATION TO ONLINE TENDER**GOVT OF INDIA, MINISTRY OF HOME AFFAIRS**
DIRECTORATE GENERAL, ASSAM RIFLES
ENGINEERS BRANCH, SHILLONG-10

Tender No. VIII.11014/7157/COB/Solar/Engr-20/IGAR(S)

Dated : 25 Jun 2021

1. For and on behalf of the President of India, the **Directorate General Assam Rifles, Laitkor, Shillong** invites online tenders under Two Bid System (Technical and Financial Bid) **on the prescribed format**, for **“Provn of Solar Power Plants of capacity 06 x 30 KWp for COBs of AR Bn at Jwalamukhi, HQ IGAR (S)”** from eligible MNRE Channel Partners / MNRE program implementer (PSUs) / Assam Rifles Registered / Eligible Bidders.

2. Eligible MNRE Channel Partners / Assam Rifles, Registered / Eligible bidders, who are in a position to undertake the Roof top Solar Power Plant of different capacities in accordance with the requirements stated in the attached schedules to the tender, should be fill in and submit / upload complete tender through e-Procurement site <http://eprocure.gov.in / eprocure / app>.

3. Signing and uploading of the duly filled tender document will be considered as acceptance of the tender / contract terms and conditions.

4. You are requested to study **the tender document completely** and ensure all documents, pages and annexure to the tender are **completely and correctly filled in and stamped wherever applicable** then scanned and uploaded on CPP Portal. **No change in format of Appendix / Tables / Certificates is permitted, if any change is found, the bid will become invalid and liable for rejection.**

5. This online Tender is **NOT** transferable.

6. This tender enquiry has the following chapters and appendices:-

<u>Schedule To online Tender</u>			Page No.
1.	Chapter I	Instructions to Bidder	Page 02-19
2.	Chapter II	Schedule of Requirement	Page-20
3.	Chapter III	Technical Specifications	Page-21-23
4.	Chapter IV	Performa for compliance to specifications	Page- 24
5.	Chapter V	Standard Forms to be uploaded by bidders	
a.	Appendix-1	Performance Statement for solar works	Page-25
b.	Appendix-2	Certificate to be signed by tenderer	Page-26
c.	Appendix-3	Performa for “e-payment”	Page-27
d.	Appendix-4	Non Black Listing Certificate	Page-28
e.	Appendix-5	Guarantee/ Warranty Certificate	Page-29
f.	Appendix-6	Undertaking for no use of undue influence	Page- 30
g.	Appendix-7	Format for furnishing Bid Security Declaration	Page-31
h.	Appendix-8	Financial Stability Certificate	Page-32
j.	Appendix-9	Certificate for Site Visit.	Page-33
k.	Appendix-10	Model Certificate for tenders	Page-34
6.	BOQ	Schedule of items	Page- 35

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CHAPTER-I
INSTRUCTIONS TO BIDDER
(THIS TENDER SET IS NOT TRANSFERABLE)

7. All Tender documents attached with this invitation to tender including the specifications are **SACROSANCT** for considering any offer as complete offer, it is therefore important that Tender Acceptance Letter which is a written undertaking containing all the terms and condition of the tender are understood, accepted, signed scanned and submitted only through e-procurement site <http://eprocure.gov.in/eprocure/app>.

8. **Tenderer is advised to carefully go through all the conditions and documents attached with this tender enquiry, before uploading the tender.**

9. **All tender documents (i.e. pages 01 to 35) must be duly completed, signed by authorized signatory on each page, scanned and uploaded.**

10. Tenderer must ensure this complete set is signed on each page, scanned and uploaded with their offer, as it is, without any modification / alteration. **Any changes in the format of the Appendixes, Tables, Certificates of the Appendixes of chapter V is not acceptable. Changes if any made, will make the bid invalid and liable for rejection.**

11. In case of any difference between the conditions mentioned in schedule to tender and the specifications / QRs, the conditions and given in the specifications will be binding.

12. Name of work : **“Provn of Solar Power Plants of capacity 06 x 30 KWp for COBs of AR Bn at Jwalamukhi, HQ IGAR (S)”**

13. Tender Fees : Rs. 1,000/- *

14. Bid Security/Earnest Money : Please see Appx-7 (Chapter-V) for Bid Security Declaration.

15. Date of issue / publishing : 25 Jun 2021.

16. Document download Start Date : 25 Jun 2021 at 1800 hrs.

17. Document download End Date : 02 Jul 2021 at 1200 hrs.

18. Last date & time for uploading of online tender : 03 Jul 2021 at 1200 hrs.

19. Date and Time for opening of online Tender : 05 Jul 2021 at 1200 hrs.

20. A power of attorney in favor of signatory and signatories or the tenderer in case the tender is signed by a person or persons other than the actual tenderer or on behalf of a firm or company and his / her / their signature attested by Notary / Class I Gazetted Officer.

21. **Scanned copy of the Pan Card to be uploaded** for verification of the signatures of the Authorized Signatory / Proprietor for the firm who has signed the tender documents. **Full name and status of the person signing the tender documents must be clearly mentioned in the tender.**

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22. **Quotation of Rate / Rates:** The quoted amount will be including GST. No extra charges / taxes over and above the quoted rate in any form will be borne by the Department. The rates quoted will be firm and final, no amendment / alternation to the rate quoted in the tender will be accepted at a later date. No representation will be entertained for change in tenderer's name, quoted amount or any other alternation in respect of any of the contracted articles / goods during the currency of the contract or if any fresh duty or tax is levied. Conditional discounts if any will not be considered and will have no effect on the evaluation of tenders.

Compensation

23. The successful tenderer will be intimated by a letter of acceptance of his / her / their tender by the Directorate General Assam Rifles. Till then no tenderer has any right to assume that his / her / their tender has been accepted and if any tenderer disregards this warning and makes any arrangements or incurs any expenditure in anticipation of issue of letter of acceptance, he / she / they will have no claim whatsoever for any compensation at a later stage.

Scope of Work

24. Provision of Installation and commissioning of Roof Top Solar Power Plant complete as per the BoQ to include the following:-

- (a) Installation and commissioning of Photo-Voltaic solar modules, Invertors, connecting cables / wires, switches, circuit breakers, connectors, junction boxes, mounting structure, suitable earthing and lightning arrester
- (b) Meters for monitoring the power generated, consumed, exported / imported to / from Main Grid.
- (b) Capital cost of transportation, insurance and online monitoring.
- (c) Comprehensive maintenance for five years.
- (d) All civil works required for the foundation or make good of the roof top / location where the Solar Power Plants are installed.

All applicable fees & taxes are deemed to be included in the scope of work.

Installation Testing & commissioning

25. Installation commissioning and testing will be carried out as per the contract agreement and as per the guide lines promulgated by MNRE. Factory test reports / Test certificates for PV modules, On grid Inverter and Net meter from OEM will be submitted once the stores reach the site or as directed by Accepting Officer.

- (a) Installation : As per MNRE guide lines/as directed by SO-I Wks / Engr-in-charge.
- (b) Testing : Factory test certificate to be produced.
- (c) Commissioning : As per MNRE guide lines /as directed by SO-I Wks / Engr-in-charge

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Payments

26. Payment Terms.

(a) It will be mandatory for the Bidders to indicate their Current Bank Account numbers and other relevant e-payment details so that payments could be made through ECS / NEFT mechanism.

(b) A copy of the model mandate form as prescribed by RBI is to be submitted by the Bidders for receiving payments through ECS is attached. The requirement is mandatory, incomplete / partially filled forms will not be entertained. **Changes if any made, will make the bid invalid and liable for rejection.**

(c) Amount of stores supplied will be paid on production of bills after verification of stores and purchase vouchers by a board of Officers, signed by **User** and **SO1 (Wks)** of concerned Sect HQ / IGAR.

(d) 25% of the CA amount will be released as mobilization advance against contractor's Bank Guarantee of 25% of CA amount and 3% of Performance Security Deposit. Bank Guarantee and performance security will be deposited at the time of signing of work order.

(e) Payments will be made through "e-payment" only. All firms are required to fill up the Performa attached with this tender and get it **duly endorsed from concerned bank** and submit with the tender.

