

Online tenders are invited in two stage bid system i.e. Technical bid and Financial Bid as per the details given below in Schedule-A

SCHEDULE-A

Sr. No.	PARTICULARS	REMARKS
1	Tender Notice No.	53/2022-23
2	Sr. No. of Tender.	(v) (Group-II)
3	Superscribed No. of Tender.	43/HR/RC/E-5/2022-23
4	Online submission of EMD, Tender fee & e-Service Fee Option-1: Through Net Banking and Debit card	On or before last date of submission of Technical Bids upto 12:00 Noon
5	Online submission of EMD Option-2: Through RTGS/ NEFT- <i>(In case of above, the bidder has to pay Tender Fee & e-Service Fee Through Net Banking and Debit card as per the given date & time schedule)</i>	On or before 17.02.2023 Upto 02:00 P.M.
6	Online Bid Preparation & submission.	Upto 20.02.2023 at 02:00 P.M.
7	Date & time of opening of Technical Bids/s.	On or after 20.02.2023 at 02:30 P.M.
8	Date & time of opening of Financial Bids/s	To be decided later on
9	Tender Fee:	
	(I) For Haryana based manufacturing Micro and Small Enterprises (MSEs) & Khadi Village Industries Unit eligible as per the "Haryana State Public Procurement Policy for MSME - 2016" notified vide G.O. No. 2/2/2016-4I BII(1) dated 20-10-2016 and for Startups/first generation Entrepreneurs as notified vide G.O. No.2/2/2016-4IB-II dated 03.01.2019	NIL
	(II) For remaining bidders both from the Haryana and Non Haryana	Rs. 5000/-
	Earnest Money Deposit (EMD) required:	
10	(I) For Haryana based manufacturing Micro and Small Enterprises (MSEs) & Khadi Village Industries Unit eligible as per the "Haryana State Public Procurement Policy for MSME -2016" notified vide G.O.No.2/2/2016-4IBII(1) dated 20-10-2016 and for Startups/first generation Entrepreneurs as notified vide G.O. No.2/2/2016-4IB-II dated 03.01.2019	NIL
	(II) Central or Haryana Public Sector Enterprises and "approved sources" as declared by the industries Department, Haryana	NIL
	(III) For remaining bidders both from the Haryana and Non Haryana	2,00,000/-
11	E-Service Fee	Rs. 1000/-
12	Rates to be kept valid for acceptance upto:	30.06.2023

A. Information to Bidders:

i. The Bidders can download the tender documents from the Portal:

1. Date and Time of making payment of tender fee, earnest money deposit (EMD) and e- service fee is asunder:

A	Online submission of EMD, Tender fee & e-Service Fee Option-1: Through Net Banking and Debit card	On or before last date of submission of Technical Bids upto 12:00Noon
B	Online submission of EMD Option-2: Through RTGS/ NEFT- <i>(In case of above, the bidder has to pay Tender fee & e-Service fee Through Net Banking and Debitcard as per the given date & time schedule)</i>	On or before 17.02.2023 Upto 02:00 P.M.

2. As the Bids are to be submitted online and are required to be encrypted and digitally signed, the Bidders are advised to obtain Digital Signature Certificate (DSC) at the earliest. For obtaining Digital Certificate, the Bidders should follow Point No.- 2 under “Instructions to bidder on Electronic Tendering System” and available in folder of “Tender Forms” available on following link <https://dsndharyana.gov.in/downloads/> and for information about DSC at NIC Portal visit <https://etenders.hry.nic.in/nicgep/app?page=DSCInfo&service=page>
3. The Bidders shall have to pay for the Tender Documents Fee, EMD Fees & e-Service Fee online by using the service of secure electronic payment gateway. The secure electronic payments gateway is an online interface between bidders and online payment authorization networks.
4. The bidders must have Net Banking account in order to pay Tender Document Fee and e- Service Fee.
5. **Payment of Tender Fee:-**The payment for the Tender Document Fee shall be made by the interested bidder online directly through Net Banking with the available Banks at e- GRAS e-Payment Gateway.
6. **Payment of e-Service Fee:-**E-Service Fee payment shall be made separately by the interested bidders/ contractors online directly through Net Banking Account.
7. **Payment of EMD:-**The payment of EMD can be made through Net Banking or RTGS/ NEFT as per details at Para-2 above. In this regard please refer to “Instructions to bidder on Electronic Tendering System” available at the available in folder of “Tender Forms” on website [:https://dsndharyana.gov.in/downloads/](https://dsndharyana.gov.in/downloads/)
8. Intending bidders will be mandatorily required to sign-up online (create user account) on the website <https://etenders.hry.nic.in> to be eligible to participate in the e-Tender. In case the intended bidder fails to pay EMD fee under the stipulated time frame, he/she shall not be allowed to submit his/ her bids for the respective event/Tenders.
9. In case of payment of EMD through RTGS/ NEFT, the interested bidders must remit the funds at least T+1 working day (Transaction+One Day) in advance i.e. on or before 17.02.2023 upto 2.00 P.M; and make payment via RTGS/NEFT to the beneficiary account number specified under the online generated challan. The intended bidder/ Agency thereafter will be able to successfully verify their payment online, and submit their bids on or before the expiry date & time of the respective events/ Tenders at <https://etenders.hry.nic.in>

10. However, the details of the EMD, Tender document Fee & E - Service Fee are required to be filled/ provided at the time of online BidPreparation.
11. Online Technical Envelope—Reference details of the Earnest Money Deposit, Tender Document Fee & e - Service Fee instrument and scanned copies of supporting documents and QR/technical criteria with proper index and page numbering on all the documents have to be provided as per **Annexure-IA** of thisdocument.
12. If the tenders are cancelled or recalled on any grounds, the Tender Document Fee and e-Service Fee will not be refunded to thebidder.

B. Brief Description of Procuring/ Rate Contract item:

Sr. No.	Description of Stores	Quantity	Place of Delivery
1	Supplying of Solar Power by Commissioning of Grid Connected Roof Top Solar Photovoltaic (PV) Power Plants on the Roofs of Govt. Buildings in State of Haryana for 25 years.	30/ MW Annual Rate Contract basis	Various Government buildings of Haryana State

The detailed technical specifications/description of the above stores are available at **Annexure-I** of this document.

C. Eligibility Criteria/Terms & Conditions of the above store :-

1. The Bidder should be either a body incorporated in India under the Companies Act, 1956 or 2013 including any amendment thereto or proprietary/partnership firm/LLP. A copy of certificate of incorporation shall be furnished along with the bid in support of above.
2. Bidder should be registered manufacturer or System Integrator. Manufacturer means manufacturer of solar module to be used in the quoted item and having test report of Solar Module in his name issued by any of the BIS /IEC accredited laboratory. Solar module manufacturer must be registered under ALLM.
3. Test Certificates for components (Inverter & Wire for manufacturer and Solar Module, Inverter & Wire for System Integrator) is to be provided at the time of installation of the project.
4. The bidder should have a valid ISO 9001:2015 Certificate in the field of quoted item and copy of valid ISO 9001:2015 Certificate must be attached with offer.
5. Bidder should have not been debarred/blacklisted by any Govt. Deptt's / organization/ PSU's / institutions/ agencies/ autonomous Organizations.
6. The Bidder should have valid GST registration certificate and of the billing state and PAN number. A copy of which should be enclosed.
7. Past performance of the firms shall be considered while evaluating the technical bids. If the bidder has poor record for providing after sales services to the Haryana during last five years than their bid may be rejected out rightly.

SUPPLIES & DISPOSALS DEPARTMENT, HARYANA
S.C.O. No. 09, Ist&IInd Floor, Sector-16, Panchkula-134109(Haryana)
Ph.:- 0172-2570121, 123, 124. Fax No.:-0172-2570122.
e-mail:- supplies@hry.nic.in , website:- dsndharyana.gov.in

8. Bidder shall submit bids for minimum capacity of 3 MWp (aggregated). Bid with capacity less than 3 MW shall be rejected.
9. The bidder should have minimum average annual turnover Rs. 2.0 Crore/MW in the last three years, ending 31st March of the previous Financial Year duly certified by Chartered Accountant.
10. Bidder should have successfully completed Supply, Installation & Commissioning of Grid Connected Rooftop Solar Power Plants of minimum 40 % (cumulative capacity) of quoted capacity during last three years up to the last date of bid submission from any State / Centre Govt. Agency / Department/ Organization/ autonomous body/ private sector verified by SNA. The list of project commissioned along with the JCRs issued or verified by State Nodal Agencies/ any Govt. Deptt./agency shall be uploaded along with the bid.
11. The bidder should have positive net worth in the last three years, ending 31st March of the previous Financial Year.
12. The tariff discovered will remain valid for one year from the date of issue of rate contract.
13. The rates quoted should be inclusive of GST and all other charges etc. (whichever applicable).
14. **Delivery period (includes supply, installation & commissioning):-** Three months from the date of signing of PPA with the user department. On successful commissioning (including net-metering) of the system, the bidder has to submit the Joint Commissioning Report (JCR) of the system duly signed by the PO/APO, DNRE, bidder and user department/Institute.
15. The successful bidder shall have to survey the site to access the capacity of solar power plant to be installed prior to signing the PPA.
16. Successful bidder shall entered into a Power Purchase Agreement(PPA) with the Government building owner being consumer (s) for supply of solar power for at least 25 years from the date of Commissioning of project. The draft PPA is at **Annexure-II**.

17. LEVELLIZED TARIFF

- i. The Levellized Tariff of 25 years shall include all the costs related to above Scope of Work. Bidder shall quote for the entire facilities on a “single responsibility” basis such that the total Bid Price covers all the obligations mentioned in the Bidding Documents in respect of Design, Supply, Erection, Testing and Commissioning including Warranty, Operation & Maintenance for a period of 25 years, goods and services including spares required if any during O&M period. The Bidder has to take all permits, approvals and licenses, Insurance etc. at their own cost.
- ii. The Levellized tariff for 25 years shall remain firm and fixed and shall be binding on the Successful Bidder till completion of work. No escalation will be granted for any reason whatsoever. The bidder shall not be entitled to claim any additional charges, even though it may be necessary to extend the completion period for any reasons whatsoever.
- iii. The Levellized tariff for 25 years shall be inclusive of all duties and taxes, insurance etc. The prices quoted by the firm shall be complete in all respect and no price variation /adjustment shall be payable.
- iv. The operation & maintenance of Solar Photovoltaic Power Plant would include wear, tear, overhauling, machine breakdown, insurance, and replacement of

defective modules, invertors, spares, consumables & other parts for a period of 25 years.

- v. The Levellized tariff for 25 years shall be specified in sanction letter based on Successful Bidder's quote @Rs/kWh for each project.
- vi. The Bidder shall complete the Price Bid for different categories of projects as under:

Category	Capacity Range	Estimated Quantity
1 st	50 kWp -100 kWp	05 MW
2 nd	101kWp to 500 kWp	25 MW

After completion of 25 years, the plant shall be handed over to the user department in operational condition with the power output as per MNRE specifications (i.e. minimum 80% power output of the modules at the end of 25th year) without any charges. The bidder shall ensure to annual power generation guarantee of minimum 1300 kWh per kWp capacity in the first year with the permission of permissible degradation as per MNRE specifications/guidelines in subsequent years.

18. PERFORMANCE SECURITY DEPOSIT

- i. Within 30 days from the date of allotment of the respective project, Successful Bidder shall furnish the Performance Security @ Rs 1,00,000/- per MWp of plant capacity. The Performance Security shall be denominated in Indian Rupees and shall be in the form of a demand draft or a bank guarantee from the nationalized bank.
- ii. The PBG of the successful bidder shall be forfeited, as per the following:
 - a. On pro-rata basis (@ **Rs. 10,000/- per 100 kW per week**) for unperformed service/incomplete work within the specified (or extended) time period to the satisfaction of DNRE.
 - b. Hundred percent (100%) PBG amount, if the Bidder fails to supply, install and commission the Project(s)/refuse to install the projects(s) partially or all, for which allocation letter/sanction letter has been issued by the DNRE or any other Department and accepted by the bidder within given time frame of 15 days. If acceptance against any allocation/sanction is not given by the bidder within 15 days, it will be deemed accepted
 - c. In all the above cases corresponding unidentified/non-commissioned capacity shall stand cancelled.
- iii. The Performance Security shall be valid for a minimum period of 05 years from the date of its issue and shall be released after 05 year from the date of commissioning of the project.
- iv. The successful bidder shall be required to meet minimum guaranteed generation with Performance Ratio (PR) at the time of commissioning and related Capacity Utilization Factor (CUF) as per the GHI levels of the location during the O&M period. PR should be shown minimum of 75% at the time of inspection for initial commissioning acceptance. Minimum CUF of 15% should be maintained for a period of 05 years for fulfilling one of the conditions for release of PBG. The bidder should send the periodic plant output details to DNRE for ensuring the CUF. The PR will be measured at inverter output level during peak radiation conditions.

NOTE: The Department of New & Renewable Energy, Haryana may ask the user Departments/Institutes, to deduct a penalty of Rs. 10,000/- per 100 kW per week (out of the due payment to the firm for supply of power from the installed solar plant) for delay in supply, installation and commissioning of the project within the specified or extended time period.

19. Material shall be strictly as per DNIT specifications/requirement. The solar module must be BIS/IEC certified as per MNRE notification called the Solar Photovoltaics, Systems, Devices and Components Goods (Requirements for Compulsory Registration) Order, 2017 dated 05.09.2017 and its subsequent amendments. The Solar Module must be comply with MNRE OM of even No. dated 02.01.2019 for enlistment under "Approved Models and Manufacturers of Solar Photovoltaic Modules (Requirement of Compulsory Registration) order, 2019 and its subsequent amendments. The Solar Module manufacture must give undertaking with bid that they must comply the said order while supplying solar module in said item. If there is any left out specification, the same shall be considered as per the latest MNRE specification/requirements applicable as per BIS/International Standards. The bidders are advised to be well conversant with these specifications/requirements for their compliance.
20. In case of any complaint in the working of the items during the warranty period, the firm shall attend the same within 24 hours from the time of logging of first complaint / call by the consignee and the items must be repaired within three days thereafter. The complaints would be logged by the Department officers by e-mail/ fax in order to keep the proper delivery records. Further in case of failure to do so, penalty @ 0.1 % of the system cost per day (subject to max. 10% of the cost) after expiry of 72 hours shall be imposed. If the firm does not attend the complaint within the max penalty period then the system may be got repaired/ replaced from the performance security amount/payable monthly payment. In case whole performance security amount/ payable monthly payment is utilized and complaint/s are still pending then an online / registered notice will be sent to the firm to attend the complaint and if failed to attend the complaint within 7 days then firm may be blacklisted and a legal proceedings may be initiated against the firm for breach the agreement.

Note: The format of the Technical Bid/ Index for the Technical Bid Documents will be as per **Annexure-IA** of this document and the bidders are requested to upload their Technical Bids on the Portal with index as provided in **Annexure-IA**.

In case of non submission of required Eligibility Documents as at Annexure-IA, the bid of the firm will not be considered and no further chance will be given for the submission of these documents. However, clarification, if any, of already submitted documents maybe obtained in case required as per the rules.