(e) 90% payment will be released on completion of 100% of the subject work and balance 10% will be released on completion of 5 years comprehensive maintenance period in equal parts each year.

(f) Performance Security Deposit will be released at the end of first year of comprehensive maintenance

27. Paying Authority : Pay & Accounts Office Assam Rifles
(Old DGAR Complex)
Laitumukhrah, Shillong – 793011

28. Bid Security Declaration : Please see Appx-7 (Chapter-V) for Bid Security Declaration.

29. Extension of Validity & Earnest Money. Not applicable.

30. Security Deposit and Bank Guarantee.

(a) Performance Security deposit will be 3% of the contract amount.

(b) Performance Security deposit will be in the form of Account Term Deposit Receipt from a scheduled commercial / nationalized bank, and pledged in favour of Director General Assam Rifles.

(c) Validity period of Performance Security deposit should be up to general defect liability period of one year.

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- (d) **Forfeiture of Performance Security Money.** Cancellation of the subject work due to de fault of the service provider or not adhering to the terms / conditions of contract.
- (e) **Release of Performance Security Money.** After completion of the first year of of the comprehensive maintenance / defect liability period / Guarantee / Warrantee period.
- (f) **Bank Guarantee.** Bank Guarantee will be deposited in the form of Term deposit in favour of HQ DGAR for complete Comprehensive Maintenance Period of 05 years.

31. **Offer Validity.** 04 months (120 Days) from date of tender opening. In the absence of any indication in the tender documents submitted, of the date up to which the offer has been kept valid, it will be taken that the offer will remain open for acceptance for the period specified in the Schedule to Tender.

32. Director General, Assam Rifles, reserves the right to cancel / reject any or all the tenders without assigning any reasons.

33. **Clarification on Specifications / QR.** In case any prospective bidder requires clarification(s) on technical specification(s) / Qualitative Requirement(s) (QR), the same is to be submitted on line. No change in price or substance of the bid will be sought, offered or permitted. **No post-bid clarification on the initiative of the bidder will be entertained.**

34. **SAMPLE CLAUSE.**

- (a) Item Samples : As specified by the Accepting Officer or as per MNRE approved make.
- (c) **Instructions w.r.t the tendered items to be supplied and fixed:**
- (i) If called for in Tender, or asked for during tender evaluation, the bidder must submit complete and full Tender Samples with complete accessories as required / offered.
- (ii) Each sample must have a card affixed to it giving following particulars duly laminated.
- (aa) Firms name and address
- (ab) Tender number.
- (iii) Tenders must ensure that the items supplied and fixed submitted by them fully and completely meet the QRs / Specifications as per tender / master sample.
- (iv) It will be the sole responsibility of the tenderer to make arrangements to submit the items and ensure items reach the concerned authority and are fixed accordingly.
- (v) No assistance or documentation needed for submission of tender samples except what is stated in Tender Enquiry will be provided. It will be at the discretion of DG Assam Rifles / Competent authority on his behalf to accept or reject any written request in this regard, based on merits of the case.
- (vi) The cost and freight for sending tendered items will be borne by the tenderer and there will be no obligation on the part of the receiving officer / purchaser for their safe custody.
- (vii) In case tendered items are received after the laid down date and time of receipt, as mentioned in tender enquiry or specified later in writing, shall be rejected / ignored.
- (viii) The DG Assam Rifles / Competent Authority on his behalf reserves the right to extend the date of submission of tender sample as per merit.

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35. **Sampling and Inspection Criteria.** The tendered items will have to abide by the sampling and inspection criteria as formulated by the purchaser.
36. **The Purchaser** : The President of India
37. **Inspection Authority** : The Director General Assam Rifles
HQ DGAR, Shillong -10
38. **Inspection Officer** : Board of Officers at Consignee's location.
39. **Stores required at** : Consignees location
40. **Delivery of Stores.** Responsibility for correct delivery of stores at the consignee location will be that of the successful bidder.
41. **Guarantee / Warranty Terms.** **If not specified in QRs or specifications it will be up to the completion of comprehensive maintenance period of five years.** Warranty period will start from the date of completion of the subject work. In case stores / part of stores are found defective / damaged during inspection after delivery to consignee, the suppliers will replace or repair the store under warranty at consignee's location in India free of cost and thereafter will be allowed to lift the rejected stores.
42. **Rejected Stores.** If the appointed contractor fails to remove the bad / damaged / rejected stores of above items whatever the case may be from sites / location where installed, within 45 days from the date of issue of letter to contractor, the Director General Assam Rifles or his representative shall dispose off the rejected stores without assigning any further notice and no claim whatsoever will be entertained from the tenderer at any later stage.
43. **Liquidated Damages.** Liquidated damages up to 10% of the Contract Amount may be imposed at the sole discretion of the purchaser in case of delay in delivery by the supplier other than **circumstances beyond supplier's control as per the discretion of Competent authority.**
- (a) In case the firm does not complete the subject work as per the stipulated time frame of CA, then **liquidated damages for the delayed period will be charged @ 0.5% per week or part thereof the total value of stores up to a maximum of 10% of the tendered amount.**
- (b) If the qualified & technically sound engineers are not deployed during execution 1% of the CA amount will be deducted.
- (c) If the qualified & technically sound engineers/staff are not deployed during comprehensive maintenance period, 1% of the balance CA amount will be deducted every quarter i.e. three month period from the date of start of comprehensive maintenance per month.
- (d) The rate of LD can be varied at the discretion of Competent Authority depending on reason thereon.
44. **All Protocols for COVID-19 as being issued by MHA / HQ DGAR will be strictly followed.**

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45. **Purchase at the Risk and Expense.** In case of rejection of the stores / item by the Consignee / HQ DGAR or in case of neglect, failure or delay on the part of the tenderer to carry out the subject work, HQ DGAR may without prejudice to any other action which the department may take under the terms of the contract

(a) HQ DGAR will be at liberty to get the work / remaining work executed at the risk and expense of the tenderer.

(b) Any amount (which may include transportation and other incidental charges) incurred in excess of the contracted amount shall be borne by the contractor or recovered from his security deposit and / or from any amount which may be due to him by the Directorate General Assam Rifles.

(c) The right to risk and expense execution of work under this clause will entitle right to right to get executed the work after expiry of scheduled time of completion or replacement of unfit stock, without any warning or further information to contractor.

(d) The risk and expense purchase will be made by Chief Engineer Assam Rifles.

46. **Option Clause.** The user, in this case Assam Rifles, reserves the right to increase / decrease the qty by 10% at the as rates quoted by the successful tenderer at the time of placement of contract or during the period of the comprehensive maintenance or during the period of the contract.

47. **Fall Clause.**

(a) The Bidder undertakes that he has not supplied / is not supplying the similar item / equipment at a price lower than that offered in the present bid in respect of any other Ministry / Department of the Government of India any if it is found at any stage that the similar item / equipment was supplied by the vendor to any other Ministry / Department of the Government of India at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the Bidder to the Buyer, if the contract already been concluded.

(b) The Bidder shall strive to accord the most favored customer treatment to the Buyer, in this case Assam Rifles, in respect of all matter pertaining to the present case.

48. **Force Majeure Clause.** If at any time, during the continuance of this contract, the performance in whole or in part by either party of any obligation under this contract shall be prevented or delayed by reason of war / hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lock outs or Act of God (hereinafter referred to "event") provided, notice of the happening of any such event is given by either party to the other within 24 hours from the date of occurring thereof, neither party shall be reason of such event, be entitled to terminate this contact nor shall either party may at its option terminate the contract provided also that if the contract is terminated under this contract is prevented or delayed by reasons of any such event for a period exceeding 60 days, either party may at its option terminate the contract provided also that if the contract at a price to be fixed by the Purchaser, which shall be final all unused, undamaged and acceptable materials, brought out components and stores in course of manufacture in the possession of the contractor at the time of such termination or such portion thereof as the purchaser may deem fit excepting such materials, bought out components and stores as the contractor may with the concurrence of the purchaser elect to retain.

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49. **Purchase / Price Preference Clause.** The user, in this case Assam Rifles, reserves the option to give a Purchase / Price preference to the offers from MNRE program implementer Public Sector Units (PSU) over those from MNRE channeled partners firms in accordance with Govt. policies as amended up to date.