D. Standard Terms and Conditions (wherever applicable these terms & conditions will overrule the specific terms and conditions as at Para 'C' above):-

1. All the annexure from 'Annexure-1 to 12' including 'Schedule-B of Supply' as part of this present DNIT are available as 'Tender Forms' at Link <https://dsndharyana.gov.in/downloads/> under 'Downloads' > 'TenderForm'.

2. Procurement of Stores through Rate Contract System:-

Where ever Government considers expedient that more than one supplier/ manufacturers should be kept on rate contract, it may so decide on case to case basis subject to conditions available at **Annexure '1'**.

3. EMD:-

The firms are required to deposit Earnest Money as indicated above failing which the tenders are liable to be rejected. Manufacturing Micro & Small Enterprises (MSEs) of the State, Startups/ First Generation Entrepreneurs of the State, Central or Haryana Public Sector Enterprises and “approved sources” as declared by the Industries Department, Haryana, are exempt from the deposit of EMD. The condition at Sr. No. 7 of “Instructions to Tenderers of the TENDER FORM” shall be deemed to be amended to this extent as per provisions contained at Para 13(i)(ii) of G.O. No.2/2/2010-4I-BII of dated 28.05.2010 (**Annexure-2**), Para no 3(A)(ii) of G.O. No. 2/2/2016-4I BII (1) of dated 20.10.2016 (**Annexure-3**) and Sr. No. 2 of the Table of G.O. No.2/2/2016-4IB-II dated 03.01.2019 (**Annexure-4**) (or as amended from time to time in this regard)

The condition at Sr. No. 6 of Annexure “A” - “Conditions with TENDER FORM” shall be deemed to be cancelled. (amendments with effect from may 28, 2010)

4. Performance Security:

The successful tenderer shall be required to deposit Performance Security Deposit as per provisions contained in Govt. of Haryana G.O. No. 2/2/2016-4IBII(2) dated 20.10.2016 (**Annexure-5**) as under:-

Sr. No.	Type of Firm/Enterprises	Value of Performance Security Deposit
1	Haryana based firms:- (i) # Haryana Based Micro and Small Enterprises (MSEs) (ii)Haryana based other firms/enterprises	(i) @0.2% of the value of contract (ii) @2% of the value of contract
2	Other States/ Uts based firms	@5%of the value of contract
# Haryana based MSEs will be eligible for performance security deposit @ 0.2% who have filed SSI Certificate/EM Part-II/UdyogAadhaar Memorandum (UAM)/Udyam Registration in Haryana and who participate directly in the tendered/quoted items and offering to supply the entire Work/Supply Order by their enterprise.		

The performance security in excess of the EMD already deposited can be submitted in the shape of Demand Draft/Call Deposit Receipt/Banker’s Cheque or in the shape of equivalent Bank Guarantee of any scheduled bank with branch in Chandigarh/ Panchkula. The condition at Sr. No. 8 of “Instructions to Tenderers of the TENDER FORM” shall be deemed to be amended to this extent as per provisions contained G.O. No. 2/2/2016-4IBII(2) dated 20.10.2016 (**Annexure-5**) (or as amended from time to time in this regard)

5. Price Fall Clause:

Price fall clause will be as per condition no. 15 of “General Conditions of Supply” as available at **Annexure-10**. The same is that the price quoted in the tender/quotation or approved in the Rate Contract for the stores shall not exceed in any way the lowest price at which the tenderer quote for the supply the stores of identical description to DGS&D, New Delhi/ State Government Institutions/Undertakings/any other person during the delivery period/currency period of the rate contract. If, at any time during the delivery period/currency period, the successful tenderer reduces the rates/sale price of the quoted stores to any person at the price lower than the price chargeable under the supply order/ rate contract, the tenderers should forthwith notify such reduction and inform this office and the price payable under the supply order/contract for the stores supplied after the date of coming into

force of such reduction of the rates shall stand correspondingly reduced to that level. The successful tenderers shall promptly notify the reduction of rates to this office as well as to the concerned Indenting Officer/ Consignees. The tenderer shall also give a certificate on their bills that the rates charged by them are not in any way higher to those quoted by them to the DGS&D, New Delhi and other State Government etc., during the corresponding period. The Indenting Officer shall be required to ensure that requisite certificate is given by the concerned firm on the bills before releasing their payments.

6. **Penalty to firm on Delay in delivery:** Should the contractor fail to deliver or dispatch any consignment within the period prescribed for such delivery or dispatch stipulated in the supply order, the delayed consignment will be subject to 2% penalty per consignment per month recoverable on the value of the stores supplied. The other details will be as per provision contained in Sr. No. 14 of "Schedule- 'B' Condition of Contract".
7. The bidders are required to quote the basic rates, the delivery/ transportation costs/ applicable GST and duties etc, and the place of billing for the supply of stores clearly and separately. The bidders are required to intimate the place of billing.

8. Penalty Clause for Department/ Govt. Agencies for delay in Payment

Delay in payments to the suppliers beyond the stipulated credit period indicated in the supply order, unless supported by cogent reasons and approved by a higher authority, will attract penal interest on the defaulting amount @ Rs. 25/- per rupees one lakh per day of delay beyond the stipulated credit period. Non provision of adequate budget will be no ground for delay in payments to the supplier. This is as per provisions contained at Para 17 of G.O. No.2/2/2010-4I-BII of dated 28.05.2010 (or as amended from time to time in this regard)

9. Negotiation of Rates

Regarding negotiations of rates, policy issued by the State Government vide G.O. No.2/2/2010-4-IB-II dated 18.06.2013 (**Annexure-1**), G.O. No.2/2/2010-4-IB-II dated 16.06.2014 (**Annexure-6**), G.O. No.2/2/2010-4-IB-II dated 09.02.2015 (**Annexure-7**) will be applicable.

10. Concession to MSMEs of State:

The State Government has notified "Haryana State Public Procurement Policy for MSME - 2016" vide G.O. No. 2/2/2016-4I BII(1) dated 20-10-2016 (**Annexure-3**) and amendment vide G.O. No. 2/2/2016-4IB-II dated 11.12.2019 (**Annexure-8**) and as amendment vide G.O. No. 2/2/2016-4IB-II dated 13.08.2021 (**Annexure-8-A**) which will be applicable in respect of concessions to Haryana based MSMEs and KVIs. For claiming the relevant concession/s like Tender Fee, Earnest Money Deposit (EMD), Turnover, Exemption in respect of Past Performance & Experience, Purchase Preference and Performance Security, the bidders are required to submit the documentary proof from Government authorities showing that they come under Haryana based manufacturing MSME/KVI units as the case may be e.g. *Entrepreneurs Memoranda in Haryana in bidder's name and further subject to fulfillment of eligibility criteria as provided in the said Policy of 2016.

***Note:-** To claim the concessions/benefits under the above policy, the bidder is required to submit SSI Certificate/Manufacturing Entrepreneurs Memorandum (part-II) issued by the Industries Department Haryana in respect of the quoted item / Udhog Aadhaar Memorandum (UAM)/Udhyaam Registration of Haryana based manufacturing enterprises in respect of the quoted item (*Ref. Industries & Commerce Department Haryana Memo No.TS/DS&D/11389-A Dated 03.07.2018*) and further subject to fulfillment of eligibility criteria as provided in the said

Policy of 2016 and amendments from time to time.

11. Concession/benefits to Startups/First Generation Entrepreneurs of State:

The State Government has notified “Concession/benefits in Public Procurement to Startups/First Generation Entrepreneurs of State” issued vide G.O. No. 2/2/2016-4I B-II dated 03.01.2019 (**Annexure-4**)(or as amended from time to time in this regard) which will be applicable in respect of concessions to Startups/First Generation Entrepreneurs of State. For claiming the relevant concession/s like Tender Fee, Earnest Money Deposit (EMD), Turnover, Exemption in respect of Past Performance & Experience, Purchase Preference and Performance Security, the bidders are required to submit the documentary proof as per the said policy.

12. In case of evidence of cartel formation by the bidder(s), the EMD is liable to be forfeited along with other actions as are permissible to Government like filing complaints with the Competition Commission of India and/ or other appropriate forums.

13. Purchase Preferences for approved Sources

The Director, Supplies & Disposals, Haryana, reserves the right to allow purchase preference to the approved sources, including Central or Haryana State Public Sector Undertakings/Enterprises, provided that such approved source takes part in the bidding process and the quoted prices of the approved source is within 10% of the lowest acceptable price, other things being equal. However, such purchase preference would be available to the approved source only at the lowest acceptable price. The latest list of Approved Source is contained in Government Order no. 6/03/2007-4IB-II dated: 14-02- 2008 (or as amended from time to time in this regard) of the Industries Department and is subject to further amendment from time to time.

14. Penalty clause for rejected samples/ material offered by the Bidder:

In case, the material offered for inspection by the firm fails to meet the specifications stipulated in NIT/Order/Contract and the samples are rejected by the Inspecting Committee, the Indenting Department will have the right to levy a penalty at 0.1% of the total order value. In case, the material offered for inspection fails during the 2nd inspection also, the Indenting Department will have the right to increase the penalty to 0.25% of the total order value. In case, the material offered fails during the 3rd and final inspection also, the firm will be liable for penal action including forfeiture of security, risk purchase, debarring/ blacklisting in future, and no further opportunity for inspection would be provided to the supplier firm.

15. Grievance Redressal Mechanism for dealing with the representations/ complaints/ letters of the participating bidders/ firms:

A time bound Grievance Redressal Mechanism for dealing with the representations/ complaints/ letters of the participating bidders/ firms in the tendering process in the State Public Procurement will be governed by State Government Policy issued vide G.O No.2/2/2016-4I-B II of dated 25.07.2016 (**Annexure-9**)and as amendment vide G.O. No. 2/2/2016-4IB-II dated 27.08.2021 (**Annexure-9-A**). All the bidders/ firms who want to make any representation/ complaint against any issue related to their technical scrutiny of the bids may do the same within 5 working days (up to 05:00 P.M. of the Fifth Working day) of the date of issue of letter/ intimation regarding their **As per NIT/ Not as per NIT status**. They have to ensure that their communication is delivered/ reached within 5 working days and delay in postal will not be counted as a valid reason. No representation/ complaint in whatsoever manner from the bidders/ firms will

be entertained after the opening of Financial Bid.

16. Preference to Make in India:- The public procurement in the State in reference to “ Preference to make in India” shall be governed by Govt. Order No.02/08/2020-4IB-II dated 18.11.2020(**Annexure-11**)(or as amended from time to time in this regard)

17. Restriction in Public procurement from bidders of certain Countries:- The restriction on procurement from bidders from a Country or Countries on grounds of Defense of India or matters directly or indirectly related thereto including National Security shall be governed by Govt. Order No.02/09/2020-4IB-II dated 10.12.2020(**Annexure-12**)(or as amended from time to time in this regard).

18. Arbitration Clause

The Arbitration if any will be decided as per the provision contained at Sr. No.18 of “Schedule ‘B’ Conditions of Contract”

19. Jurisdiction

All disputes will be settled within the jurisdiction of the Head Quarters of Director, Supplies & Disposals, Haryana at Panchkula

E. OTHER TERMS AND CONDITIONS

1. The firms are required to mention bifurcation of their rates showing the detail of Basic Rates, GST, Duties etc. in their bid. In case, the supplies are delayed by the firm beyond the stipulated delivery period & there has been any upward revision in the rates of GST/ Duties ON THE CONTRACTED ITEM, no such increase will be allowed. However, if there has been any reduction in GST/Duties, the same will be availed. No variation in GST/ Duties on raw material will be applicable.
2. All documents to be submitted by the tenderers with their offer should be self attested in case the same are copies of original documents.
3. The Earnest money of the tenderers will be forfeited to Govt. account and blacklisting/ debarring besides other penal action, if they withdraw their offer/ rates or modify the terms & conditions of the same at any time during the validity of their offer before acceptance.
4. The authorized dealer should submit authority letter of their manufacturer, to quote the rates on their behalf failing which tender is liable to be rejected.
5. When manufacturer as well as its dealer/s both quote the rates in the same purchase case, then for the purpose of distribution of order, they will be considered as one offer & the order/rate contract will be placed on that firm only which has quoted lower rates among such offers & the offer is as per NIT.
6. The Bid i.e. Technical Bid as well as Financial Bid is to be submitted online on web portal <https://etenders.gov.in/eprocure/app>. The Technical Bids uploaded on the portal should have proper indexing and page numbering on all the documents forming the Technical bid. SUPPLIES & DISPOSALS DEPARTMENT, HARYANA S.C.O. No. 09, Ist&IInd Floor, Sector-16, Panchkula-134109 (Haryana) Ph.:- 0172-2570121, 123, 124. Fax No.:- 0172-2570122. E-mail:- supplies@hry.nic.in , website:- dsndharyana.gov.in Any supporting documents if required is to be submitted in online mode only along with their Technical Bids by due date and time.
7. The Financial bid/s of only those bidders/ items will be opened who qualify on the basis of their Technical Bids and wherever required approval of samples. The date & time of opening of the Financial bids will be intimated in the due course.
8. The offer without prescribed Earnest Money, Tender Fee & E-Service fee is liable to be summarily rejected. The deficiency in the remaining documents and tender requirement can be made subject to the decision by Director, Supplies & Disposals, Haryana, Panchkula
9. The quantity of Stores can be increased or decreased.
10. Notwithstanding anything contained in the Tender, Supplies & Disposals Department

SUPPLIES & DISPOSALS DEPARTMENT, HARYANA
S.C.O. No. 09, Ist&IInd Floor, Sector-16, Panchkula-134109(Haryana)
Ph.:- 0172-2570121, 123, 124. Fax No.:-0172-2570122.
e-mail:- supplies@hry.nic.in , website:- dsndharyana.gov.in

Haryana reserves the right to accept or reject any Bid, and to cancel the bid process and reject the Tender, at any time, without thereby incurring any liability to the affected Bidder or Bidders and without any obligation to inform the participating/affected Bidder (s) the reason for such decision.

11. Other terms & conditions as contained in various Annexure/ Documents as available under the folder <https://dsndharyana.gov.in/downloads/> “TENDER FORMS” as available at the link <https://dsndharyana.gov.in/downloads/> under ‘Downloads’ > ‘Tender Form’ form part of this DNIT.
12. Instructions to bidder on Electronic Tendering System. Registration of bidders on e-Procurement Portal, Information about Digital Certificate, Instructions about Online Payment of Tender Document fee/e-Service Fee/Earnest Money, Important Instructions & Help manual for online bidding and other General issues option available on Home page of NIC e-procurement portal i.e. <https://etenders.hry.nic.in>. In case bidders need any clarifications or if training required to participate in online tenders they can contact office Timings of Help-desk support & Contract Details:- The detail may be seen under “Contract US” option available on Home Page of NIC eProcurement portal i.e. <https://etenders.hry.nic.in>. For support related to Haryana Tenders in addition to Helpdesk:- In addition, For support related to Haryana Tenders in addition to helpdesk you may also contract to following:- E - mail: eproc.nichry@yahoo.com
Desk: 0172-2700275.

Superintendent,
For & on behalf of Governor of Haryana.

Annexure-I

The detailed Specifications of the Store items as mentioned in Para B of the Schedule-A/NIT are as under:-

DETAILED TECHNICAL SPECIFICATIONS

(Grid Connected Solar Rooftop Photo Voltaic (SPV) power plant-without battery bank)

1. DEFINITION

A Grid Connected Solar Rooftop Photo Voltaic (SPV) power plant consists of SPV array, Module Mounting Structure, Inverter consisting of Maximum Power Point Tracker (MPPT), and Controls & Protections, interconnect cables and switches. PV Array is mounted on a suitable structure. Grid connected SPV power plant may be without battery and should be designed with necessary features to supplement the grid power during day time. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, inverters etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable.

Solar PV system shall consist of following equipment's/components:

- Solar PV modules consisting of required number of Crystalline PV cells.
- Grid interactive Inverter with Remote Monitoring System
- Mounting structures
- Junction Boxes.
- Earthing and lightening protections.
- IR/UV protected PVC Cables, pipes and accessories

2. SOLAR PHOTOVOLTAIC MODULES:

- (i) The PV modules shall be of indigenous make.
- (ii) The efficiency of the PV modules should be minimum 16% and fill factor should be more than 70%.
- (iii) Modules of mono/poly crystalline type can be used.
- (iv) The PV modules used must BIS/IEC certified as per MNRE notification called the Solar Photovoltaics, Systems, Devices and Components Goods (Requirements for Compulsory Registration) Order, 2017 dated 05.09.2017 and its subsequent amendments. The Solar Module must comply with MNRE OM of even No. dated 02.01.2019 for enlistment under "Approved Models and Manufacturers of Solar Photovoltaic Modules (Requirement of Compulsory Registration) order, 2019 and its subsequent amendments. the latest edition of IEC PV module qualification test or equivalent BIS standards Crystalline Silicon Solar Cell Modules. In addition, the modules must conform to IEC 61730 Part-1 - requirements for construction & Part 2 - requirements for testing, for safety qualification or equivalent IS. The Potential Induced Degradation (PID) with 3 cycles testing for solar modules will be mandatory. It should be valid during the operational period.
- (v) Module shall consist of Solar Cell of minimum 4 Bus Bar technology.
- (vi) The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum 300 Wp (with 72 cells) and above. Module capacity less than minimum of this wattage shall not be accepted.

- (vii) Protective devices against surges at the DC side shall be provided. Low voltage drop bypass diodes shall be provided.
- (viii) The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid.
- (ix) Other general requirement for the PV modules and subsystems shall be the following:
 - a) The rated output power of any supplied module shall have tolerance of plus 3% or above.
 - b) The peak-power point voltage and the peak-power point current of any supplied module and/or any module string (series connected modules) shall not vary by more than 2 (two) per cent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.
 - c) The module shall be provided with a junction box with weather proof lid of sealed type and IP-65 rated.
 - d) I-V curves at STC shall be provided with the module.
- (x) The module should have the following minimum information laminated inside the module.
 - Made in India (to be subscribed in words)
 - Company name /logo
 - Model number
 - Serial number
 - Year of make
 - **HAREDA Logo**

3. PERFORMANCE WARRANTY:

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

4. ARRAY STRUCTURE (MODULE MOUNTING STRUCTURE):

Module Mounting Structure (MMS) should be anodized aluminium or Hot Dipped Galvanised Iron (HDGI), of prescribed Specifications given below, for mounting of SPV modules at site. The panel frame structure should be capable of withstanding a minimum wind speed load of 150 KM per hour, after grouting and installation. MMS should be sturdy & designed to assist SPV Modules to render maximum output. The hardware (fasteners) used for installation of SPV Modules & MMS should be of suitable Stainless Steel (SS 304). Each MMS should be with minimum four legs grouted on pedestals of minimum 300X300X250 mm with anchoring/ chipping & chemical sealing of foundation based on RCC roof. Foundation bolts of stainless /GI steel should be at least 300 mm long.

Its size should be with reference to the specifications of the selected make SPV modules. Anti Theft Nut Bolts of SS (with washers) should be used for mounting modules for better theft proofing.

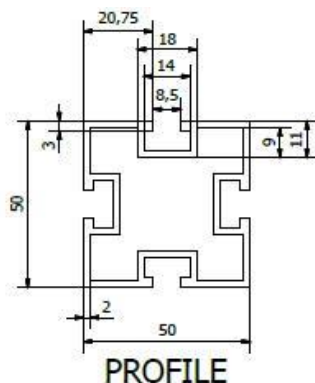
4.1 Aluminium structure should meet the following minimum specifications:

A. Structure Assembly Main Components:

1. Purlin
2. Leg & Base Plate
3. Rafter (with cleat)

B. Component Details:

1. Purlin/Rafter (Design is indicative)



- Cross section Length: 50mm, Cross section Width: 50mm, Thickness: 02 mm
- Component Length - As per PV modules table designed
- Tolerance: $\pm 5\%$

Cleat:

- Cross sectional length - 135mm, Cross sectional width - 50mm, Thickness - 5mm
- Tolerance: $\pm 5\%$

2. Leg & Base Plate

(a) Base Plate:

- Cross sectional Length: 75mm, Cross sectional Height: 75mm, Thickness: 5mm
- Component Length: 150mm with two holes on base area for fixing of J Bolts
- Tolerance: $\pm 5\%$

(b) Leg attached to base plate

- Cross sectional length - 50mm, Cross sectional width - 50mm, Thickness - 5mm
- Component Length - 3808mm ((or as per site requirement of tilt angle and may vary with the required height of structure) with two holes on bottom area for fixing with base plate and one hole on top are for fixing of Rafter
- Tolerance: $\pm 5\%$

4.2 Hot Dipped Galvanised Iron (HDGI) structure should meet the following minimum specifications:

Rafter	: 60mmX60mmX3.2mm
Purlin	: 90mmX45mmX15mmX2.6mm
Vertical Post	: 60mmX60mmX3.2mm
Base Plate	: 200mmX200mmX8mm
Top Plate	: 176mmX176mmX8mm

4.3 Foundation:

The CC foundation shall have to be designed on the basis of the weight of the structure with module and minimum wind speed of the site, i.e. 150 Km/hour. Normally, each MMS should be with minimum four legs grouted on pedestals of proper size. However, for sheds CC work will not be required. The structure shall be grouted with fasteners with chemical sealing to withstand the required wind velocity. Angle of inclination shall be between 15° to 30° , however, may be changed as per site requirement.

- CC Pillar size shall be : 300X300X250 mm

- For Pillars: Cement: Concrete: Sand Ratio :: 1:2:3
- Screws shall be Grouted in the Slab of roof up to depth of 50 mm.
- Lengths of rafter/Purlin may be changed as per site requirement.
- Sufficient numbers of vertical post shall be provided so that the structure may not bent.

5. SPECIFICATIONS FOR INVERTER:

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 “Inverter”. In addition, the inverter shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the 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:

Specifications of Inverter	
Parameters	Detailed Specifications
Switching devices	IGBT
Capacity	The Rated Capacity of the Inverter shall not be less than the solar PV array capacity.
Control	Microprocessor /DSP
Nominal Voltage	230V/415V as the case may be
Voltage range	Single Phase: Shall work from 180 Volts to 270 Volts; Three Phase: Shall work from 180 Volts to 270 Volts per phase
Operating frequency/ range	50 Hz (47to52 Hz)
Grid Frequency Synchronization range	± 3 Hz or more (shall also compatible for Synchronization with DG Set)
Waveform	Sine Wave
Harmonics	AC side total harmonic current distortion<5%
Ripple	DC voltage ripple content shall not be more than1%.
Efficiency	The inverters should be tested as per IEC standards/ as per latest MNRE Specification. The following criteria should be followed : The benchmarking efficiency criteria for the Grid tied (central/string) inverter -At nominal voltage and full load is >95%, For load >25% is >92% and No load losses should not be more than 5%.
Losses	Maximum losses in sleep mode: 2W per 5kW Maximum losses in stand-by mode:10W
Casing protection levels	Degree of protection: Minimum IP-21 and 22 for indoor use and IP65 certification for outdoor use
Temperature	Should withstand from -10to+50 deg. Celsius

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Humidity	Should withstand up to 95%(relative humidity)
Operation	Completely automatic including wake up, synchronization (phase-locking) and shutdown
MPPT	Maximum power point tracker shall be integrated in the inverter to maximize energy drawn from the array. MPPT range must be suitable to individual array voltages in power packs
Protections	Mains Under / Over Voltage
	Overcurrent
	Over/Under grid frequency
	Over temperature
	Short circuit
	Lightening
	Surge voltage induced at output due to external source
	Anti Islanding (for grid synch. Mode)
System Monitoring Parameters	Inverter voltage & current Mains Voltage, Current & Frequency PV Voltage, Amps & KWH System Mimic & Faults
Recommended LCD Display on Front Panel	Accurate displays on the front panel:
	DC input voltage
	DC current
	AC Voltage (all 3 phases, in case of 3 phase)
	AC current (all 3 phases in case of 3 phase)
	Ambient temperature
	Instantaneous & cumulative output power
	Daily DC energy produced
Communication interface	RS 485 / RS 232 Inverter shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array to the power conditioning unit/inverter should also be DG set interactive.
Power Factor	> 0.9
THD	<3%
Test Certificates	The inverter should be tested from the MNRE approved test centres / NABL /BIS /IEC accredited/16 authorized testing-calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.

- a) Three phase inverter shall be used if grid supply is of three phase.
- b) Inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.
- c) The output of power factor of 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 (Providing Computer is not part of DNIT & is in the scope of user).
- e) **Anti-islanding (Protection against Islanding of grid):** The inverter shall have anti islanding protection in conformity to IEEE 1547/UL 1741/ IEC 62116/IS16169 or equivalent BIS standard.
- f) Successful Bidders/Supplier shall be responsible for galvanic isolation of solar roof top power plant (>100kWp) with electrical grid or LT panel.
- g) The inverter generated harmonics, flicker, DC injection limits, Voltage Range, Frequency Range and Anti-Islanding measures at the point of connection to the utility services should follow the latest CEA (Technical Standards for Connectivity Distribution Generation Resources) Guidelines.
- h) The inverter should comply with applicable IEC/ equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IS/IEC 61683 and IEC 60068-2 (1,2,14,30)/ Equivalent BIS Std./EN50530,IEC 61727 (all clauses except clause 5.2.2). in case of clause 5.2.2, it should withstand the over/under frequency in the range 47 to 52 Hz.
- i) The MPPT units environmental testing should qualify IEC 60068-2 (1, 2, 14, 30)/ Equivalent BIS std. The junction boxes/ enclosures should be IP 65 (for outdoor)/ IP 54 (indoor) and as per IEC 529 specifications.

6. INTEGRATION OF PV POWER WITH GRID:

- (i) 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. 4 pole isolation of inverter output with respect to the grid connection need to be provided. Solar Generation Meter(s) and bidirectional energy meter, as per HERC Net Metering Regulations should also be installed in the campus/building of beneficiary.
- (ii) The solar generation meter and Bi-directional meter along with CT/PT (if required) with Surge Protection Device (SPD) should be of 0.2S accuracy class is in the scope of bidder. For LT connection the accuracy shall be as per requirement of DISCOMs.
- (iii) CEA guideline 2013 (amended from time to time) for interconnecting solar power with Grid shall be followed.
- (iv) Certification of Islanding protection in the inverter from the manufacturer of the equipment shall be mandatory. This shall be arranged by the supplier from the manufacturer.
- (v) Technical Standards for Interconnection:

S. No.	Parameters	Requirements	Reference
1.	Overall Conditions of Service	Reference to regulations	Conditions for Supply of Electricity of Distribution Licensees
2.	Overall Grid Standards	Reference to regulations	Central Electricity Authority (Grid

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			Standards) Regulations 2010
3.	Equipment	Applicable industry standards	IEC standards/IS
4.	Safety and Supply	Reference to regulations, Chapter III (General Safety Requirements)	Central Electricity Authority (Measures of Safety and Electricity Supply) Regulations, 2010 and subsequent amendments
5.	Meters	Reference to regulations and additional conditions issued by the Commission.	Central Electricity Authority (Installation & Operation of Meters) regulations 2006 and subsequent amendments
6.	Harmonic Current	Harmonic current injections from a generating station shall not exceed the limits specified in IEEE 519	IEEE 519 relevant CEA (Technical Standards for Connectivity of the distributed generation resource) regulations 2013 and subsequent amendments
7.	Synchronization	Photovoltaic system must be equipped with a grid frequency synchronization device, if the system is using synchronizer inherently built into the inverter than no separate synchronizer is required.	Relevant CEA (Technical Standards for Connectivity of the distributed generation resources) regulations 2013 and subsequent amendments.
8.	Voltage	The voltage-operating window should minimize nuisance tripping and should be under operating range of 80% to 110% of the nominal connected voltage. Beyond a clearing time of 2 seconds, the Photovoltaic system must isolate itself from the grid.	
9.	Flicker	Operation of Photovoltaic system shouldn't cause voltage flicker in excess of the limits stated in IEC 61000 or other equivalent Indian standards, if any	
10.	Frequency	When the Distribution system frequency deviates outside the specified conditions (52 Hz on upper side and 47 Hz on lower side up to 0.2 sec), the Photovoltaic system shouldn't energize the grid and should shift to island mode.	Relevant CEA regulations 2013 and subsequent if any, (Technical Standards for Connectivity of the distributed generation resource)
11.	DC Injection	Photovoltaic system should not inject DC power more than 0.5% of full rated output at the interconnection point. Or 1% of rated inverter output current	

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		into distribution system under any operating conditions	
12.	Power Factor	While the output of the inverter is greater than 50%, a lagging power factor of greater than 0.9 shall be maintained	
13.	Islanding and Disconnection	The Photovoltaic system in the event of voltage or frequency variations must island/disconnect itself within IEC standard on stipulated period	
14.	Overload and Overheat	The inverter should have the facility to automatically switch off in case of overload or overheating and should restart when normal conditions are restored	
15	Cable	For interconnecting Modules, Connecting modules and junction Boxes and junction boxes to inverter, DC copper cable of proper sizes shall be used. To connect inverter with AC panel aluminium cable of proper size shall be used. All the internal cables to be used in the systems shall be included in the cost while 100 mtr. AC aluminium cable of proper size to be used to connect inverter to AC panel shall be included in the cost of the system.	Relevant CEA regulations 2013 and subsequent if any, (Technical Standards for Connectivity of the distributed generation resource)

- a) All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III.
- b) The change-over switches, cabling work should be undertaken by the bidder as part of the project.

7. JUNCTION BOXES FOR CABLES FROM SOLAR ARRAY:

The junction boxes shall be made up of FRP (Hensel or equivalent make)/PP/ABS with dust, water and vermin proof. It should be provided with proper locking arrangements.