50. **Jurisdiction & Arbitration.** This tender and subsequent contract if any are subject to the jurisdiction of Indian Laws and Courts at the place of issue of the schedule. In the event of any question dispute or difference arising under these conditions or any special conditions of contract, or in connection with this contract (except as to any matters the decision of which is specifically provided for by these special conditions), the same shall be referred to the Sole Arbitration of the Director General Assam Rifles or some other person appointed by him. There will be no objection that the Arbitrator is a Government Servant, that he had to deal with the matters in which the contract is related or that in the course of his duties as Government Servant he has expressed views on all or any of the matters in dispute or difference. The award of the Arbitrator shall be final and binding on the parties to this contract. Further that all disputes arising out of the contract. **Shillong Court shall have exclusive jurisdictions.** The tenderers submitting the tenders shall render a certificate to have agreed to this clause.

51. **Submission Of The Proposal.** Bidders are required to submit their offers as under :-

- (a) Tender documents duly completed, signed and stamped on each page (**Scanned copy only**). Tender fee will be deposited and scanned copy of receipt/counterfoil of the same be uploaded.
- (b) A power of attorney in favor of signatory and signatories or the tenderer in case the tender is signed by a person or persons other than the actual tenderer or on behalf of a firm / company duly attested by Notary / Class-I Gazetted Officer.
- (c) **GST registration certificate** and **latest GST payment certificate** issued by concerned authority must be produced for last qtr with supporting PAN No / TIN No.
- (d) Compliance to specifications as applicable as per format given in Chapter IV.
- (e) Performance statement of the firm (**Only three performance in latest 03 years w.r.t Solar Works**) as per **Appx- 1 of chapter-V.**
- (f) Certificate for acceptance of terms and conditions as per **Appx -2 of chapter-V.**
- (g) Performa for e-payment as per **Appx- 3 of chapter-V.**
- (h) Non Blacklisting certificate as per **Appx-4 of chapter-V.**
- (j) Warranty / Guarantee certificate as per **Appx-5 of chapter-V.**
- (k) Undertaking for no use of undue influence as per **Appx-6 of chapter-V.**
- (l) Bid Security Declaration as per **Appx-7 of chapter V.**
- (m) Financial Stability Certificate as per **Appx-8 of chapter V.**
- (n) Bidders are advised to visit the site before quoting the rates as per **Appx-9 of chapter V.**

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(o) Model certificate for Tender a per **Appx – 10 of Chapter V.**

(p) Bidders are to note that submission of financial bids be done in the format provided and no other format is acceptable. Bidders are required to download the BoQ file, open it and complete the coloured (unprotected) cells with their respective financial quotes and other details viz. name of bidder. No other cell should be changed. Once the details have been completed, the bidder should save it and submit it online without changing the file name. If the BoQ file template is found to be modified by the bidder, the bid will be considered invalid and liable to be rejected.

(q) **No changes in the format of the tender documents are allowed.** Bidders are advised to fill the tender on the print out of uploaded format, if the format of Tables / Certificate of the Chapter V are modified the bid will become invalid and liable to be rejected.

(r) Escalation matrix including details of service centers in North-East.

(s) **Produce copy of three years of ITR summary sheet alongwith ITR-V filed by the tenderer.**

(t) The cost is to be indicated for each item and it should be the landed cost of item, inclusive of freight, servicing, packing and installation charges GST and other taxes, as applicable besides all other B/R and E/M related works.

(u) Tenders should quote the rates both in words and figures in the online tender from available at www.eprocure.gov.in for each variety. **In case of variation in rate quoted in words and in figures, the quoted rate in words will be considered as valid.**

52. **Evaluation of the Proposal.** Following procedure will be adopted:-

(a) Technical Bids will be evaluated by a Board of Officers constituted by the Directorate General Assam Rifles for selection of qualified Bidders as per **Appx-1 to 10 of chapter 5.**

(b) The commercial / cost bid of qualified Technical Bidders will be evaluated by a Board of Officers constituted by the Directorate General Assam Rifles.

(c) Depending upon the acceptance of the final prices by the Competent Financial Authority (CFA), work order will be placed to the successful bidders.

(d) The bidder will be required to accept the work order, enter into a contract agreement including comprehensive Maintenance and replacement of malfunctioning items and execution of contract as per terms and conditions mentioned in this Tender Enquiry.

(e) **Acceptance / Rejection of Tenders.** Directorate General Assam Rifles reserves the right to accept or reject any or all tenders without assigning any reason.

53 **Insurance.** The user will not separately pay for any transit insurance.

54. For any change in terms and condition of tender / tender specification, the Tenderers are requested to visit CPP e-Procurement site <http://eprocure.gov.in/eprocure/app> regularly.

55. The user reserves the right to increase or decrease the quantity of the stores required at site at any stage or to cancel or reject any / all of the tendered stores without assigning any reasons.

56. If you are in a position to quote for supply in accordance with requirements stated in the attached schedule to tender, all documents attached herewith should be duly filled in, signed uploaded. **Incomplete tender documents will be summarily rejected and NO requests in this regard will be entertained at later sage.**

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57. **Transfer and Sub-Letting.** The tenderer has no right to give, bargain, sell assign or sublet or otherwise dispose of the resultant contract or any part thereof as well as to give or to let a third party take benefit of advantage of the resultant contract or any part thereof.

58. **Termination of Contract.** Time shall be essence of the contract. The user shall have the right to terminate this contract without any notice in part or in full in any of the following cases:-

(a) The installation of plant is delayed for causes not attributed to Force Majeure after the scheduled date of delivery of the maintenance work requested, i.e. one week.

(b) The Company or Firm is declared bankrupt or becomes insolvent.

(c) The installation of plant is delayed due to causes of Force Majeure by more than 60 days.

59. Any change in Address / Telephone / Fax / e-mail should be immediately informed. The state of non-communication by the company or Firm will make the offer liable for rejection.

60. Any Query/Representation be addressed to **Chief Engineer, Engineers Branch, HQ DGAR, Shillong-10.**

61. **Eligibility Criteria** : As per Para 51 and 52 above.

62. **Location** : **COBs of AR Bn at Jwalamukhi, HQ IGAR (S)**

63. **Site Visit** : All tenders received will be considered as having been done so after visiting the concerned sites and having worked out the site requirements.

64. **Detailed scope of Comprehensive Maintenance:**

(a) The comprehensive maintenance includes servicing & replacement of components such as Solar Photo Voltaic (SPV) module, PCU / Inverter, Junction Box, Inter-Connecting wires / cables, module mounting structure etc. of Solar PV Power Plant for five years from the date of completion of work order / installation of the plant.

(b) The maintenance service provided shall ensure proper functioning of the Solar PV Power Plant as a whole. All preventive / routine maintenance and breakdown / corrective maintenance as required for ensuring maximum uptime has to be provided by contractor. Accordingly, comprehensive maint shall have two distinct components as described below:

(i) **Preventive / Routine Maintenance** : Preventive and Routine Maintenance of all the components of the system will be carried out by Contractor for at least once in three month. This includes maintenance of system checking of all the electrical connections for proper functioning of the system.

(ii) **Breakdown / Corrective Maintenance**: Whenever a complaint is lodged by AR, contractor / rep of contractor will address to the same within **Forty Eight Hours** (48 hours). In case any major component needs to be rectified, it will be corrected within a period of **7 (seven) working days** from the date of complaint.

(iii) The contractor and AR will maintain the below (Para 65 and Para 66) scope of work for ensuring highest level of services for Solar Roof top PV Power Plant.

65. **Scope of Work under the contractor :**

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- (a) Proper maintenance of the plant incl the area will be carried out by the contractor during maintenance period on quarterly basis.
- (b) Provide technical & engineering support for resolving operation and maintenance problems.
- (c) Periodic reports regarding various parameters of the functioning of the plant will be generated after the visit of the engineer on a monthly basis.
- (d) Modules should be cleaned every 30 days to ensure proper power generation.
- (e) With regard to replacement of faulty components of the plant namely SPV Modules, PCU, Junction Boxes, Cables etc, these are supported by manufacturing warranty by OEM suppliers and the provision of warranty shall be invoked for getting the warranty support for these components.
- (f) Provide all maintenance services necessary and advisable to efficiently operate and maintain the plant, including all associated and appurtenant mechanical and electrical equipment keeping in view the objectives set-forth herein above.
- (g) To ensure the services of the individual original equipment manufacturer required to operate and maintain the plant.
- (h) To conduct two weeks training for the staff being provided by the user on maintenance and up keep of the Solar Power Plant every year.