Series / Array Junction Box (SJB/AJB) (whichever is required): All the arrays of the modules shall be connected to DCCB. AJB shall have terminals of bus-bar arrangement of appropriate size Junction boxes shall have suitable cable entry with suitable glanding arrangement for both input and output cables. Suitable markings on the bus bars shall have to be provided to identify the bus bars etc. Suitable ferrules shall also have to be provided to identify interconnections. Every AJB should have suitable arrangement Reverse Blocking diode of suitable rating. Suitable SPD, suitable Isolation switches to isolate the DC input to Inverter has to be installed in AJB for protection purpose. Thus AJB should have DC isolator for disconnecting the arrays from inverter input. If in any case diodes, HRC Fuses, SPDs and isolators are installed in the string inverters, then there is need to install these again in AJB. If some of these safety gadgets are not installed in String Inverter it should be installed in AJB. Cable interconnection arrangement shall be within conduit pipe on saddles installed properly. Cable

connection should be done in such a manner that fault findings if any, can be identified easily. The cables should be connected in such a manner that clamp meter can be comfortably inserted around the individual cables to measure the data like current, voltage etc. AJB should also be marked as A1, A2, & so on. Wherever conduits are laid on wall/roof or ground, then it should be suitably laid in cable tray or appropriate civil structure which should be at least four inches above roof/ground level.

However, if the inverter is equipped with Junction Box, the cables may be connected directly to the ports provided in the inverter and no separate Junction Box is required.

8. PROTECTION & SAFETY:

Both AC & DC lines have suitable MCB/MCCB, Contractors, SPD, HRC Fuse etc to allow safe start up and shut down before & after string inverter installed in the system. String inverters should have protections for overload, surge current, high Temperature, over/under voltage and over/ under frequency & reverse polarity. The complete operation process & safety instructions should printed on the sticker & suitably pasted on the near inverters.

Inverter should have safety measures to protect inverter from reverse short circuit current due to lightening or line faults of distribution network.

Inverter should be suitably placed in covered area on a suitable platform or wall mounted or concrete platform (on rubber mat) with complete safety measure as per norms.

9. INVERTER/ARRAY SIZE RATIO:

- The combined wattage of all inverters should not be less than rated capacity of power plant under STC in KW.
- Maximum power point tracker shall be integrated in the inverter to maximize energy drawn from the array

10. AC COMBINER BOX BOARD (ACCB):

This shall consist of box shall consists of grid interphase panel of good quality FRP/ suitable powder coated metal casing. One Electronic Energy Meter (0.2S Class), ISI make, Three Phase duly tested by DISCOMs (Meter testing Division) with appropriate CT (if required), of good quality shall have to be installed at suitable placed to measure the power generated from SPV Power Plant, as per HERC Net Metering Regulations. Proper rating MCCB & HRC fuse and AC SPDs shall be installed to protect feeders from the short circuit current and surges as per the requirement of the site. Operation AC Isolator Switch of Grid Connectivity should be such that it can be switched ON or OFF without opening the ACCB.

11. CABLES/WIRE:

All cables should be of copper as per IS and should be of 650V/1.1 KV grade as per requirement. All connections should be properly made through suitable lug/terminal crimped with use of suitable proper cable glands. The size of cables/wires should be designed considering the line losses, maximum load on line, keeping voltage drop within permissible limit and other related factors. The cable/wire should be of ISI/ISO mark for overhead distribution. For normal configuration the minimum suggested sizes of cables are:

Module to module/AJB	4 sq mm (single core) DC Cable
AJBs to MJB/DCCB/Inverter	<ul style="list-style-type: none"> • Up to capacity of 10 kWp Solar Plant, minimum 4 sq mm (Single/Double core) DC Cable, with respect to current ratings of designing • For capacity more than 10 kWp & up to 20 kWp Solar Plant, minimum 6 sq mm (Single/Double core) DC Cable, with respect to current ratings of designing • For capacity more than 20 kWp Solar Plant, minimum 10 sq mm (Single/Double core) DC Cable, with respect to current ratings of designing
Inverter to ACCB/Distribution board	AC Cable as per design & rating

The size & rating of the cables may vary depending on the design & capacity of SPV Power Plant.

12. CABLE TRAY:

All the cables should be laid in appropriate GI cable tray as per the requirement of the site, No cable should be laid directly on ground and cable tray should be laid for any wire on ground such that there is gap of at least two inches above ground.

13. DISPLAY BOARD:

The bidder has to display a board at the project site mentioning the following:

- Plant Name, Capacity, Location, Type of Renewable Energy plant (solar), Date of commissioning, details of tie-up with transmission and distribution companies, Power generation and Export FY wise.
- Financial Assistance details from DNRE/MNRE/Any other financial institution apart from loan. This information shall not be limited to project site but also be displayed at site offices/head quarter offices of the successful bidder
- The size and type of board and display shall be approved by Engineer-in-charge before site inspection.
- **DANGER BOARDS:** Danger boards should be provided as and where necessary as per IE Act. /IE rules as amended up to date.

14. MANUAL DISCONNECTION SWITCH:

It should be provided to isolate the system from Grid which should be outside of ACCB.

15. AC DISTRIBUTION PANEL BOARD:

- a) AC Distribution Panel Board (DPB) shall control the AC power from inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode.
- b) All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III.
- c) The changeover switches, cabling work should be undertaken by the bidder as part of the project.
- d) All the Panel's shall be metal clad, totally enclosed, rigid, floor mounted, air - insulated, cubical type suitable for operation on three phase / single phase, 415 or 230 volts, 50 Hz

- e) The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80 percent humidity and dusty weather.
- f) All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.
- g) Should conform to Indian Electricity Act and rules (till last amendment).
- h) 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

16. DATA ACQUISITION SYSTEM / PLANT MONITORING:

- I. The Department of New & Renewable Energy & HAREDA will have a common State Level Solar Energy Data Management platform for monitoring of operation and performance of Roof Top Solar Plants installed.
- II. Remote Monitoring System (RMS) provided by all bidders should connect to State Level Solar Energy Data Management platform.
- III. Remote Monitoring System (RMS) should have following minimum features or modules:

Feature	Details
Solar System Performance Parameters	DC Voltage, DC current, AC output Current, Power, Energy, Inverter Status etc.
RMS device Performance	%Device Connectivity, %Data Availability etc.
Geo Location	RMS shall have built in GPS module to update Geo Location of system

- IV. Communication Architecture between SEDM and RMS should be as per following:

A. Communication Connectivity:

- i. **Field Device Connectivity:** RMS communication with Inverter should be on RS485 MODBUS RTU protocol to ensure interoperability irrespective of make and manufacturer
- ii. **Remote Connectivity:** Using GSM/GPRS/2G/3G/4G cellular connectivity through SIM Card, cost of SIM card has to be borne by bidder in entire duration of the contract
- iii. **Local Connectivity:** Ethernet/Bluetooth/Wi-Fi connectivity to configure parameters, notifications, communication interval, set points etc. or to retrieve locally stored data
- iv. **Sensor Connectivity:** RMS shall have provision for 04 Analog with 0.1% accuracy to address the requirement of local sensors connectivity if required by SIA for applications such as irradiation, temperature etc.

B. Communication Modes:

- i. Push Data on Event/Notification: Inverter ON/OFF, Inverter fault, protection operated etc.

- ii. Push Data Periodically: important parameters of Inverter and Energy Meters (as mentioned in tender) should be pushed to central server on configurable interval. Interval should be configurable in multiple of 1 minute.
- iii. Command On Demand: It should be possible to send commands via GSM or GPRS to RMS either to control Inverter operations or to update configuration

C. Communication Protocol:

RMS should provide data on MQTT Protocol to establish communication with thousands of systems.

D. Security:

Communication between RMS and Server should be secured and encrypted using TLS/SSL/X.509 certificate etc.

As a part of IoT protocol, Authentication and Authorization should be implemented using token/password mechanism

E. Message Format:

RMS should provide data in a JSON message format as per Communication Architecture Guideline requirement

F. Data Storage:

In case of unavailability of cellular network, RMS should store data locally and on availability of network it should push data to central server. Local data storage should be possible for at least one year in case of unavailability of cellular network.

G. Configuration Update Over-The-Air:

Configuration update over the air of multiple parameters such as IP, APN, Data Logging Interval, Set Points etc. is essential.

17. PRIORITY FOR POWER CONSUMPTION:

Regarding the generated power consumption, in case of string inverter, priority need to be given for internal consumption first and thereafter any excess power can be exported to grid.

18. PROTECTIONS

The system should be provided with all necessary protections like earthing, Lightning, and grid anti- islanding as follows:

(i) Lightening and Over Voltage Protection:

The SPV Power Plant shall be provided with lightning and over voltage protection. The principal aim in this protection is to reduce the over voltage to a tolerable value before it reaches the PV or other sub-systems components. The source of over voltage can be lightning or any other atmospheric disturbance. The Lightning Arrestor (LA) is to be made of 1¼" diameter (minimum) and 12 feet long GI spike on the basis of the necessary meteorological data of the location of the projects. Necessary foundation for holding the LA is to be arranged keeping in view the wind speed of the site and flexibility in maintenance in future. Each LA shall have to be earthed through suitable size earth bus with earth pits. The earthing pit shall have to be made as per IS 3043. LA shall be installed to protect the array field, all machines and control panels installed in the control rooms. Number of LA shall vary with the

capacity of SPV Power Plant & location. Number of LA should be in such a manner that total layout of solar modules should the effective coverage of LA's.

The lightening arrester shall be of Early Streamer Emission (ESE) type.

(ii) Earthing Protection:

Each array structure of the PV yard shall be grounded properly. In each array every module should be connected to each other with copper wires, lug teathed washers addition the lightening arrestor/masts shall also be provided inside the array field. Provision shall be kept for shorting and grounding of the PV array at the time of maintenance work. All metal casing/shielding of the plant shall be thoroughly grounded in accordance with Indian Electricity Act/IE rules as amended up to date. The earthing pit shall be made as per IS: 3043. All the array structures and equipments/control systems shall be compulsorily connected to the earth, separately. Number of earthing shall vary with the capacity of SPV Power Plant & location. G.I. /Copper strips should be used for earthing instead of G.I. wires, LA should be installed to protect the array field & machines installed in the control rooms. Number of LA shall vary with the capacity of SPV Power Plant & location. Earth resistance shall not be more than 5 ohms.

(iii) Surge Protection:

Internal surge protection shall consist of three MOV type surge-arrestors connected from +ve and -ve terminals to earth (via Y arrangement)

(iv) Grid Islanding:

- a. In the event of a power failure on the electric grid, it is required that any independent power-producing inverters attached to the grid turn off in a short period of time. This prevents the DC-to-AC inverters from continuing to feed power into small sections of the grid, known as "islands."

Powered islands present a risk to workers who may expect the area to be unpowered, and they may also damage grid-tied equipment. The Rooftop PV system shall be equipped with islanding protection. In addition to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided.

- b. A manual disconnect pole isolation switch beside automatic disconnection to grid would have to be provided at utility end to isolate the grid connection by the utility personnel to carry out any maintenance. This switch shall be locked, if required, by the utility personnel

19. CONNECTIVITY:

The user have to take approval/NOC from the Concerned DISCOM for the connectivity, technical feasibility, and synchronization of SPV plant with distribution network before commissioning of SPV plant, however the supplier have to extend all technical help to the user for preparing the documents required for getting the above clearance from DISCOMs.

Reverse power relay shall be provided by bidder (if necessary), as per the local DISCOM requirement.

The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the Distribution Code/Supply Code and amended from time to time. Connecting voltage shall be three phase or as per site requirement based on the availability of grid level and as per DISCOM.DISCOMS may be consulted before finalization of the voltage level and system shall be designed accordingly.

20. DRAWINGS & MANUALS:

- (i) Two sets of Engineering, electrical drawings and Installation and O&M manuals are to be supplied. Bidders shall provide complete technical data sheets for each equipment giving details of the specifications along with make/makes in their bid along with basic design of the power plant and power evacuation, synchronization along with protection equipment.
- (ii) Approved ISI and reputed makes for equipment be used.

21. SAFETY MEASURES:

The bidder 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. All work shall be carried out in accordance with the latest edition of the Indian Electricity Act and rules formed there under and as amended from time to time.

22. CODES AND STANDARDS:

The quality of equipment supplied shall be controlled to meet the guidelines for engineering design included in the standards and codes listed in the relevant ISI and other standards, such as :

- i. IEEE 928 Recommended Criteria for Terrestrial PV Power Systems.
- ii. IEEE 929 Recommended Practice for Utility Interface of Residential and Intermediate PV Systems.
- iii. IEEE 519 Guide for Harmonic Control and Reactive Compensation of Static Power Controllers.
- iv. National Electrical NEPA 70-(USA) or equivalent national standard.
- v. National Electrical Safety Code ANSI C2- (USA) or equivalent national standard.
- vi. JRC Specification 503 (Version 2.2 March 1991) or JPL Block V standard for PV modules.
- vii. The inverter manufacturer should attach efficiency certificate from Independent Third party Testing laboratory i.e. IEC, TUV, SNL/ERTL & STQC. Inverter should confirm to IEC 61683 for efficiency measurements and IEC 60068 2 for environmental testing. MPPT unit should confirm to design qualification IEC 62093.
- viii. IEC 62116 for Anti Islanding
- ix. IEC 62109-1, IEC 62109-2 for safety
- x. IEC 61727 FOR UTILITY INTERFACE.

Superintendent
For Director General, Supplies & Disposals Haryana

POWER PURCHASE AGREEMENT (PPA)

BETWEEN

Head of Department, Haryana

AND

..... (Renewable Energy Service Company).

FOR

Supply of Solar power on RESCO Mode by Installation & Commissioning of Grid Connected Rooftop Solar Power Plants with Net metering facility on Government buildings.

This Power Purchase Agreement (PPA) is executed on ____Day of _____20__ at _____, Haryana.

Between

Director, Department, Haryana Authorized representative ofDepartment (hereinafter referred to as "Purchaser", which expression shall unless repugnant to the meaning or content hereof, be deemed to include successors and assigns)

AND

M/s (Company) (CIN No.), a company incorporated under the Companies Act, 1956/2013 having its registered office at (hereinafter referred to as "Supplier" which expression shall, unless repugnant to the meaning or context hereof, be deemed to include its successors and assigns). The Purchaser and Supplier are each individually referred to as a "Party" and collectively as the "Parties".

WHEREAS:

The Supplier has been notified as successful bidder by Supply & Disposal Department, Haryana for Supply of Solar power on RESCO Mode by Installation & Commissioning of Grid Connected Rooftop Solar Power Plants with Net metering facility on the Buildings of the department as per Schedule-1.

1. Definitions and Interpretation

1.1 Definitions

In addition to other capitalized terms specifically defined elsewhere in the Agreement or unless the context otherwise requires the following words and phrases shall be defined as follows:

(a) "Actual Monthly Production" means the amount of energy recorded by the Main Metering System during each calendar month of the Term, pursuant to Section 5.2;

(b) "Affiliate" means with respect to any specified Person, any other Person, directly or indirectly controlling, controlled by or under common control with such specified Person)

(c) "Agreement" means this Power Purchase Agreement executed hereof, including the schedules, amendments, modifications and supplements made in writing by the Parties from time to time.

(d) "Applicable Law" Means, with respect to any Person, any constitutional provision, law, statute, rule, regulation, ordinance, treaty, order, decree, judgment, decision, certificate, holding, injunction, registration, license, franchise, permit, authorization, guideline, Governmental Approval, consent or requirement of any Governmental Authority in India having jurisdiction over such Person or its property, enforceable by law or in equity, including the interpretation and administration thereof 1:4 such Governmental Authority.

(e) "Assignment" has the meaning set forth in Section 14.1:

(f) "Business Day" means any day other than Saturday, Sunday or any other day on which banks/offices in HARYANA are required or authorized by Applicable Law to be closed for business:

(g) "Commercial Operation Date" has the meaning set forth in Section 4. 3(b)

(h) "Consents, Clearances and Permits" shall mean all authorization, licenses, approvals, registrations, permits, waivers, privileges, acknowledgements, agreements or concessions required to be obtained From or provided by any concerned authority for the purpose of setting up of the generation facilities and / or supply of power.

(i) "DNIT Document" shall mean Tender no. 57/HR/RC/E-4/2020-21 Dated 19.09.2020 as also described in Schedule V.

(j) "Deemed Generation" has the meaning set forth in Section 5.3 (c)

(k) "Delivery Point" shall be the single point, at a location mutually agreed by the Parties, in line with applicable regulation/ rules where Solar Power is delivered by the Supplier from the System to the Purchaser.

(l) "Dispute" has the meaning set forth in Section 17.7 (b);

(m) "Disruption Period" has the meaning set forth in Section 5.3 (c)

(n) "Distribution Utility" means the local electric distribution owner and operator providing electric distribution and interconnection services to Purchaser at the Premises;

(o) "Due Date" has the meaning set forth in Section 7.4;

(p) "Effective Date" has the meaning set forth in Section 2;

(p) "Estimated Remaining Payments" means as of any date, the estimated remaining Solar Power Payments to be made through the end of the applicable Term, as reasonably determined by the Supplier in accordance with Section 7.1;

(q) "Expiration Date" means the date on which the Agreement terminates by reason of expiration of the Term.

(r) "Force Majeure Event" has the meaning set forth in Section 11.1

(s) "Governmental Approval" means any approval, consent, franchise, permit, certificate, resolution, concession, license or authorization issued by or on behalf of any applicable Governmental Authority for the purpose of setting up of the Project and / or for sale and purchase of Solar Power of the Project pursuant to the Agreement.

(t) "Governmental Authority" means any central, state, regional, district, town, city or municipal government, whether domestic or foreign, or any department, agency, bureau, or other administrative, regulatory or judicial body of any such government.

(u) "Indemnified Persons" means the Purchaser Indemnified Parties or the Supplier-indemnified Parties, as the context requires.

(v) "Insolvency Event" means with respect to a Party, that either

(i) Such party has (A) applied for or consented to the appointment of or the taking of possession by a receiver, custodian, trustee, administrator, liquidator on the likes of itself or of all or a substantial part of its assets or business; (B) been unable to pay its debts as such debts become due; (C) made a general assignment for the benefit of its creditors, (D) commenced a voluntary proceeding under any insolvency or bankruptcy law; filed a petition seeking to take advantage of any other law relating to the bankruptcy, insolvency, reorganization, winding up or composition or readjustment of debts; or (E) taken any corporate or other action for the purpose of effecting any of the foregoing; or

ii. It is clarified that a dissolution or liquidation will not be an Insolvency Event if such dissolution or liquidation is for the purpose of a merger, consolidation or reorganization, and the resulting company retains credit worthiness similar to the dissolved or liquidated entity and expressly assumes all obligations of the dissolved and liquidated entity under this Agreement and is in a position to the perform them.

(w) "Installation Work" means the construction and installation of the System and the Start-up, testing and acceptance (but not the operation and maintenance) thereof; all performed by or for the Supplier at the Premises.

(x) "Invoice Date" has the meaning set forth in Section 7.2.

(y) "Losses" means all losses, liabilities, claims, demands, suits, causes of action, judgments, awards, damages, clean up and remedial obligations, interest, fines, fees, penalties, costs and expenses (including all attorneys' fees and other costs and expenses incurred in defending any such claims or other matters or in asserting or enforcing and indemnity' obligation)

(z) "Main Metering System" means all meter(s) and metering devices owned by the Supplier and installed at the Delivery point for measuring and recorded the delivery and receipt of energy.

(aa) "Metering Date" means the first Business day of each calendar month subsequent to the month in which the Solar Power is generated by the Supplier. The billable units shall be equal to the difference between the meter reading on the Metering Date and the meter reading on the previous month's Metering Date.

(bb) "Party" or Parties" has the meaning set forth in the preamble to this Agreement.

(cc) "Performance Ratio" (PR) means the ratio of plant output versus installed plant capacity

at any instance with respect to the radiation measured. $PR = \frac{\text{Measured output in kW}}{\text{Installed plant capacity in kW} \times 4000 \text{ W/m}^2} / \text{Measured radiation intensity in W/m}^2$

(dd) "Person" means an individual, partnership, corporation, Limited Liability Company, business trust, Joint Stock Company, trust, unincorporated association, joint venture, firm, or other entity, or a Governmental Authority.

(ee) "Supplier Default" has the meaning set forth in Section 12.1 (a).

(ff) "Supplier Indemnified Parties" has the meaning set forth in Section 16.2.

(gg) "Premises" means the premises described in Schedule 1 to this Agreement. For the avoidance of doubt, the Premises include, the entity of any and underlying real property located at the address described in Schedule 1 to this Agreement.

(hh) "Purchase Date" means the date on which title to the System transfers to the Purchaser pursuant to the Purchaser exercising its purchase option under Section 3.2.

(ii) "Purchase Price" means the fee payable by Purchaser to the Supplier under the circumstances described in Section 3.2

(jj) "Purchaser Default" has the meaning set forth in Section 12.2 (a).

(kk) "Purchaser Indemnified Parties" has the meaning set forth in Section 16.1

(ll) "Representative" has the meaning forth in Section 15.1.

(mm) "Scheduled Complete Date" has the meaning set forth in Section 4.1(g)

(nn) "Selectee" means, a new company (i) proposed by the Lenders read with Schedule III hereof and approved .by the Purchaser (ii) or proposed by the Purchaser in accordance. with Schedule III hereof and approved by-the Lenders, for substituting the Supplier for the residual period of the Agreement by amendment of the Agreement or by execution of a fresh power purchase agreement in-accordance with the terms and conditions contained in the said Schedule.

(oo) "Solar Power" means the supply of electrical energy output from the System.

(pp) "Solar Power Payment" has the meaning set forth in Section 7.1.

(qq) "System" includes the integrated assembly of photovoltaic panels, mounting, assemblies, inverters, converters, metering, lighting fixtures, transformers, ballasts, disconnects, combiners, switches, wiring devices and wiring, and all other material comprising the Installation Work, installed at the Premises

(rr) "System Operations" means the Supplier's operation; maintenance and repair of the System performed in accordance the requirement herein.

(ss) "Tariff" means the price per kWh set forth in Schedule II hereto.

(tt) "Term" has the meaning set forth in Section 3.1:

1.2 Interpretation

(a) Unless otherwise stated, all references made, in this Agreement to "Sections", "Clauses" and "Schedules" shall refer respectively to Sections, clauses and Schedules of this Agreement. The Schedules to this Agreement form an integral part of this Agreement and shall have effect as though they were expressly set out in the body of this Agreement.

(b) In the Agreement, unless the context otherwise requires (i) words imparting singular connotation shall include plural and vice versa: (ii) the words "include", "includes", and "including" mean include, includes and including "without limitation" and (iii) the words "hereof", "hereto", "herein" and "hereunder" and words of similar import refer to the Agreement as a whole and not to any particular provision of the Agreement.

2. Effective Date

This Agreement shall be effective on the day that falls one Business Day after the date of signing of this Agreement.

3. Terms and Termination

3.1 Term

The term of the Agreement shall commence on the Effective Date and shall continue for twenty-five (25) years from the Commercial Operations Date (the "Term"), unless and until terminated earlier in pursuance to the provisions of the Agreement. After the Term, the ownership of the System shall be transferred to the Purchaser free of cost.

3.2 Purchase Option/ Purchase Obligation

In case of default on part of supplier and further failure to rectify the same, Purchaser shall have the option to purchase the System by paying the Supplier the Purchase price as per Schedule III to this Agreement. To exercise its purchase option, the Purchaser shall give a notice in writing, not less than Ninety (90) days prior to the proposed Purchase Date to the supplier, stating its intent to exercise its option to purchase the System on such purchase date. Once the Purchaser confirms its intention to exercise the purchase option in the above prescribed manner : (i) Purchaser shall pay the applicable purchase price to the Supplier on the Purchase Date, and such payment shall be made in accordance with any written instructions delivered to Purchaser by the Supplier for payments under the Agreement, and (ii) the Parties shall promptly execute all documents necessary to: (A) cause title to the System to pass to Purchaser on the Purchase Date, free and clear of all liens and (B) assign all vendor warranties for the System to Purchaser. Upon execution of the documents and payment of the applicable purchase price in each case as described in the preceding sentence, the agreement shall terminate automatically and the Purchaser shall become the owner of the System. Upon such termination, the Supplier shall offer its operations and maintenance ("O&M") services to the Purchaser and the Parties may enter into an O&M agreement in this regard. The terms and conditions of the O&M agreement will be negotiated in good faith between the Parties.

3.3 Conditions of the Agreement prior to installation

In the event that any of the following events or circumstances occur prior to the Commercial Operation Date, the Parties may terminate the Agreement, in which case neither Party shall have any liability to the other except for any such liabilities that may have accrued prior to such termination.

(a) There has been a material adverse change in the rights of Purchaser to occupy the Premises or the Supplier to install the System at the Premises.

(b) The Supplier has determined that there are easements, Capacity Cost Recovery (CCRs) or

other liens or encumbrances that would materially impair or prevent the installation, operation, maintenance or removal of the System. If any dispute arises before commercial operation date, the same shall be resolved under clause, 17.7 (c)

4 Construction, Installation, Testing and Commissioning of the System.

4.1 Installation Work

a) The Supplier will cause the Project to be designed, manufactured, supplied, engineered, erected, tested and commissioned, operated & maintained and constructed in accordance with DNIT Document and the sanction letter issued by New & Renewable Energy Department Haryana/HAREDA. The Supplier shall provide to the Purchaser a bill of materials listing the major equipment constituting the System. Such bill of materials shall be provided within 30 days of the Commercial Operation Date.

b) The Supplier shall have access as reasonably permitted by the Purchaser to perform the Installation Work at the Premises in a manner that minimizes inconvenience to and interference with the use of the Premises to the extent commercially practical.

c) It is agreed between the Parties that the Supplier shall commission the System with a cumulative capacity of kWp. Supplier may construct a System of different size, as per site requirement/feasibility or for any other material commercial reason, as mutually agreed between the Parties in writing, In the event a System of smaller capacity is eventually agreed to be installed, the clauses pertaining to Purchase Price as set out under this Agreement shall be adjusted proportionately as per mutual agreement between the Parties in writing.

d) The Supplier shall provide and lay the dedicated electrical cables for transmission of Solar Power from the System up to the Delivery Point. Transmission or distribution of Solar Power beyond this point will be the responsibility of the Purchaser. The Delivery Point shall be synchronising point of the main distribution panel of the respective building.

e) Unless otherwise agreed between the Parties, the Supplier shall not (a) chip off the rooftop; or (b) disturb the water proofing of the roof ;(c) Carry out any other modification of the Premises without the written consent of the Purchaser.

f) The Supplier shall maintain general cleanliness of area around the Project during construction and operation period of the Project. In case any damages are caused to the equipment / facilities owned by the Purchaser due to the Supplier, the same shall be made good/ rectified by the Supplier at their cost.

g) The Supplier shall, within fifteen (15) working days of the Effective Date, submit to the Purchaser shop drawings of the Project for approval ("Shop Drawings"). The drawings will have to be approved from the Purchaser within three (3) working days from the submission of the drawings. If the Purchaser has any objection/recommendation in the Shop Drawings, he shall communicate the same to Supplier within a period of ten (10) working days of the date of submission of the Shop Drawings. Any delay will extend the Effective Date and such approval shall not be unreasonably withheld. Subject to any punch-list items, which shall be agreed by the Purchaser as not being material to completion of the Project, the Supplier agrees that it shall achieve the Completion of the Project/ Commissioning of the Project within the scheduled completion period from the Effective Date ("Scheduled Completion Date"). Purchaser shall ensure that sufficient load is available at the Delivery Point to ensure synchronization and drawl of power from System.

h) If the Supplier is unable to commence supply of Solar Power to the Purchaser by the Scheduled Completion Date, other than for the reasons specified in Article 11 and 12.2 (Force Majeure or Purchaser Default), the Supplier or its contractor shall pay to the Purchaser, genuine pre-estimated liquidated damages for the delay in such commencement of supply of Solar Power as per the clause no.____ of the DNIT document.

i) The Purchaser shall ensure that all arrangements and infrastructure for receiving Solar Power beyond the Delivery Point are ready on or prior to the Commercial Operation Date and is maintained in such state in accordance with applicable laws through the Term of the Agreement.

j) Supplier shall fulfil all obligations undertaken by it under this Agreement.

4.2 Approvals and Permits

Each of the Parties shall assist the other Party in obtaining all necessary Government Approvals, third party approvals and permits including but not limited to those listed in DNIT hereto and any waivers, approvals or releases required pursuant to any applicable CCR.

4.3 System Acceptance Testing

(a) The Supplier shall give 10 days advance notice to conduct the testing of the Project and shall conduct testing of the Project in the presence of Purchaser's designated representative (s).

(b) If the results of such testing indicate that the System is capable of generating electric energy (at full rated kWp) for 5 continuous hours using such instruments and meters as have been installed for such purposes, then the Supplier shall send' a Written notice to Purchaser to that effect, and the date of successful conducting such tests and injection of. Power at Delivery Point shall be the "Commercial Operation Date"

5 System Operations

5.1 The Supplier as Owner and Operator

The System will be legally and beneficially owned by the Supplier and will be operated and maintained and, as necessary, repaired by the Supplier at its sole cost and expense. Replacement of spare parts if any shall be responsibility of Supplier for the complete period of Agreement. If any repair or maintenance costs incurred by the Supplier as a result of Purchaser's breach of its obligations, shall be reimbursed in full by Purchaser. Supplier shall not be responsible for any work done by others on any part of the System/Project authorized by the Purchaser and not authorized in advance by the Supplier in writing. Supplier shall not be responsible for any loss, damage, cost or expense arising out of or resulting from improper operation or 'maintenance of the System by Purchaser or anyone instructed to do such work by Purchaser. In the event of a problem with the System, as a result of the Purchaser actions for which

Supplier is not responsible as provided in this Agreement, Purchaser may choose and pay Supplier for diagnosing and correcting the problem at Supplier or Supplier's contractor's standard rates.

5.2 Metering

(a) The Supplier shall install the Main Metering System with due certification for the measurement of electrical energy produced by the System.

(b) The meter will be read by Supplier's personnel on the Metering date. The authorized

representative of the Purchaser shall be present at the time of meter reading. Both the Parties shall sign a joint meter reading report. However, in case the Joint meter reading report is not signed in the first seven business days of any month due to non-availability of the Purchaser's authorized representative, the report signed by the Supplier shall be considered as Joint Meter Reading Report. The Parties agree that such Joint meter reading Report shall be final and binding on the Parties.

(c) The Main Metering System at the Delivery Point and any additional meters required by Applicable Law shall be tested, maintained and owned by the Supplier.