66. **Scope of Work under AR :**

- (a) Authorized and trained personnel only shall operate the PV Plant.
- (b) AR shall maintain the log book with complete details of roof top plant / bldg number / capacity of plant and units.
- (c) Any tampering of Roof top Solar PV System components will affect the power generation from the PV plant.
- (d) Suitable measures to ensure safety and other aspects of the PV Plant during maintenance period.

67. **Contractor will send CPM chart to this HQ.** These reports shall include the following information :

- (a) Stage wise progress of work
- (b) Number of Site Engineer & labour deployed at site.
- (c) Details of stores received & installed at site.
- (d) Major cause of failure, as observed.
- (e) Major service done during the contract period till date.

68. The records maintained during the contract period will be made available from time to time to AR / HQ DGAR. The date of commencement of work should start soon after the date of issue of work order / contract agreement.

69. **Conditions as laid down in GFR-2017, AR 2249, CPWD Works Manual and MNRE guidelines will be strictly adhered to and will deem to be part of the contract.**

Signature of the Tenderer
& Stamp

Sd/- xx xx xx
(Ashish Chauhan)
Lt Col
SO-1 (Wks)
For Chief Engineer

PARTICULAR SPECIFICATIONS: PART-I (SPECIAL CONDITIONS)

1. **General:**

(a) The following special conditions shall be read in conjunction with General Conditions of Contracts (AR-2249) including amendments and errata thereto. If provisions in these special conditions are at variance with the provisions in the aforesaid documents, the provisions in these special conditions shall be deemed to take precedence there-over.

(b) The work under this contract shall be carried out in accordance with Schedule 'A', the particular specifications and other provisions in Schedule.

(c) The term General Specifications referred to herein before as well as referred to in AR-2249 (General Conditions of Contracts) shall mean the specifications contained in the CPWD Schedule.

(d) General rules, specifications, special conditions and all preambles in the CPWD Schedule shall be deemed to apply to the work under this contract. In case of any discrepancy, the provisions in these documents shall take precedence over the aforesaid provisions in the CPWD Schedule.

2. **Inspection of Site:**

(a) For the purpose of inspection of site, the tenderer is advised to contact the AR unit location who will give reasonable facilities thereof.

(b) The tenderer shall also make him-self familiar with the working conditions, accessibility to site of works, availability of labour and materials and such other relevant conditions which affect the execution and the entire completion of the works.

(c) The tenderer shall be deemed to have inspected the site and made himself familiar with various factors which may affect his quotation, whether he actually inspects the site or not.

(d) **Handing over of site:** The site(s) for execution of work will be available as soon as the work is awarded. In case it is not possible to make the entire site available on the award of work, the Contractor will have to re-arrange his working program accordingly. No claim whatsoever, for not giving the entire site on award of work and for giving the site(s) gradually, will be tenable.

3. **Security & Passes:**

(a) Tenderer attention is drawn to the fact that Site of work is located in restricted Area.

(b) Contractor shall **employ only Indian National** after verifying their antecedents and loyalty. The contractor shall, on demand by the SO-I (Wks) / Engineer-in-Charge, submit list of his agents, employees and personnel concerned and shall satisfy the SO-I (Wks) / Engineer-in-Charge about the credentials of such people.

(c) The SO-I (Wks) / Engineer-in-Charge shall at his discretion, has the right to issue passes as per rules and regulations of the installation/area in force to control the admission of the contractor, his agents, and employees and work people to the site of the work or any part thereof. Passes should be returned any time on demand by the SO-I (Wks) / Engineer-in-Charge or the authorities concerned and in any case on completion of work.

(d) The contractor and his agents, employees and work people shall observe all the rules promulgated by the authority controlling the installation/area in which the work is to be carried out e.g. prohibition of smoking and lighting, fire precautions, search of persons on entry and exit, keeping to specific routes. Nothing extra shall be admissible for any man-hours etc. lost on this account.

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For Chief Engineer

4. **Work on holidays:** The contractor shall not carry out any work on Gazetted holidays, weekly holidays and other non-working days except when he is specially authorised in writing to do so by the SO-I (Wks). The SO-I (Wks) may at his sole discretion, declare any day as holiday or non-working day without assigning any reasons for such declaration.

5. **Fire precaution:**

(a) The Contractor, his agents, representatives, workmen etc. shall strictly observe the orders pertaining to fire precautions prevailing within the concerned area.

(b) Motor transport vehicles, if any allowed by authorities to enter the concerned area, must be fitted with serviceable fire extinguishers.

6. **Safety precautions:**

(a) All safety measures including safety equipments to be adopted by the contractor & his labour working at site .

(b) Any damage to the existing roof / building / road etc. shall be made good by the contractor with the same specification as per existing work without any extra cost to the Government.

(c) In the event of contractor not fully complying with the above provisions to the satisfaction of the SO-I (Wks) / Engineer-in-Charge, the dept may provide the same for which the expenses incurred will be recovered from the contractor.

7. **Network Analysis:**

(a) The time and progress chart to be prepared as per the conditions of contracts and shall consist of detailed net work analysis and time schedule. The critical path net work will be drawn jointly by the SO-I (Wks) / Engineer-in-Charge and the contractor soon after acceptance of tender. The time scheduling of the activities will be done by the contractor so as to finish the work within the stipulated time. On completion of the time schedule a firm calendar date schedule will be prepared and submitted by the contractor to the SO-I (Wks) / Engineer-in-Charge who will approve it after due scrutiny. This net work analysis will be submitted in four copies within two weeks from the date of handing over of the site.

(b) The contractor is to adhere to the time schedule and this adherence will be a part of the contractor's performance under the contract. During the execution of Work, the contractor is expected to participate in the reviews & updating of the net work undertaken by the SO-I (Wks) / Engineer-in-Charge. These reviews may be undertaken either as periodical appraisal measure or when the quantum of work ordered on the contractor is substantially changed through deviation orders or amendments. Any revision of the time schedule as a result of the review will be submitted by the contractor to the dept within a week for his approval after due scrutiny.

(c) The contractor shall adhere to the revised time schedule thereafter. In case of contractor disagreeing with the revised schedule, the same will be referred to the Accepting Officer, whose decision shall be final, conclusive and binding. Sector HQs approval to the revised schedule resulting in a completion date beyond the stipulated date of completion shall not automatically amount to grant of extension of time. Extension of time shall be considered and decided by the CEA in this case DGAR.

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Lt Col
SO-1 (Wks)
For Chief Engineer

(d) Contractor shall mobilize and employ sufficient resources to achieve the detailed schedule within the broad frame work of the accepted methods of working and safety. No additional payment will be made to the contractor for any multiple shift work or other incentive methods contemplated by him in his work schedule, even though the time schedule is approved by the department.

8. **Security of classified documents:** Contractor's special attention is drawn to General Conditions of Contracts (AR-2249) and also to the Indian Official Secret Act-1923 (Particularly Section 5). The contractor is bound by the provision of the act. The contractor shall not communicate any classified information regarding works either to subcontractor(s) or others without prior approval of SO-I (Wks) / Engineer-in-Charge. The contractor shall also not make copies of the design/drawings and other documents furnished to him in respect of works and he shall return the entire document on completion of the work or on earlier termination of the contract. The contractor shall along-with final bill attach a receipt from the SO-I (Wks) / Engineer-in-Charge in respect of his having returned the classified documents as per the General Conditions of Contracts.

9. **Contractor's representatives, agents and workmen:** The contractor shall employ only Indian National as his representatives, servants and workmen after verifying their antecedents and loyalty. He shall ensure that no person of doubtful antecedents and Nationality is, in any way, associated with the work. **If for reasons of Technical collaboration or consideration the employment of any foreign national is unavoidable, the contractor shall furnish full particulars to this effect to the Accepting Officer at the time of submission of his tender.** The Sector HQ shall be empowered to order the contractor to cease to employ in connection with this contract any representatives, agents, servants and workmen or employee whose continued employment in his opinion is undesirable. **The contractor shall not be allowed any compensation on this account.**

10. **Minimum Fair Wages:**

(a) The contractor shall not pay wages lower than minimum wages for labour as fixed by the Government of India/ State Government/Union Territory whichever is higher.