(d) The Supplier shall connect the Solar output to the existing system of the Purchaser as per the requirements and guidelines of the state DISCOM

(e) The Purchaser may, at its own discretion, install a check meter, at its cost, to verify the measurements of the Main Metering System.

(f) The title to the Solar Power supplied by the Supplier shall pass to the Purchaser at the Delivery Point.

(g) Supplier shall be responsible for transformer etc. "if required" & metering as per respective clause of the DNIT Document.

5.3 System Disruptions

(a) Availability of premises: Purchaser will provide full access of the site to Supplier for installation, operation and maintenance of solar power plant during the period of Agreement. Purchaser will also provide restricted access of the Premises to Supplier for operation and maintenance of solar power plant.

(b) Purchaser will not provide/construct any structure within its Premises or around its premises which shades the solar panels effecting the generation of the energy during the Agreement period.

(c) Roof Repair and other System Disruptions In the event that (a) the Purchaser repairs the Premises' roof for any reason not directly related to damage, if any, caused by the System, and such repair required the partial or complete temporary disassembly or movement of the System, or (b) any act or omission of Purchaser or Purchaser's employees, Affiliates, agents or subcontractors (collectively, a "Purchaser Act") result in a disruption or outage in System production, and such events attributable to Purchaser (except Force majeure, then, in either case) Purchaser shall (i) pay the Supplier for all work required by the Supplier to disassemble or move the System and re-assemble the system after completion of the repair work and (ii) continue to make all payments for the Solar Power during such period of System disruption (the "Disruption Period"). For the purpose of calculating Solar Power Payments and lost revenue for such Disruption Period, Solar Power shall be deemed to have been produced at the average rate, over the preceding 12 (Twelve) months, or, if the disruption occurs within the first 12 months of operation, the average over such period of operation (Deemed Generation). Supplier shall inform about the 'disruption or outage in System production, for reasons attributable to purchaser in 'writing with date and time of such occurrences, and Purchaser's liability shall start from the date of intimation for above of disruption or outage in system production, on account of Purchaser.

6 Delivery of Solar Power

6.1 Purchaser Requirement:

Purchaser agrees to purchase one hundred percent (100%) of the Solar Power generated by

the System and made available by the Supplier to Purchaser at the Delivery Point during each relevant month of the Term. In the event that the Purchaser is unable to off take 100% of the electricity generated, when it is generated, then Deemed Generation will apply only in case following conditions:

a) In the event Supplier is generating power more than the available load, and the Purchaser is not able to export or record the excess units generated due to faults in the equipment of the Purchaser e.g., Net meter Cables, Equipment's etc., which may stop the feeding / record of the Solar Power generated.

b) In the event that the Purchaser fails to ensure adequate space for solar equipment to ensure that other structures do not partially or wholly shade any part of the Solar Power Plant and if such shading occurs, the Supplier may apply for Deemed Generation furnishing the calculation for loss in generation due to such shading supported by the relevant data, which shall be approved by Purchaser within one month of submission failing which the Supplier shall claim provisional deemed generation till the issue is finally settled.

c) However, the capacity of the systems shall be decided in such a way that it may produce maximum 90% of the total yearly consumption of the building on which system be installed. The assessment of capacity shall be suggested by the Supplier in consultation with building owner/ user department.

d) Further, in future if the production increases due to improvement of technology and sold to Utilities or third party as per prevailing policy provisions then the profit sharing between Purchaser and Supplier shall be in the ratio of 25:75.

6.2 Estimated Annual Production

The annual estimate of Solar Power with respect to the System for any given year as determined pursuant to this Section shall be the "Estimated Annual Production". The supplier shall ensure to annual power generation guarantee of minimum 1300 kWh per kWp capacity in the first year with the permissible degradation as per MNRE specifications/guidelines in subsequent years.

6.3 Suspension of Delivery

Supplier shall be entitled to suspend delivery of electricity from the System to the Delivery Point for the purpose of maintaining and repairing the System upon giving one week's advance written notice to the Purchaser except in the case 'of emergency repairs. Such suspension of Service shall not constitute a breach of this Agreement provided that the Supplier shall use commercially reasonable efforts to minimize any 'interruption in service to the Purchaser. However, any preventive maintenance shall be done only during the period when plant is not generating. In case of any fault occurred due to any technical reason, the Supplier shall be liable to rectify the same within 72 hours otherwise liable for payment equal to deemed generation for the period over and above 72 hours.

7 Tariff and Payment

7.1 Consideration Purchaser shall pay to the Supplier a monthly payment (the "Solar Power Payment") for the Solar Power generated by the System as per the Metering clause 5.2 (b) above during each calendar month of the Term equal to the actual Monthly Production as recorded in Joint Meter Reading Report for the System for the relevant month multiplied by the Tariff irrespective of (i) whether any or all units of Solar Power has been drawn, consumed or utilized by Purchaser and / or (ii) whether any Solar Power has been injected, whether inadvertently or otherwise, into the grid of the Distribution Utility. The Supplier will bill the Purchaser for each KWh metered as above at the Delivery Point, at the Tariff prevailing at that point of time. **The Tariff will be equal to Rs./kWh levelized tariff for**

25 years as per approval of HAREDA. The 'year' Considered shall be the financial year which April 1st to 31st March of every year.

7.2 Invoice

The Supplier shall raise the invoice to the Purchaser on the first day of each month (each, an "Invoice Date") commencing on the first Invoice Date to occur after the Commercial Operation Date, for the Solar Power Payment in respect of the immediately preceding month. The last invoice shall include production only through the Expiration Date of this Agreement.

7.3 The invoice to the purchaser shall include.

(a) The Solar Power calculations for the relevant billing period.

(b) Supporting data, documents and calculations in accordance with this Agreement.

7.4 Time of payment

Purchaser shall pay all amounts due hereunder within 30 days after the date of the receipt of the invoice via email or post ("Due Date").

7.5 Method of Payment

Purchaser shall make all payments under the Agreement by cheque / demand draft/ NEFT/RTGS/electronic funds transfer only in immediately available funds to the account designated by the Supplier from time to time. All payments made hereunder shall be non-refundable, subject to the applicable tax deduction at source, and be made free and clear of any other tax, levy, assessment; duties or other charges and not subject to reduction, set-off, or adjustment of any kind. Further, if any taxes and duties are leviable currently or in future, such taxes and duties shall be paid by the Purchaser over and above the solar electricity tariff mentioned in this agreement. Such taxes and duties could include, but not restricted to Electricity Duty, Tax on Sale of Electricity (TOSE). If the Purchaser deducts any tax at source, the Purchaser will issue a tax credit certificates as per law.

7.6 Late Payment Surcharge

The Purchaser has to pay the bill raised by the Supplier within one-month period from the date of bill with 15 days grace period. However, if the bill is not paid by the Purchaser within 45 days of bill date, then a late penalty shall be paid by the Purchaser to the Supplier @1.25% ("Late Payment Surcharge") of the amount, calculated on the amount of outstanding payment, calculated on a day to day basis for each day of the delay, compounded on monthly rates, which will start after 45 days of the date of bill.

7.7 Disputed Payments

In the event that the Purchaser disputes an invoice, it shall give notice of such a dispute within 15 days of receiving the invoice setting out details of the disputed amount. The Purchaser shall pay by the Due Date 100% of any undisputed amount and in case the invoice is disputed, the Purchaser shall pay an amount based on average consumption of last three consecutive undisputed invoices. Amount so recovered shall be subject to final adjustment on resolution of the dispute. Thereafter, the Parties shall discuss and try to resolve the disputed amount within a week of receipt of such notice of dispute. If the Parties resolve the dispute, an appropriate adjustment shall be made in the next invoice. If the dispute has not been resolved by the date of the next invoice the dispute shall be referred to a committee of one member from each of Purchaser and Supplier, If the dispute is still-not resolved by the next following invoice it shall be referred to Arbitration as provided in the present Agreement.

7.8 Change in Law:

(a) For the Purpose of this section 7.8, the term "Change in Law" shall mean the occurrence of any of the following events after the Effective date, resulting into any additional recurring / non-recurring expenditure by the Supplier or any income to the Supplier:

(i) The enactment, coming into effect, adoption, promulgation, amendment, modification or repeal (without re-enactment or consolidation) in India, of any Law, including rules and regulations framed pursuant to such Law; or

(ii) A change in the interpretation of any Law by any Governmental Authority having the legal power to interpret or apply such Law, or any competent court; or

(iii) The imposition of a requirement, for obtaining any Government Approvals which was not required earlier; or

(iv) a change in the terms and conditions prescribed for obtaining any Government Approvals or the inclusion of any new terms or conditions for Obtaining such Government Approvals; or

(v) any introduction of any tax made applicable for supply of power by the Supplier as per the terms of this Agreement. Any benefit due to change in tax on the sale of solar energy shall be passed on to Purchaser.

Any benefit arising due to change in above para (i) to (v) shall be passed on to the Purchaser. But not include any change in any withholding tax on income or dividends distributed to the shareholders of the Supplier.

(b) Application and Principles for computing impact of Change in Law: While determining the consequence of Change in Law under this Article 7.8, the Parties shall have due regard to the Principle that the purpose of compensating the Party affected by such change in Law, is to restore through monthly bill payment, to the extent contemplated in this Article 7.8, the affected Party to the same economic position as if such Change in Law has not occurred and such impact shall be mutually decided in writing.

(c) Solar Power Payment Adjustment Payment on account of Change in Law Subject to provisions mentioned above, the adjustment in Solar Power Payment shall be effective from:

(i) The date of adoption, promulgation, amendment, re-enactment or repeal of the Law or Change in Law; or

(ii) The date of order/ judgment of the competent court; of tribunal or Governmental Authority, if the Change in Law is on account of a change in interpretation of Law.

8 General Covenants

8.1 Supplier's Covenants

The Supplier covenants and agrees to the following:

(a) Notice of Damage or Emergency: The Supplier shall (a) promptly notify Purchaser if it becomes aware of any damage to or loss of the use of the System or that could reasonably be expected to adversely affect the System, (b) immediately notify Purchaser once it becomes aware of any event or circumstance that poses an imminent risk to human health, the environment, the System or the Premises.

(b) System Condition: The Supplier shall take all actions reasonably necessary to ensure that the System is capable of providing Solar Power at a commercially reasonable continuous rate: Subject to there being no Purchaser Default, the Supplier shall provide 24 x 7 monitoring and

maintenance of the System throughout the period of this agreement at no additional cost.

(c) The System shall meet minimum guaranteed generation with Performance Ratio (PR) at the time of commissioning and related Capacity Utilization Factor (CUF) as per the daily normalized irradiance levels of the location during the O&M period. PR shall be minimum of 75% at the time of inspection for initial Project acceptance.

(d) Governmental Approvals: While providing the Installation work, solar Power and System Operations, the Supplier shall obtain and maintain and secure all Governmental Approval required to be obtained and maintained and secured by the Supplier and to enable the Supplier to perform such obligations

(e) The interconnection of the rooftop solar system with the network of the distribution licensee shall be made as per the technical standards for connectivity of distributed generated resources regulation as may be notified by the competent authority. The interconnection of the rooftop solar system shall be as per the contracted load and / or respective voltage level applicable to the Purchaser as per the provisions of the guidelines issued by the competent authority.

(f) Health and Safety: The Supplier shall take all necessary and reasonable safety precautions with respect to providing the installation Work, Solar Power, and System Operations that shall comply with all Applicable Law pertaining to the health and safety of persons and real and personal property.

8.2 Supplier's Representatives

During the subsistence of this Agreement, the Supplier undertakes to respond to all questions, concerns and complaints of the Purchaser regarding the System in a prompt and efficient manner. The Supplier designates the following individuals as its representative and primary point of contact pertaining to performance of this Agreement following the Commercial Operation Date till termination:

Name:

Telephone:

Email:

8.3 Purchaser's Covenants

Purchaser covenants and agrees to the following:

(a) Notice of Damage or Emergency: Purchaser shall (a) promptly notify the Supplier if it becomes aware of any damage to or loss of the use of the System or that could reasonably be expected to adversely affect the System; (b) immediately notify the Supplier once it becomes aware of any event or circumstance that poses an imminent risk to human health, the environment, the System or the Premises.

(b) Liens: Purchaser shall not directly or indirectly cause, create, incur, assume or suffer to exist any Liens on or with respect to the System or any interest therein. If Purchaser breaches its obligations under this Clause, it shall immediately notify the Supplier in writing, and shall promptly cause such Lien to be discharged and released of record without any cost to the Supplier, and shall indemnify the Supplier against all costs and expenses (including reasonable attorney's fees and court costs) incurred in discharging and releasing such Lien.

(c) Consents and Approvals: Purchaser shall ensure that any authorizations required of Purchaser under this Agreement, including those required for installation of System at the Premises and to drawl consume Solar Power are provided in a timely manner. The Purchaser shall cooperate with the Supplier to obtain such approvals, permits, rebates or other 'financial incentives.

(d) Access to Premises Grant of License: Purchaser hereby grants to the Supplier a license co-terminus with the Term, containing all the rights necessary for the Supplier to use portions of the Premises for the installation, operation and maintenance of the System pursuant to the terms of this Agreement, including ingress and egress rights to the Premises for the Supplier and its employees and authorized representatives and access to electrical panels and conduits to interconnect or disconnect the System with the Premises electrical wiring with the consent and approval of the Purchaser's authorized representative identified by the Purchaser. Photo IDs will be provided by the Supplier. Purchaser will assist in availing permissions to the site.

(e) Security: The Purchaser shall exercise due diligence to ensure the security of the building in which Solar Power System is installed. In spite of the reasonable measures, if any damages to the System takes place due to theft or vandalism then the same shall be claimed or reimbursed through insurances by Supplier. In case of theft and vandalism acts, the Purchaser will assist the Supplier in procedures of filing FIRs, insurance claims and any other related activities. Whenever, the damages to the System occurs (except due to negligence of Supplier) then the same shall be jointly assessed by both the Parties and a severity level will be decided, which will further decide the duration offered to the Supplier to correct the damage, and the Supplier shall be paid the amount on the basis of 'Deemed Generation' for such a period. Supplier shall be entitled to any insurance proceeds received for damages in this clause. Purchaser will not conduct activities on, in or about the Premises that have a reasonable likelihood of causing damage, impairment or otherwise adversely affecting the System. If System is damaged due to any such activity or through any other agency contracted by the Purchaser directly or indirectly, such damage will be borne by the Purchaser.

(f) Regardless of whether Purchaser is owner of the Premises or leases the Premises from a landlord, Purchaser hereby covenants that (a) the Supplier shall have access to the Premises and System during the Term of this Agreement, and neither Purchaser nor Purchaser's landlord will interfere or handle any of the Supplier's equipment or the System without written authorization from the Supplier.

(g) Temporary storage space during installation: Purchaser shall provide sufficient space at the Premises for the temporary storage and staging of tools, materials and equipment and for the parking of construction crew vehicles and temporary Construction, trailers and facilities reasonably necessary during the Installation Work, System Operations and access for rigging and material handling.

(h) Sunlight Easements: Purchaser will take all reasonable actions as necessary to prevent other building, structures or flora from overshadowing or otherwise blocking access of 'sunlight to the System, including but not limited to such actions as may be reasonably necessary to obtain a solar access easement for such purpose.

(i) Evacuation – Purchaser shall off take 100% of the Solar Power generated from the Delivery Point, and pay all invoices raised by the Supplier under this Agreement by the 'Due Date and pay delay penalty on delayed payments (as per clause 7.6), if any, as per this Agreement.

(j) Water - Purchaser at zero cost shall arrange Raw Water at a given point as per the requirements of the Supplier, for periodic cleaning of the solar panels (3750 liters - twice a month).

(k) Auxiliary Power – The Purchaser shall provide sufficient auxiliary power to the Supplier for the maintenance and operation of its system, if available and possible, at the rate Purchaser is paying to the DISCOM.

(l) Relocation - If for any reason, one or more of the Solar Power Plant panels need to be temporarily moved or its generation suspended, then the Purchaser will be responsible for pre-agreed costs, accrued from moving, disassembling and reinstalling/ commissioning the Solar Power Plant, as agreed between the Parties. The Supplier will be responsible for providing detailed documentary proof of the costs borne for such relocation/disassembling. Within 30 days of these satisfactory documents being provided by the Supplier, the Purchaser shall reimburse these pre-agreed expenses in full, and delayed payment beyond the date mentioned above will attract Late Payment charges as described in Clause 7.6. During any interruption in generation during such relocation, the Purchaser will continue to be billed as per Deemed Generation, during the period of interruption, for the affected Solar Power Plant(s).

9 Representations & Warranties

9.1 Representations and Warranties Relating to Agreement Validity In addition to any other representations and warranties contained in the Agreement, each Party represent and warrants to the other that:

(a) It is duly organized and validly existing and in good standing in the jurisdiction of its incorporation;

(b) It has the full right and authority to enter into, execute, deliver, and perform its obligations under the Agreement.

(c) It has taken all requisite corporate or other action to approve the execution, delivery, and performance of the Agreement;

(d) The Agreement constitutes its legal, valid and binding obligation enforceable against such Party in accordance with its terms;

(e) There is no litigation, action, proceeding or investigation pending or, to the best of its knowledge, threatened before any court or other Governmental Authority by, against, affecting or involving any of its business or assets that could reasonably be expected to adversely affect its ability to carry out the transactions contemplated herein; and

(f) The execution and performance of the Agreement and the transactions contemplated hereby do not constitute a breach of any term or provision of, or a default under (i) any contract or agreement to which it or any of its Affiliates is a party or by which it or any of its Affiliates or its or their property is bound, (ii) its organizational documents, or (iii) any Applicable Laws.

10 Taxes and Governmental Fees

10.1 Purchaser obligations

Purchaser shall pay for any taxes, fees or charges imposed or authorized by any Governmental Authority in future (as on date no such taxes/fees/charges are being levied) on sale of the Solar Power to Purchaser pursuant to clause 7. The Supplier shall notify Purchaser in writing with a detailed statement of such amounts, which shall be invoiced by the Supplier in the monthly bills and payable by Purchaser. Purchaser shall timely report, make filings for, and pay any and all sales, use, income or other taxes, and any other amounts assessed against it due to its purchase of the Solar Power. This Section 10.1 excludes taxes specified in Section 10.2.

10.2 Supplier Obligations

The Supplier shall be responsible for all income taxes and any and all franchise fees or similar

fees assessed against it due to its ownership of the System. The Supplier shall not be obligated for any taxes payable by or assessed against Purchaser based on or related to Purchasers overall income or revenues.

11 Force Majeure

11.1 Definition

"Force Majeure Event" means any act or event that prevents the affected Party from performing its obligation in accordance with the Agreement, if such act or event is beyond the reasonable control of the affected Party and such Party had been unable to overcome such act or event with the exercise of due diligence (including the expenditure of reasonable sums). Subject to the foregoing conditions, "Force Majeure Event" shall include without limitation the following acts or events: (i) natural phenomena, such as storms, hurricanes, floods, lightning, volcanic eruptions and earthquakes; (ii) explosions or fires arising from lighting or other causes unrelated to the acts or omissions of the Party seeking to be excused from performance; (iii) acts of war or public disorders, civil disturbances, riots, insurrection, sabotage, epidemic, terrorist acts, or rebellion. A Force Majeure Event shall not be based on the economic hardship of either Party.

In case of any damage because of force majeure event, the System shall be repaired / commissioned at its own cost by the Supplier.

11.2 Excused Performance: Except as otherwise specifically provided in the Agreement, neither Party shall be considered in breach of the Agreement or liable for any delay or failure to comply with the Agreement, if and to the extent that such delay or failure is attributable to the occurrence of a Force Majeure Event; provided that the Party claiming relief under this Section 11 shall immediately (i) notify the other Party in writing of the existence of the Force Majeure Event, (ii) exercise all reasonable efforts necessary to minimize delay caused by such Force Majeure Event, (iii) notify the other Party in writing of the cessation or termination of said Force Majeure Event and (iv) provided, however, that Purchaser shall not be excused from making any payments and paying any unpaid amounts due in respect of Solar Power delivered to Purchaser prior to the Force Majeure Event performance interruption.

11.3 Termination as a Consequence of Force Majeure Event

If a Force Majeure Event shall have occurred that has affected the Supplier's performance of its obligations hereunder and that has continued for a continuous period of one hundred eighty (180) days, then Purchaser shall be entitled to terminate the Agreement and if such Force Majeure Event continues for further ninety (90) days period, the Agreement shall automatically terminate. Upon such termination for a Force Majeure Event, neither Party shall have any liability to the other (other than any such liabilities that have accrued prior to such termination).

12 Default

12.1 Supplier Defaults and Purchaser Remedies

(a) **Supplier Defaults:** The following events shall be defaults with respect to the Supplier (each, a "Supplier Default").

(i) An Insolvency Event shall have occurred with respect to the Supplier;

(ii) Failure to achieve Commissioning of the System within the period as per DNIT Document; and

(iii) The Supplier breaches any material term of the Agreement and

(A) if such breach can be cured within sixty (60) days after Purchaser's written notice of such breach and the Supplier fails to cure the same; or (B) the Supplier fails to commence and pursue a cure within such sixty (60) days period if a longer cure period is needed.

(b) Purchaser's Remedies:

(i) If a Supplier Default described in Section 12.1 (a) has occurred and is continuing, in addition to other remedies expressly provided herein, and subject to Section 13, Purchaser shall have a right to deliver a notice of its intention to terminate this Agreement ("Purchaser Preliminary Default Notice"), which shall specify in reasonable detail, the circumstances giving rise to the issue of such notice

(ii) Upon the occurrence and continuation of Supplier Default and the failure by the Supplier to cure such default within the applicable cure period specified in this Article; the Purchaser shall be at liberty to avail the services of any other firm / successful bidder.

(iii) Following the issue of Purchaser Preliminary Default Notice, it shall be the responsibility of the Parties to discuss as to what steps shall be taken with a view to mitigate the consequences of the relevant Supplier's Default having regard to all the circumstances: If the Supplier Default is not cured within a period of sixty (60) days of the issue of Purchaser Preliminary Default Notice or any other such period mutually agreed upon by the Parties, the Purchaser shall have the right to terminate this Agreement by issuing a Purchaser Termination Notice.

(iv) Upon the delivery of the Purchaser Termination Notice, this Agreement shall stand terminated. The Supplier shall have the liability to make payment within sixty (60) days from the date of Purchaser Termination Notice towards compensation to Purchaser equivalent to the difference between the Tariff and the grid rate notified by the relevant Government Authority for that point in time multiplied by the estimated Solar Power generated for a period of two years following the termination, considered on normative capacity utilization factor.

(v) if the Supplier fails to remove the System from the Premises within one month from the date of termination, the Purchaser shall be entitled to dispose of the System in any manner it deems fit.

(vi) The Purchaser may exercise any other remedy it may have at law or equity or under the Agreement.

12.2 Purchaser Defaults and Supplier's Remedies

(a) Purchaser Default: The following events shall be defaults with respect to Purchaser (each, a "Purchaser Default")

(i) Purchaser breaches any material term of the Agreement if (A) such breach can be cured within sixty (60) days after the Supplier's notice of such breach and Purchaser fails to so Cure, or (B) Purchaser fails to commence and pursue said cure within such sixty (60) day period if a longer cure period is needed; and

(ii) Purchaser-fails to pay the Supplier any undisputed amount or, if the amount is disputed, an amount based on average consumption of last three consecutive undisputed invoices to the Supplier under Section 7.7 of this Agreement within sixty (60) days from the receipt of notice from the Supplier of such past due amount

(b) Supplier's Remedies: If a Purchaser Default described in Sections 12.2

(a) has occurred and is continuing, in addition to other remedies expressly provided herein, and subject to Section 13, the Supplier shall be entitled to terminate this Agreement by serving a thirty (30) days' notice and upon such termination, the Supplier shall be entitled to receive from Purchaser the Purchase Price. The Purchase Price payable shall be the Purchase Price Specified in Schedule III that falls on such date. Upon the payment of the Purchase Price, the Supplier shall cause the title of the System to transfer to the Purchaser and (b) the Supplier may exercise any other remedy it may have at law or equity or under the Agreement.

13 Limitations of Liability

13.1 Except as expressly provided herein, neither Party shall be liable to the other Party or its Indemnified Persons for any special, punitive, exemplary, indirect, or consequential damages, losses or damages for lost revenue or lost profits, whether foreseeable or not, arising out of, or in connection with the Agreement.

13.2 Subject to the provisions of the Agreement, the Supplier shall be solely responsible for the manner in which its obligations under this Agreement are to be performed. All employees and representatives of the Supplier, or contractors engaged by the Supplier in connection with system shall not be deemed to be employees, representatives, contractors of the Purchaser Nothing contained in the Agreement or in any agreement or contract executed by the Supplier shall be construed to create any contractual relationship between any such employees, representatives or contractors and the Purchaser.

13.3 Notwithstanding any liability. or obligation that may arise under this Agreement, any loss, damage, liability, payment, obligation or expense which is insured or not or for which the Supplier can claim compensation under any insurance policy, shall not be charged to or payable by the Purchaser

14 Assignment & Novation

14.1 Assignment: Notwithstanding anything contained herein, the Supplier has the right to assign all or any of its rights under this Agreement (including rights over any assets hereunder), to any third party including, though not restricted to any lender, equipment lessor or other party("Assignment"), with the consent of the Purchaser. The Purchaser shall not unreasonably withhold such consent. In the event of such assignment, the Purchaser will be able to hold the Supplier as well as the party to whom the benefits under this contract are assigned, to be jointly and severally responsible for performing the obligations under this contract. Further, in the event of assignment, the Purchaser agrees to make the payments due to the Supplier under this agreement, directly to the assignee, upon receipt of such notice by the Supplier. If the Supplier were to sell the Solar Power Plant, then the new buyer(s) would need to abide by this Agreement. Further, the Supplier reserves the right to assign whole or part of the assets to lenders/ leasing companies. Purchaser may assign its rights under this Agreement, without the prior consent of Supplier, to an Affiliate or any successor in interest to Purchaser, whether by way of merger, reorganization or sale of assets (including any sale of a line of business). This Agreement shall enure to the benefit of and be binding upon Purchaser and its successors or assigns. However, any such actions as intended by the Supplier under Article 14.1 and Article 14.2 shall be binding on Purchaser, if there are zero material inconsistencies present in the contract provisions during the time of assignment/novation, else, it shall be construed as default in contract and appropriate actions shall be taken as deemed fit.

14.2 Novation: The Parties agree and acknowledge that the Supplier may intend to novate the Agreement to a party, and has the right to transfer any or all of its rights and obligations under this Agreement to a party or any other third party ("New Party"), with the consent of

the Purchaser. The Purchaser shall not unreasonably withhold such consent. Upon Novation, the New Party shall automatically and without any further action be entitled to all the same rights and assume the same obligations, under this Agreement, as if it were originally a party to this Agreement. Further, the Purchaser hereby agrees and undertakes that, promptly upon receiving a request from the Supplier, the Purchaser shall execute such further writings, deeds and/or agreements and take all such further actions as may be necessary for effecting or implementing the transfer of any or all of the Supplier's rights and/or obligations under this Agreement to the New Party. If the parties agree to do Novation then separate Novation agreement shall be executed.

14.3 Notices

Unless otherwise provided in the Agreement, all notices and communications concerning the Agreement shall be in writing and addressed to the Parties at the addresses set forth below:

Supplier's address and contact details:

Address:

Contact No.:

E.Mail:

Purchasers address and contact details:

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14.4 Notice

Unless otherwise provided herein, any notice provided for in the Agreement shall be hand delivered, sent by registered post, or by courier delivery, or transmitted by facsimile and shall be deemed delivered to the addressee or its office when received at the address for notice specified above when hand delivered or sent toy courier delivered or sent by courier delivery, upon posting if sent by registered post and upon confirmation of sending when sent by facsimile on the next Business Day.

15 Confidentiality

15.1 Confidentiality obligation

(a) If the Supplier provides confidential information, including business plans, strategies, financial information, proprietary, patented, licensed, copy righted or trademarked information, and / or technical information regarding the , design, operation and maintenance of the System ("Confidential Information") to Purchaser or, if in the course of performing the Agreement or negotiating the Agreement Purchaser learns Confidential Information regarding the facilities or plans of the Supplier, the Purchaser shall (a) protect the Confidential information from disclosure to third parties with the same degree of care accorded to its own confidential and proprietary information, and (b) refrain from using such Confidential Information, except in the negotiation and performance of the Agreement. Notwithstanding the above, Purchaser may provide such Confidential Information to its officers, directors, manager, employees and Affiliates (collectively "Representatives"), whose access is reasonably necessary for purposes of the Agreement. Such recipient of confidential information shall be informed by Purchaser of its confidential nature and shall be directed to treat such information confidentially and shall agree to abide by these provisions. Purchaser shall be liable for any breach of this provision by itself or by any entity to whom it improperly discloses Confidential Information. All Confidential Information shall remain the property of the Supplier

(b) If the Purchaser provides confidential information, including business plans, strategies, financial information, proprietary, patented, licensed, copy

righted or trademarked information, ("Confidential Information") to the Supplier or, if in the course of performing the Agreement or negotiating the Agreement the Supplier learns Confidential Information regarding the facilities Or plans of the Purchaser, the Supplier shall (a) protect the Confidential Information from disclosure to third parties with the same degree of care accorded to its own confidential and proprietary information, and (b) refrain from using such Confidential Information, except in the negotiation and performance of the Agreement. Notwithstanding the above, the Supplier may provide such Confidential Information to its officers, directors, managers, employees and Affiliates (collectively, "Representatives"), whose access is reasonably necessary for purposes of the Agreement. Each such recipient of Confidential Information shall be informed by the Supplier of its confidential nature and shall be directed to treat such information confidentially and shall agree to abide by these provisions. The Supplier shall be liable for any breach, of this provision by itself or by any entity to whom it improperly discloses Confidential Information. All Confidential Information shall remain the property of the Purchaser.