(b) The fair wages referred to in condition of AR-2249 shall be deemed to be the same as the minimum wages payable as referred to above.

(c) The contractor shall have no claim whatsoever if on account of local factor and / or regulations or otherwise he is required to pay the wages in excess of minimum wages as described above during the execution of work.

11. **Royalties:** No quarries on AR land are available. The contractor shall make his own arrangements for the procurement of materials such as stones, aggregate, moorum and approved earth from any quarries located outside AR land, required to be incorporated in the work. **All royalties, duties, taxes as applicable shall be borne by the contractor on such account for the material to be incorporated in the work or works ordered in subsequent deviations.**

12. **Land for temporary workshop, stores, etc:** The Contractors shall be allotted free of charge, the area as decided by the SO-I (Wks) / Engineer-in-Charge for the purpose of erection of temporary workshop, stores etc. **Plot of land so allotted shall not be used for accommodation of labour and canteen for which the Contractor shall make his own arrangements, at his own expenses.**

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For Chief Engineer

13. **Site Clearance/ Cleaning Down:**

(a) The contractor shall remove from the site all unused stores and huts and the like belonging to the contractor provided for the execution of work under this contract and the site of works shall be cleared off all rubbish and waste materials by the contractor and the site of work delivered in clean and tidy manner to the satisfaction of the SO-I (Wks) / Engineer-in-Charge on or before the date of completion.

(b) The contractor shall clean all floors, remove wastages, clean the entire area, touch up all painting work and carry out all other necessary items to make good the existing surfaces, walls, floors to the entire satisfaction of the SO-I (Wks) / Engineer-in-Charge before handing over the buildings.

(c) Nothing extra whatsoever shall be paid to the contractor for such clearances of site.

14. **Damage to existing work:** Any damage done to the existing structure during the execution of work shall be made good by the contractor at his own cost and the site of work left clean and tidy on completion. Rectification/reinstatement etc. shall conform to the standard of materials originally used in the work and finished work shall match with existing work in all respects to the entire satisfaction of the SO-I (Wks) / Engineer-in-Charge. In case of any dispute on this account the matter shall be referred to the HQ DGAR, whose decision in writing shall be final and binding.

15. **Official Secret Act:** The contractor shall be **bound by the Indian Official Secret Act (1923)**.

16. **Taxes, Levies and other Duties:** The rates quoted by the Contractor shall include for all taxes, duties and levies including Labour welfare cess for Building construction workers welfare Act required to be paid by him to concerned authorities as per the rules and laws in force. No additional payment on these accounts shall be made under this Contract by the department. Department shall not issue form "D" or its equivalent. Tenderer is advised to check the rules and regulations from concerned authorities before submitting his tender.

17. **Minor and missing details:**

(a) The lump sum amount quoted by the tenderers shall also include any minor details of works and / or construction which are obviously and fairly intended and which may not have been specifically referred to in the tender documents but which are essential for the execution and completion of the work in a workman like manner and sound construction.

(b) If certain details are missing, in that case, the details indicated elsewhere in the Schedule, which are similar or near to the missed out items of work shall be followed. In the absence of any other similar and near details, the minimum essential requirement for the completion of work from the structural and utility point of view shall be deemed to be included in the amount quoted.

(c) In case of difference of opinion between the contractor and department as to whether or not a certain item of work constitutes minor or extra constructional details included in the lump sum amount quoted or not, the decision of the Accepting Officer shall be final, conclusive and binding.

18. **Materials and Samples:** The tenderer is advised to get samples of materials approved before incorporating in the subject work. The materials to be provided by the contractor shall conform to/shall be superior to the standard in the matter of quality unless otherwise specified. The contractor shall produce samples of materials for incorporation to SO-I (Wks) / Engineer-in-Charge get them approved in writing before commencement of work.

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SO-1 (Wks)
For Chief Engineer

PARTICULAR SPECIFICATIONS: PART-II (MATERIAL & WORKMANSHIP)

1. **General:**

(a) The work under this Contract shall be carried out in accordance with Schedule provisions, all as shown on drawings, particular specifications and General Specifications.

(b) The term 'General Specifications' referred to herein before as well as referred to in AR-2249 (General Conditions of Contracts) shall mean the specifications contained in the CPWD Schedule.

(c) General Rules, Specifications, Special Conditions and all preambles in the Schedule shall be deemed to apply to the works under this Contract, unless mentioned otherwise in these documents. In case of varied provision of tender documents, the provision as contained in these documents shall take precedence over the provisions in the Schedule.

(d) Particular specifications given hereinafter are in brief and are meant only to particularizes, amend and emphasis the specifications given in Schedule. In respect of such items of work for which particular specifications are not given, **the specifications as given in Schedule and relevant BIS/ISI codes shall be followed.**

2. **Materials to be supplied by Contractor:**

(a) Materials having ISI certification marks issued by BIS only will be incorporated in the work except where specific Make have been specified, in which case such article/material/equipment of particular make specified shall only be incorporated in the work (If IS marked materials of specified make are available the IS Marked material of the specified make shall only be provided). In exceptional cases where situation so warrants, materials without ISI marking may be incorporated although being manufactured with ISI marking after written approval of the Accepting Officer of the Contract agreement subject to the following:

(b) The materials/ articles must conform to IS/BIS requirement or shall be of superior quality.

(c) The Contractor shall not procure bulk materials unless the sample of each article is got approved in writing from HQ DGAR.

(d) The relevant Indian standards shall be of latest revision including amendments, if any. The contractor shall incorporate in the work materials complying with the requirement of relevant Indian standards of the latest publication (Edition) including amendment/revision thereof, without any price adjustment in the quoted lump sum.

3. **Materials, which loose identity after incorporation:**

(a) The Contractor shall obtain/procure materials from manufacturers" authorised dealers/ stockist where such authorised stockist has been appointed. The Contractor shall produce original receipted voucher of supplier to the SO-I (Wks) / Engineer-in-Charge to ensure that the Contractor has actually brought the all required quantity and the quality of the materials from the authorised dealers/ manufacturers and also to find out the rates thereon. These vouchers shall be endorsed, dated and initialed by the SO-I (Wks) / Engineer-in-Charge and the Contractor and shall be kept on records with the SO-I (Wks) / Engineer-in-Charge who shall forward these to the HQ DGAR soon after completion of the works.

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SO-1 (Wks)
For Chief Engineer

(b) Materials brought at site shall be stored as directed by the SO-I (Wks) / Engineer-in-Charge and those already recorded in Measurement Book shall be suitably marked for identification.

(c) The contractors shall ensure that the materials are brought to the site in original sealed container or packing, bearing manufacturer's markings.

4. **Production of purchase vouchers for materials procured:**

(a) The contractor shall produce **purchase vouchers from the manufacturer and/or their authorised agents for the full quantity following materials as applicable as a prerequisite before submitting claim** in RAR as material lying at site for payment of advances on account materials collected In accordance with General Conditions of contracts AR-2249:

(b) When the cost of each category of materials for entire contract is less than Rs 500/- productions of bills may not be insisted upon, if the SO-I (Wks) / Engineer-in-Charge is otherwise satisfied with the quality and quantity of materials.

5. **Sample workmanship:** A sample Solar Panel mounting including internal services and internal finishes etc. complete in all respects shall be constructed at work site under close supervision of the SO-I (Wks) / Engineer-in-Charge and workmanship shall be approved by them. Approval of the various stages of the work shall be separately entered and approved in the Stage Passing Register giving reference to sample for easy identification even at a later date. The sample panel mounting shall be completed as a guiding sample and further construction shall strictly conform to the sample work.