15.2 Permitted Disclosures

Notwithstanding any other provision contained herein, neither Party shall be required to hold confidential any information that;

- (a) Becomes publicly available other than through the receiving Party.
- (b) Is required to be disclosed under Applicable Law or pursuant to a validly issued notice or required filling, but a receiving Party subject to any such requirement shall promptly notify the disclosing Party of such requirement
- (c) Is independently developed by the receiving Party; or
- (d) Becomes available to the receiving Party without restriction from a third party under no obligation of confidentiality.

16 Indemnity

16.1 Supplier's Indemnity

Subject to Section 13, the Supplier agrees that it shall indemnify and hold harmless Purchaser and its members, officers, employees, students, casual laborers, persons permitted' to run any business or service, such as canteens, stores, photocopy units, banks, post office, courier service, hospital and to any lawful visitors (collectively, the "Purchaser Indemnified Parties") from and against any and all Losses incurred by the Purchaser Indemnified Parties to the extent arising from or out of the following any claim for or arising out of any injury to Or death of any Person or Loss or damage to Property of any Person to the extent arising out of the Supplier's negligence or wilful misconduct. The Supplier shall not, however, be required to reimburse or indemnify any Purchaser Indemnified Party for any Loss to the extent such Loss is due to the negligence or wilful misconduct of any Purchaser Indemnified Party.

16.2 Purchaser's Indemnity

Subject to Section 13, Purchaser agrees that it shall indemnify, defend and hold harmless the Supplier, its permitted successors and assigns and their respective directors, officers, employees, contractors, sub-contractors, and agents (collectively, the "Supplier indemnified Parties") from and against any and all Losses incurred by the Supplier Indemnified Parties to the extent arising from or out of any claim for or arising out of any injury to or death of any Person or loss or damage to property of any Person to the extent arising out of Purchaser's negligence or wilful misconduct. Purchaser shall not, however, be required to reimburse or indemnify any rowel Producer Indemnified Party for any Loss to the extent such Loss is due to the negligence or wilful misconduct of any Supplier Indemnified Party.

17. Miscellaneous

17.1 Amendments

This Agreement may only be amended, modified or, supplemented by an instrument in writing executed by duly authorized representatives of the Supplier and Purchaser.

17.2 Goodwill and Publicity

Neither Party shall use any name, trade name, service mark or trademark of the other Party in any promotional or advertising material without the prior written consent of such other Party. The Parties shall coordinate and cooperate with each other when making public announcements related to the execution and existence of this Agreement, and each Party shall have the right to promptly review, comment upon and approve any publicity materials, press releases and other public statements by the other Party that refer to, or that describe any aspect of, this Agreement; provided that no such publicity releases or other public statements (except for fillings or other statements or releases as may be required by applicable law) shall be made by either Party without the prior written consent of the other Party. Without limiting the generality of the foregoing and whether or not the consent of the other Party is required or obtained, all public statements must accurately reflect the rights and obligations of the Parties under this Agreement.

17.3 Industry Standards

Except as otherwise set forth herein, for the purpose of the Agreement, the normal standards of performance within the solar photovoltaic power generation Industry in the relevant market shall be the measure of whether a Party's performance is reasonable and timely. Unless expressly defined herein, words having well-known technical or trade meanings shall be so construed.

17.4 Cumulative Remedies

Except as set forth to the contrary herein, any right or remedy of the Supplier or Purchaser shall be cumulative and without prejudice to any other right or remedy.

17.5 No Waiver

The failure of the Supplier or Purchaser to enforce any of the provisions of the Agreement, or the waiver thereof, shall not be construed as a general waiver or relinquishment on its part of any such provision in any other instance or of any other provision in any instance.

17.6 Survival

The obligations under Section 8:1 (d) (Supplier Covenant), Sections 8.3(d), (e), (f) and (g) (Purchaser Covenants), Section 10 (Taxes and Governmental Fees), Section 13 (Limitation of Liability) Section 12.2 (Notices), Section 15 (Confidentiality), or pursuant to other provisions of this Agreement that, by their nature and context, are intended to survive. Termination of this Agreement shall survive the expiration or termination of this Agreement for any reason.

17.7 Governing Law & Jurisdiction

(a) This Agreement shall be governed by and construed in accordance with the laws of India. The Parties agree that the courts in Panchkula Haryana shall have jurisdiction over any action or proceeding arising under the Agreement.

(b) In the event of any Dispute, difference of opinion or dispute or claim arising out of or relating to this Agreement or breach, termination or the invalidity thereof, shall firstly be attempted to be resolved by conciliation. Any Dispute that cannot be settled through conciliation procedure shall be referred to arbitration in accordance with the procedure given below. The Parties agree to comply with the awards resulting from arbitration and waive their

rights to any form of appeal insofar as such waiver can validly be made. Cost of conciliation shall be equally shared by both the parties.

(c) Arbitration Procedure:

Settlement of Dispute:

If any dispute of any kind whatsoever arises between Purchaser and Supplier in connection with or arising out of the contract including without prejudice to the generality of the foregoing, any question regarding the existence, validity or termination, the parties shall seek to resolve any such dispute or difference by mutual consent. If the parties fail to resolve, such a dispute or difference by mutual consent, within 45 days of its arising, then the dispute shall be referred by either party by giving notice to the other party in writing of its intention to refer to arbitration as hereafter provided regarding matter under dispute. No arbitration proceedings will commence unless such notice is given.

If any question, dispute or difference whatsoever shall arise between Purchase and Supplier, in connection with this agreement except as to matters, the decisions for which have been specifically provided, either party may forthwith give to the other notice in writing of existence of such question, dispute or difference and the same shall be referred to the sole arbitration of the Director, _____ department or a person nominated by him. This reference shall be governed by the Arbitration and Conciliation Act, 1996 and the rules made there under. The award in such arbitration shall be final and binding on both the parties. Work under the agreement shall be continuing during the arbitration proceedings unless the Purchaser or the arbitrator directs otherwise Notwithstanding any reference to the arbitration herein, the parties shall continue to perform their respective obligations under the agreement unless they otherwise agree.

Cost of arbitration shall be equally shared between the Supplier and Purchaser.

17.8 Severability

If any term, covenant or condition in the Agreement shall, to any extent, be invalid or unenforceable in any respect under Applicable Law, the remainder of the Agreement shall not be affected thereby, and each term, covenant or condition of the Agreement shall be valid and enforceable to the fullest extent permitted by Applicable Law and if appropriate, such invalid or unenforceable provision shall be modified or replaced to give effect to the underlying intent of the Parties and to the intended economic benefits of the Parties.

17.9 Successors and Assigns

This Agreement and the rights and obligations under the Agreement shall be binding upon and shall enure to the benefit of the Supplier and Purchaser and their respective successors and permitted assigns.

17.10 Counterparts

This Agreement may be executed in one or more counterparts, all of which taken together shall constitute one and the same instrument.

17.11 Independent Service Provider

This Agreement is on a principal to principal basis between the parties hereto Nothing contained in this Agreement shall be construed or deemed to create any association, partnership or joint venture or employer employee relationship or principal-agent relationship in any manner whatsoever between the Parties

17.12 Non-Exclusive Agreement

This Agreement is on non-exclusive basis. The Purchaser is free to engage any other service provider's or may entrust services similar to those provided by the Supplier under this Agreement to any other person/s, provided the Supplier's rights under this Agreement are not affected in any manner.

17.13 Entire Agreement

This Agreement constitutes the entire agreement between the Parties hereto with respect to the subject matter of this Agreement and supersedes all prior agreements and undertakings; written or oral, with respect to the subject matter hereof except as otherwise expressly provided herein. The Schedules and Annexures annexed to this Agreement also form a part of this Agreement.

17.14 Insurance

The Supplier shall maintain at its own costs, throughout the tenure of this Agreement and any extensions thereof all mandatory insurance coverage for adequate amount including but not restricted to comprehensive general liability insurance including theft and vandalism, covering the System and accidental losses, bodily harm, injury, death of all individuals employed/ assigned by the Supplier to perform the services required under this Agreement.

17.15 Annual accounts reconciliation shall be conducted annually between the Supplier and Purchaser.

17.17 Any leftover terms & Conditions shall be applicable as per Terms and Conditions of the DNIT Document.

IN WITNESS WHEREOF the Parties have caused the Agreement to be duly executed through their duly authorized representatives as of the date set forth above.

FOR ON BEHALF OF DEPARTMENT			FOR ON BEHALF OF SUPPLIER	
	Signature		Signature	
	Name		Name	
	Designation		Designation	
WITNESSES			WITNESSES	
1	Signature		Signature	
	Name		Name	
	Designation		Designation	
WITNESS			WITNESS	
	Signature		Signature	
	Name		Name	
	Designation		Designation	

SCHEDULE-I

Description of the Premises:

Premises Overview	
Segment	
Type of Roof	
Hours of Operation	
Security	
Capacity and Area Requirement	
Capacity Kw
Module Area	2 sq. mtr per module
Number of Building	
Roofs	
Capacity kWp
Distribution	

SCHEDULE II

FEES

Following are the details of the tariff agreed between the parties. Purchaser shall pay Supplier for solar power at rate equal to INR/kWh which is the levelized tariff for 25 years. The fees and payment details are provided in detail under clause 7 of this agreement.

SCHEDULE III

The following is the purchase value of the system over a period of 25 years. This may be applicable under the following conditions.

1. The Purchaser terminates the PPA before the 25 years PPA Tenure
2. The Purchaser wishes to own the Project before the Tenure of the PPA.
3. The Solar Project is relocated or shifted owing to demolition of the

Building, damage to the building, change of city plans or any other mason.

The Price reference taken for calculating the total cost of the system is at the rates of Rs. 40000.00 per kWp for arriving at the Project cost.

Year of Term (End of Year)	Calendar Year	% of Initial Cost
1	2021	94.72%
2	2022	89.44%
3	2023	84.16%
4	2024	78.88%
5	2025	73.60%
6	2026	68.32%
7	2027	63.04%
8	2028	57.76%
9	2029	52.48%
10	2030	47.20%
11	2031	41.92%
12	2032	36.64%
13	2033	31.36%
14	2034	29.58%
15	2035	27.80%
16	2036	26.02%
17	2037	24.24%
18	2038	22.46%
19	2039	20.68%
20	2040	18.90%
21	2041	17.12%
22	2042	15.34%
23	2043	13.56%
24	2044	11.78%
25	2045	10.00%

SCHEDULE IV

Government approvals

1. To be obtained by the Supplier

All approvals including approvals/consents required under local regulations, building codes and approvals required from the distribution utility etc. relating to installation and operation of the system (including the government incentives/subsidies available for the project) and generation and supply of solar power from the Project. Supplier will also assist the Purchaser to apply for net metering and bear the cost of solar generation meter, bi-directional meter and CT/PT as per site requirement.

2. To be obtained by Purchaser

Any authorizations required of purchaser, including those required for installation of system at the premises. Permissions and coordination with DISCOM or any related organization for NET METERING. Purchaser will apply for net metering and bear the cost of fees and other charges to be deposited with DISCOMs for net metering facility only.

SCHEDULE V

DNIT Document

BANK DETAILS

BANK DETAILS	
NAME OF THE SUPPLIER	
PRINCIPAL PLACE OF BUSINESS &ADDRESS:	
NAME OF THE BANK:	
BANK ADDRESS:	
BANK ACCOUNT NO:	
TYPE OF BANK ACCOUNT - SB/CA/CC:	
IFSC/NEFT/RTGS CODE:	
MICR CODE:	
PAN CARD NO:	
PHONE NO./FAX NO. WITH STD CODE:	
EMAIL ID OF CONTACT PERSON:___	

Annexure-IA

Technical Bid format/ Index for the Technical Bid documents

(Tenders will be technically evaluated based on the sequence/index as per the details given below. In case the firm fails to provide the documents properly as per the Technical Bid format/Index/proper page numbering, bid of the firm can be rejected)

Sr. No.	Name of Document	Status of Submission (Yes/No)	Page Number as per numbering given to the technical bid documents uploaded on the portal
1	Submission of online payments i.e Earnest Money Deposit, Tender Document Fee & e - Service Fee and scanned copies of supporting documents.	Yes/ No	
2	All the documents submitted by the bidder as part of its Technical Bid are attested by the signing authority of the bidder.	Yes/ No	
3	An undertaking by the bidding firm in reference to acceptance of all the terms & conditions of the Schedule-A/ DNIT.	Yes/ No	
4	Submit a signed copy of DNIT.	Yes/ No	
5	The Bidder is either a body incorporated in India under the Companies Act, 1956 or 2013 including any amendment thereto or proprietary/partnership/LLP firm. Submit a copy of certificate of incorporation.	Yes/ No	
6	Bidder should be registered manufacturer or System Integrator. Manufacturer means manufacturer of solar module to be used in the quoted item and having test report of Solar Module in his name issued by any of the BIS /IEC accredited laboratory. Solar module manufacturer must be registered under ALLM. Submit documentary proof.	Yes/ No	
7	Test Certificates for components (Inverter & Wire for manufacturer and Solar Module, Inverter & Wire for System Integrator) is to be provided at the time of installation of the project.	Yes/ No	
8	The bidder should have a valid ISO 9001:2015 Certificate in the field of quoted item and copy of valid ISO 9001:2015 Certificate must be attached with offer.	Yes/ No	
9	Bidder should have not been debarred/blacklisted by any Govt. Deptt's / organization/ PSU's / institutions/ agencies/ autonomous Organizations. Submit a Affidavit duly attested by the notary stating that the bidder have not been debarred/blacklisted by any Govt. Deptt's / organization/ PSU's / institutions/ agencies/ autonomous Organizations.	Yes/ No	
10	The Bidder should have valid GST registration		

SUPPLIES & DISPOSALS DEPARTMENT, HARYANA
S.C.O. No. 09, Ist&IInd Floor, Sector-16, Panchkula-134109(Haryana)
Ph.:- 0172-2570121, 123, 124. Fax No.:-0172-2570122.
e-mail:- supplies@hry.nic.in , website:- dsndharyana.gov.in

	certificate and of the billing state and PAN number. A copy of which should be enclosed.		
11	Past performance of the firms shall be considered while evaluating the technical bids. If the bidder has poor record for providing after sales services to the Haryana during last five years than their bid may be rejected out rightly.	Yes/ No	
12	Bidder shall submit bids for minimum capacity of 3 MWp (aggregated). Bid with capacity less than 3 MW shall be rejected.	Yes/ No	
13	The bidder should have minimum average annual turnover Rs. 2.0 Crore/MW in the last three years, ending 31 st March of the previous Financial Year duly certified by Chartered Accountant.	Yes/ No	
14	Bidder should have successfully completed Supply, Installation & Commissioning of Grid Connected Rooftop Solar Power Plants of minimum 40 % (cumulative capacity) of quoted capacity during last three years up to the last date of bid submission from any State / Centre Govt. Agency / Department/ Organization/ autonomous body/ private sector verified by SNA. The list of project commissioned along with the JCRs issued or verified by State Nodal Agencies/ any Govt. Deptt./agency shall be uploaded along with the bid.	Yes/ No	
15	The bidder should have positive net worth in the last three years, ending 31 st March of the previous Financial Year.	Yes/ No	
16	Submit of acceptance of delivery period, payment terms, warranty period.	Yes/ No	
17	Submit all the performas duly signed & stumped	Yes/ No	