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SO-1 (Wks)
For Chief Engineer

PARAMETER CHECKLIST FOR SOLAR PLANT

Ser No.	Product Description	Parameter	Check Points
1.	Solar Roof top PV System	Ensuring no shadow on Module Array	Ensuring no Shadow on Module Array
		Ensuring no Wild Grass Growth in Site	Ensuring no Wild Grass Growth in Site
2.	Modules Array	Array Condition	Array Voltage
			Array Current
3.	Module Mounting System	Visual Inspection of Structure	Ensuring that there is no Rust
		RCC foundation support as required	Ensuring No Breakage
		Connecting Parts	No Loose Bolts
		Bolts Condition	Ensuring No Rust
4.	SPV Modules	Physical condition of SPV Modules & SPV Module Junction Box	Any Dust Layer on SPV Modules
5.	Junction Boxes	Wiring	Any Wiring faults
		Bolts	Are there any loose bolts
		Diodes & MOVs Condition	To ensure no breakage
		Bus Bar Condition	No corrosion or breakage
6.	Earthing and LA	Bolts	Are there any Loose Bolts
7.	On-grid Inverter	Automatic switching and maximum load to be kept on Solar generated power.	Suitable adjustment & calibration to be ensured on ON-Grid/ Hybrid type inverter and maximum load to be kept on Solar generated power.
8.	Lightning Arrestor	As suitable w.r.t the capacity of plant and location of installation	As per the site requirement.
9.	Civil Works	As per specified in CA/ PCC @ 1:2:4	As per the site requirement.
10.	Cable & Wires	As per specified in CA/ Indian Standards	As per the site requirement.

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SO-1 (Wks)
For Chief Engineer

CHAPTER-II**SCHEDULE OF REQUIREMENT: SPECIFICATIONS**

Ser No	System Components	Unit/ Nos	Make/ Model
1.	Supply & fixing of Solar Power Plant of 30 (Thirty) KWp capacity for COBs of AR Bn at Jwalamukhi including Solar Photovoltaic (SPV) array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect AC/DC cables, Junction boxes, Distribution boxes, switches/circuit breakers, connectors, earthing, lightning arrester, meters, local connectivity cost, cost of civil work, foundation and making good the existing surfaces / floor / roof with providing appropriate waterproof compound complete including installation, commissioning, transportation, insurance, capital cost of online monitoring, comprehensive maintenance charges for five years all as specified & directed by SO-I (Wks) / Engr-in-Charge.	06 Job	MNRE approved make
Technical Specification as described in Contract Agreement Chapter-III & as per MNRE guidelines.			

- Note :** (a) The quoted amount and no. of items will be deemed as having been done by the tenderer after duly visiting the site / sites.
- (b) The DG Assam Rifles / Competent authority reserves the right to decrease the items / stores upto any extend or increase the items / stores by 10% of the estimated amount during the period of the contract.
- (c) Any major / minor defect within the defect liability period of the plant will be cope up by contractor by maintenance / repair / replacement of the required parts.

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SO-1 (Wks)
For Chief Engineer

CHAPTER-III
TECHNICAL SPECIFICATIONS

Ser No.	System Components	Make and Scope
1.	<p><u>SOLAR PHOTOVOLTAIC MODULES</u> :-</p> <ul style="list-style-type: none"> • The PV modules used should be made in India. • The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS standards Crystalline Silicon Solar Cell Modules IEC 61215/IS14286. Conform to IEC 61730 Part-1 - requirements for construction & Part 2 – requirements for testing, for safety qualification a. PV modules to be used in a highly corrosive atmosphere throughout their lifetime, they must qualify to IEC 61701. b. The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum 335 Wp and above wattage. c. Adequate protective devices against surges at the PV module shall be provided. Low voltage drop bypass diodes shall be provided. d. PV modules must be tested and approved by one of the IEC authorized test centers. e. The module frame shall be made of corrosion resistant materials, preferably having anodized aluminium. f. The rated output power of any supplied module shall have tolerance within +/-3%. • Modules deployed must use a RF identification tag. The following information must be mentioned in the RFID used on each modules. <ul style="list-style-type: none"> a. Name of the manufacture of the PV module b. Name of the manufacture of Solar Cells. c. Month & year of the manufacture d. Country of origin e. I-V curve for the module Wattage, Im, Vm and FF for the module f. Date and year of obtaining IEC PV module qualification certificate. g. Name of the test lab issuing IEC certificate. h. Traceability of solar cells and module as per ISO 9001 and ISO 14001. <p><u>ARRAY STRUCTURE</u> :-</p> <ul style="list-style-type: none"> • MS mounting structures may be used for mounting the modules / panels / arrays. Minimum thickness of galvanization should be at least 120 microns. • Each structure should have angle of inclination as per the site conditions to take maximum insolation. • The Mounting structure shall be so designed to withstand the speed for the wind zone of the location (wind speed of 150 km/ hour). Suitable fastening arrangement such as grouting and calming should be provided to secure the installation against the specific wind speed. • The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759. • Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. • Aluminium structures also can be used which can withstand the wind speed of respective wind zone. Necessary protection towards rusting need to be provided either by coating or anodization. • The fasteners used should be made up of stainless steel. The structures shall be designed to allow easy replacement of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels. • Bidders need to take care of the load bearing capacity of the roof and need arrange suitable structures based on the quality of roof. • The total load of the structure (when installed with PV modules) on the terrace should be less than 60 kg/m² • The minimum clearance of the structure from the roof level should be 300 mm. 	<p>Make : As per MNRE approved make list.</p> <p>Scope : Complete installation of Grid Tied Roof Top solar power plant on existing roof/surface/ floor/wall all as directed including make good to match existing surface and prevent water leakage from roof by providing water proofing material/PCC/ Dr fix-it/M-seal during defect liable period.</p>

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Lt Col
SO-1 (Wks)
For Chief Engineer

Ser No.	System Components	Make and Scope
	<p><u>JUNCTION BOXES (JBs) :-</u></p> <ul style="list-style-type: none"> • The junction boxes are to be provided in the PV array for termination of connecting cables. The J. Boxes (JBs) shall be made of GRP / FRP / Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement. All wires / cables must be terminated through cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands. • Copper bus bars / terminal blocks housed in the junction box with suitable termination conforming to IP-65 standard and IEC 62208 Hinged door with EPDM rubber gasket. • Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. • Suitable markings shall be provided on the bus bar for easy identification and the cable ferrules must be fitted at the cable termination points for identification. • All fuses shall have DIN rail mountable fuse holders and shall be housed in thermoplastic IP-65 enclosures with transparent covers. <p><u>DC DISTRIBUTION BOARD :-</u></p> <ul style="list-style-type: none"> • DC Distribution panel to receive the DC output from the array field. DC DPBs shall have sheet from enclosure of dust & vermin proof conform to IP 65 protection. The bus bars are made of copper of desired size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the PCU along with necessary surge arrestors. <p><u>AC DISTRIBUTION PANEL BOARD :-</u></p> <ul style="list-style-type: none"> • AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode. • All switches & connectors should conform to IEC 60947. • The changeover switches, cabling work should be undertaken by the bidder as part of the project. • All the Panel's shall be metal clad, totally enclosed, rigid, floor/roof mounted, air - insulated, cubical type suitable for operation on three phase / single phase, 415 or 230 volts, 50 Hz • The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80 percent humidity and dusty weather. • All the 415 AC or 230 volts devices / equipment like bus support insulators, circuit breakers, SPDs, VTs etc., mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions Variation in supply voltage +/- 10 % Variation in supply frequency +/- 3 Hz. <p><u>PCU / INVERTER :-</u></p> <ul style="list-style-type: none"> • As SPV array produce direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage. Conversion shall be achieved using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the "Power Conditioning Unit (PCU)". In addition, the PCU shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the Inverter, to the power conditioning unit/inverter should also be DG set interactive. If necessary. • Inverter output should be compatible with the grid frequency. • Typical technical features of the inverter shall be as follows: Switching devices: IGBT/MOSFET Control : Microprocessor /DSP Nominal AC output voltage and frequency : 415V, 3 Phase, 50 Hz/ 240V, 1 phase, 50 hz Output frequency : 50 Hz Grid Frequency Synchronization range: + 3 Hz or more Ambient temperature : -20° C to 50° C Humidity : 95 % Non-condensing Protection of Enclosure : IP-20(Minimum) for indoor. IP-65(Minimum) for outdoor. 	

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For Chief Engineer

Ser No.	System Components	Make and Scope
	<p>Grid Frequency Tolerance range : + 3 or more Grid Voltage tolerance : -0.20.15 No-load losses Less than 1% of rated power Inverter efficiency(minimum) : >93% (In case of 10 kW or above with inbuilt galvanic isolation) >97% (In case of 10 KW or above without in-built galvanic isolation) Inverter efficiency (minimum) : > 90% (In case of less than 10 kW) THD : < 3% PF : > 0.9</p> <p>a. Three phase PCU/ inverter shall be used with each power plant system (10kW and/or above) but in case of less than 10kW single phase inverter can be used. b. PCU / inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown. c. The output of power factor of PCU inverter is suitable for all voltage ranges or sink of reactive power, inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder. d. Built-in meter and data logger to monitor plant performance through external computer shall be provided.</p> <p><u>INTEGRATION OF PV POWER WITH GRID :-</u></p> <ul style="list-style-type: none"> The output power from SPV would be fed to the inverters which converts DC produced by SPV array to AC and feeds it into the main electricity grid after synchronization. In case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid. Once the DG set comes into service, PV system shall again be synchronized with DG supply and load requirement would be met to the extent of availability of power. 4 pole isolation of inverter output with respect to the grid/ DG power connection need to be provided. <p><u>POWER CONSUMPTION:</u></p> <ul style="list-style-type: none"> Regarding the generated power consumption, priority need to give for internal consumption first and thereafter any excess power can be exported to grid. Finalization of tariff is not under the purview of MEDA or MNRE. Decisions of appropriate authority like DISCOM, state regulator may be followed. <p><u>PROTECTIONS :-</u></p> <ul style="list-style-type: none"> The system should be provided with all necessary protections like earthing, Lightning, and grid islanding as follows: The SPV power plants shall be provided with lightning & overvoltage protection. The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors. Lightning protection should be provided as per IEC 62305 standard. The protection against induced high-voltages shall be provided by the use of metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth. <p><u>SURGE PROTECTION :-</u></p> <ul style="list-style-type: none"> Internal surge protection shall consist of three MOV type surge-arrestors connected from +ve and -ve terminals to earth (via Y arrangement). <p><u>EARTHING PROTECTION :-</u></p> <ul style="list-style-type: none"> Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043-1987. In addition the lightning arrester should also be earthed inside the array field. Earth Resistance shall be tested in presence of the representative of Department/MEDA as and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be earthed properly. Earth resistance shall not be more than 5 ohms. <p><u>CONNECTIVITY :-</u></p> <p>(a) Up to 5 KW : 240 V / 415 V (1 Phase / 3 Phase), 50 Hz (b) Above 10 KW & up to 30 KW : 415 V (3 phase)</p>	

Signature of the Tenderer
& Stamp

Sd/- xx xx xx
(Ashish Chauhan)
Lt Col
SO-1 (Wks)
For Chief Engineer

CHAPTER- IV**PERFORMA FOR COMPLIANCE TO SPECIFICATIONS**

Ser No	Description of stores required	Reqd Specifications	Compliance to Reqd Specifications(Yes/No)
1.	Solar Roof top PV System	Of make approved by MNRE or as specified	
2.	Modules Array		
3.	Module Mounting System		
4.	SPV Modules		
5.	Junction Boxes		
6.	Earthing		
7.	On-grid Inverter		
8.	Lightning Arrestor		
9.	Civil work		
10.	Connecting cables & wire		

Note: In case of non availability of make as specified, prior technical sanction will be obtained for installing alternative make from Chief Engineer, HQ DGAR.

Signature of the Tenderer
& Stamp

Sd/- xx xx xx
(Ashish Chauhan)
Lt Col
SO-1 (Wks)
For Chief Engineer

PERFORMANCE STATEMENT (SOLAR WORKS)

Name of Firm _____

Sr No.	Order Placed by work / service with Ref No. and date	Qty	Value	Original Delivery Period	Extended Delivery Period	Quantity supplied		Remarks (To include Reasons for Delay / Cancellation / Complaints etc.
						In original D/P	In extended D/P	

Signature of the Tenderer
& Stamp

Sd/- xx xx xx
(Ashish Chauhan)
Lt Col
SO-1 (Wks)
For Chief Engineer

CERTIFICATE OF ACCEPTANCE OF TERMS AND CONDITIONS
(TO BE FILLED BY THE BIDDER)

1. It is certified that I have read and understood and will comply with all instructions contained in tender enquiry and its schedule. All pages of schedule to the tender from page 01 to 22 have been filled properly and signed.
2. No changes to the specified format to the bid has been made any modification to the laid down format of the bid documents will make the bid invalid and liable for rejection.
3. The equipment once delivered will be subjected to an inspection by the acceptance board at the given consignee location. The specifications of the items will be in conformity with the details provided by the user and as per given specifications. The date of completion of acceptance board would be deemed to be date on which the warranty will commence.
4. We shall provide onsite comprehensive warranty of one year for the items being supplied.
5. We guarantee to provide 100% replacement for the defective item during guarantee / warranty.
6. We confirm that we abide by the delivery schedule as given in tender and elsewhere in the tender enquiry.
7. We agree to deposit a Security Deposit equal to five percent (5%) of the total cost of items within specified time on receipt of offer letter / supply order. The Security Deposit will be valid for six months beyond the date of expiry of warranty period.
8. We certify that any cost incurred on additional items/systems/components /accessories required would be borne by us.

Signature of tenderer

Name in block letters : _____

Name of firm : _____

Full address : _____

(i) Telephone No _____

(ii) Mobile No _____

(iii) Fax No _____

(iv) Email id _____

(v) Website _____

Company Seal

(Authorised Signatory of Company)

Place : _____

Date : _____

Signature of the Tenderer
& StampSd/- xx xx xx
(Ashish Chauhan)
Lt Col
SO-1 (Wks)
For Chief Engineer

ELECTRONIC CLEARING SERVICE
CREDIT CLEARING/REAL TIME GROSS SETTLEMENT (RTGS) FACILITY FOR RECEIVING PAYMENTSA. DETAILS FOR ACCOUNT HOLDER :-

NAME OF ACCOUNT HOLDER	
COMPLETE CONTACT ADDRESS	
TELEPHONE NUMBER/FAX/EMAIL	

B. BANK ACCOUNT DETAILS :-

BANK NAME	
BRANCH NAME WITH COMPLETE ADDRESS, TELEPHONE NUMBER AND EMAIL	
WHETHER THE BRANCH IS COMPUTERISED	
WHETHER THE BRANCH IS RTGS ENABLED? IF YES, THEN WHAT IS THE BRANCH'S IFSC CODE	
IS THE BRANCH ALSO NEFT ENABLED	
TYPE OF BANK ACCOUNT (SB/CURRENT/CASH CREDIT WITH 10/11/13)	
COMPLETE BANK ACCOUNT NUMBER	
MICR CODE OF BANK	
NAME AND ADDRESS OF THE BENEFICIARY/PAYEE	
IFSC (INDIAN FINANCIAL SYSTEM) CODE	

C. DATE OF EFFECT :-

I hereby declare that the particulars given are correct and complete. If the transaction is delayed or not effected at all for reasons of incomplete or Incorrect Information, I would not hold the user Institution responsible. I have read the option Invitation letter and agree to discharge responsibility expected of me as a participant under the Scheme.

Date:

(.....)

Signature of Customer

Certified that the particulars furnished above are correct as per our records.

(Bank 's stamp)

Date :

(.....)

Signature of the Authorized Official from the Bank

Note:

1. **Please attach a photocopy of cancelled cheque along with the verification obtained from the Bank.**
2. Verification in case of firms not registered with Assam Rifles is Mandatory.
3. In case your Bank Branch is presently not "RTGS enabled" then open account in its "RTGS Enabled" branch.
4. **Incomplete tenders will become invalid and liable for rejection**

Signature of the Tenderer
& Stamp

Sd/- xx xx xx
(Ashish Chauhan)
Lt Col
SO-1 (Wks)
For Chief Engineer

NON BLACK LISTING CERTIFICATE

1. I _____ Son of Shri _____ age about _____
by profession proprietor/ partner of M/s _____ having registered office at
_____ do hereby
solemnly affirms and declare as under :-

- (a) Undertakes to the effort that our firm is not blacklisted by any Government Organisation.
- (b) I am not Proprietor / Partners / Director of any other firm or business with whom Government has banned / suspended business dealing.
- (c) I do not have any concern / subsidiaries, blacklisted by Government Organisation.

Company Seal

(Authorised Signatory of Company)

Place : _____

Date : _____

Signature of the Tenderer
& StampSd/- xx xx xx
(Ashish Chauhan)
Lt Col
SO-1 (Wks)
For Chief Engineer

GUARANTEE / WARRANTY

Except otherwise provided in the invitation to tender, the contractor hereby declares that the goods / stores / articles / equipment sold / supplied to the purchaser / consignee under this contract shall be of best quality and workmanship and new in all respects and shall be strictly in accordance with the specification and particulars mentioned / contained in the contract. The PSU hereby guarantees that the said goods / stores / articles would continue to confirm to the description and quality aforesaid for a period of twelve months from the date of receipt of goods / stores / articles / equipment in good condition at site by the consignee in case of supply contracts and twelve months from the date of installation and satisfactory taking over of the goods / stores / articles / equipment at site by consignee where installation and commissioning is involved and notwithstanding the fact that the purchase / inspection authority has inspected and / or approved the said goods / stores / articles / equipment or such if during the 12 months the said goods / stores / articles / equipment be discovered not to confirm to the description and quality aforesaid or not giving satisfactory performance or have deteriorated and the decision of the purchase / consignee in that behalf shall be final and binding on the contractor / seller and the purchaser shall be entitled to call upon the contractor / seller to rectify the goods / stores / articles / equipment or such portion thereof as is found to be defective by the purchaser within the reasonable period or such specified period as may be allowed by the purchaser in his discretion on application made thereof by the contractor / seller, and in such an event , the above period shall apply to the goods / stores / articles / equipment rectified from the date of rectification mentioned in the warranty thereof, otherwise the contractor / seller shall pay the purchaser such compensation as may arise by reason of the breach of warranty therein contained.

Authorized Signatory

Signature of the Tenderer
& Stamp

Sd/- xx xx xx
(Ashish Chauhan)
Lt Col
SO-1 (Wks)
For Chief Engineer

UNDERTAKING FOR NO USE OF UNDUE INFLUENCE

The seller should undertake that he has not given, offered or promised to give directly or indirectly any gift, consideration, reward, commission, fees brokerage of inducement to any person in service of the Purchaser or otherwise in procuring, the Contract or Forbearing top do or for having done or forborne to do any act in relation or execution of the Contract or any other Contract with the Government for showing or forbearing to show favor or disfavor to any person in relation to the Contract or any other Contract with the Government. Any breach of the aforesaid undertaking by the seller or any one employed by him or acting on is behalf (whether with or without the knowledge of the seller) or the commission of any offers by the seller or any one employed or acting on his behalf, as defined in Chapter IX of the Indian Penal Code, 1860 or the Prevention of Corruption Act, 1947 or any other Act enacted for the prevention of corruption shall entitle the Purchase to cancel the contact and all or any other Contact with the seller and recover from the Seller the amount of any loss arising from such cancellation. A decision of the Purchaser or his nominee to the effect that a breach of the undertaking had been committed shall be final and binding on the seller.

Giving or offering of any gift, bribe or inducement or any attempt at any such act on behalf of the seller towards any officer / employee of the Purchaser or to any other person in a position to any other person in a position to influence any officer / employee of the Purchaser for showing any favor in relation to this or any other contact, shall render the tender invalid and liable for rejection.

Authorised Signatory

Signature of the Tenderer
& Stamp

Sd/- xx xx xx
(Ashish Chauhan)
Lt Col
SO-1 (Wks)
For Chief Engineer

BID SECURITY DECLARATION

To

Directorate General Assam Rifles
Shillong

Dear Sir,

1. If I/we withdraw or modify the Bid during the period of validity or,
2. If I / we fail to sign the contract or to submit the performance security before the deadline defined in the request for bids document,
3. If I/we will be debarred from participating in future contracts of Assam Rifles.

Company Seal

(Authorised Signatory of Company)

Place : _____

Date : _____

Signature of the Tenderer
& StampSd/- xx xx xx
(Ashish Chauhan)
Lt Col
SO-1 (Wks)
For Chief Engineer

FINANCIAL STABILITY CERTIFICATE**CERTIFICATE TO BE ISSUED BY SCHEDULED BANK OF THE FIRM**

This is to certify that M/s_____ is maintaining current Account No_____ with us. Proprietor of M/s_____ is a respectable customer of this branch. To our information, M/s_____ is considered financially sound for any procurement up to Rs_____ (Rupees_____ only).

IFSC Code :

MICR Code :

Bank Seal

(Authorised Signatory of Bank)

Place : _____

Name : _____

Contact No. of bank : _____

Designation : _____

Date : _____

Employee No : _____

Contact No : _____

Signature of the Tenderer
& Stamp

Sd/- xx xx xx
(Ashish Chauhan)
Lt Col
SO-1 (Wks)
For Chief Engineer

CERTIFICATE OF SITE VISIT

1. This is to certify that M/s _____ visited the site on _____ for preparation of site visit report of the solar power plant in this Sector/Unit.

2. The report is initialed as to confirm the bidder has visited the site to authenticate the layout / items required to be repaired or replaced / Technical data.

(Signature of the User unit)

SO-1 (Works), HQ IGAR (S)

Date :

Stamp

Signature of the Tenderer
& StampSd/- xx xx xx
(Ashish Chauhan)
Lt Col
SO-1 (Wks)
For Chief Engineer

MODEL CERTIFICATE FOR TENDERS FOR WORKS
INVOLVING POSSIBILITY OF SUB-CONTRACTING

I have read the clause regarding restrictions on procurement from a **supplier of a country which shares a land border with India and on sub-contracting to contractors from such countries**; I certify that this supplier is not from such a country or; if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this supplier fulfills all requirements in this regard and is eligible to be considered.

[Evidence of valid registration by the Competent Authority shall be attached].

Signature of the Tenderer
& Stamp

Sd/- xx xx xx
(Ashish Chauhan)
Lt Col
SO-1 (Wks)
For Chief Engineer

Signature of the Tenderer
& Stamp

Sd/- xx xx xx
(Ashish Chauhan)
Lt Col
SO-1 (Wks)
For Chief Engineer

Validate

Print

Help

Tender Inviting Authority: Directorate General Assam Rifles

Description : "Provn of Solar Power Plants of capacity 06 x 30 KWp for COBs of AR Bn at Jwalamukhi, HQ IGAR (S)"

Contract No : VIII.11014/7157/COB/Solar/Engr-20/IGAR(S)

Dated : 25 Jun 2021

Bidder Name :						
PRICE SCHEDULE						
(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)						
Sl. No.	Item Description	Quantity	Units	BASIC RATE In Figures To be entered by the Bidder Rs. P	TOTAL AMOUNT Incl Taxes	TOTAL AMOUNT In Words
1	2	3	4	5	6	7
1.	Supply & fixing of Solar Power Plant of 30 (Thirty) KWp capacity for COBs of AR Bn Jwalamukhi, HQ IGAR (S) including Solar Photovoltaic (SPV) array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect AC/DC cables, Junction boxes, Distribution boxes, switches/circuit breakers, connectors, earthing, lightning arrester, meters, local connectivity cost, cost of civil work, foundation and making good the existing surfaces / floor / roof with providing appropriate waterproof compound complete including installation, commissioning, transportation, insurance, capital cost of online monitoring, comprehensive maintenance charges for five years all as specified & directed by SO-I (Wks) / Engr-in-Charge.	06	Job			
NOTE: Technical Specification as described in Contract Agreement Chapter-III & as per MNRE guidelines.						

- Note :-
1. Tenderers should submit price bid in above format in Excel Sheet (.XLS) in Bills of Quantity (BOQ) and upload the same in CPP portal <http://eprocure.gov.in/cppp> **(Note to be uploaded with Technical bid documents).**
 2. The rate quote by contractor should be inclusive of GST.

Signature of the Tenderer
& Stamp

Sd/- xx xx xx
(Ashish Chauhan)
Lt Col
SO-1 (Wks)
For Chief Engineer