	<b>SOLAR BUSINESS DIVISION</b>	<b>NOTICE INVITING TENDER (NIT)</b>	<b>MATERIAL: SPV Module,72 Cell Multi,5BB,&gt;325wp</b>
<b>TENDER REFERENCE: 30030488</b>			

Dear Sir,

**Subject: Tender for "SPV Module,72 Cell Multi,5BB,>325wp".**

BHEL invites offers from reputed Vendors {Refer Pre-qualifying (PQR) requirements and other requirements given in tender enquiry letter uploaded on our websites) for supply including packing & transportation to as per incoterms, satisfactory completion of supply of " **SPV Module,72 Cell Multi,5BB,>325wp** as per Tender Ref:30030488".

Your offer shall be submitted in two parts strictly as per "Instructions to Bidders" of GCC, Rev R0 in sealed covers.

Your best quotation / offer for the above requirement, in line with our terms and conditions, should either be delivered in person or sent by COURIER/REGISTERED POST, to the following address only:

**BHEL- EPD/SBD Tender box (Reception of SBD)**

C/o. **AGM/MM**

M/s BHARAT HEAVY ELECTRICALS LTD. (SOLAR BUSINESS DIVISION (SBD)),

Prof CNR Rao Circle, IISc Post, Malleswaram, Bangalore- 560 012

Ph. No. +91-080-22182219, 080-22182261, +91-080-22182286.

**Offer can also be submitted thru email to email ids specified below only:-**

PART-A (I) BID i.e. TECHNICAL BID on [technicalbid-epd@bhel.in](mailto:technicalbid-epd@bhel.in)

PART-B (II) BID i.e. PRICE BID on [pricebid-epd@bhel.in](mailto:pricebid-epd@bhel.in)

**NOTE:-**

1. Tender reference & due date to be mentioned in subject of mail.
2. Bidders may adopt this mode at their own risk. The Purchaser does not own any responsibility /liability for delays in receipt / loss of secrecy of such offers.

It shall be the responsibility of the bidder to ensure that the tender is delivered on or before the due date by **02:00 P.M. The offer has to be deposited in tender box only.** Part-I bids shall be opened at **02:30 P.M.** on the due date in the presence of authorized representatives of the bidders, who may like to be present.


The bidder is required to clearly mention

1. Tender Ref., RFQ/Tender Due Date & Name of the item in BOLD LETTERS on the top of each envelope submitted.
2. Name and contact details (including mobile no. and email address) of minimum one contact person along with date of submission of offer in a cover letter.

### **ENQUIRY TERMS AND CONDITIONS**

The prices offered shall be firm till the completion of project.

1. Tender Ref No., due date etc. must be legibly super scribed on the sealed envelopes as per clause no. 2.0 of "Instructions to Bidders of GCC, Rev. R0".
2. Offers should be submitted in two parts in two separate sealed covers as follows:  
Part-I: **TECHNO-COMMERCIAL BID** Part-II: **PRICE BID.**  
**For detailed instructions. Please see "Instructions to Bidders of GCC Rev. R0".**
3. Bidders shall submit their offers meeting the requirements of the following tender documents (enclosed) included in this Enquiry Letter :

	<b>SOLAR BUSINESS DIVISION</b>	<b>NOTICE INVITING TENDER (NIT)</b>	<b>MATERIAL: SPV Module,72 Cell Multi,5BB,&gt;325wp</b>
<b>TENDER REFERENCE: 30030488</b>			

General Conditions of Contract (GCC) Rev R0 comprising of: Instructions to Bidders and General Commercial Terms & Conditions. Technical Specification, Price format & Special Conditions of Contract (SCC).


4. Tenders shall be submitted strictly in accordance with the requirements of the above tender documents. In case of deviations (Technical/ Commercial), the same shall be highlighted separately giving clause references along with the **Cost of withdrawal of Deviations as per Annexure-II to GCC Rev. R0 of "DEVIATION SHEET (COST OF WITHDRAWAL)"** along with reasons for taking such deviations.

Cost of withdrawal for the deviations, for which, the "Cost of withdrawal" is not specified, shall be taken as NIL. **Bidder to note all the points mentioned in "Notes" of Annexure-II to GCC Rev.R0.**

5. All the above Tender Documents shall automatically become a part of the Order / Contract after its finalisation.
6. Bidder has to submit "NO DEVIATION CERTIFICATE FOR COMMERCIAL TERMS AND CONDITIONS as per General Conditions of Contracts (GCC, Rev.R0), Special Conditions of Contracts and Notice Inviting Tender (NIT)" **in case of no deviations.**
7. Purchaser shall be under no obligation to accept the lowest or any other tender and shall be entitled to accept or reject any/all tender(s) in part or full without assigning any reason whatsoever.
8. Late tenders are liable to be rejected.
9. All correspondence thereof, shall be addressed to the undersigned by name & designation and sent at the following address:

<p><b>Commercial</b> S Pankaj Kumar- Dy Manager-MM Manjunath Rao- Engineer-MM. BHEL-SBD, Prof CNR Rao Circle, IISc Post, Malleswaram, Bangalore- 560 012 E-MAIL: spankaj@bhel.in; <a href="mailto:manjunath.rao@bhel.in">manjunath.rao@bhel.in</a>; Ph. No. +91-080-22182269/2286, 8126333426/9449115728</p>	<p><b>Technical</b> <b>Raghavendra Babu.G.V</b> - Sr.Manager/SPV Engg BHEL-SBD, Prof CNR Rao Circle, IISc Post, Malleswaram, Bangalore- 560 012 E-MAIL: <a href="mailto:raghavendrababu.gv@bhel.in">raghavendrababu.gv@bhel.in</a>; Ph. No. +91-080-22182347, +91 <a href="tel:9483510246">9483510246</a>.</p>
--	--

10. Bidders, who are not registered with BHEL-SBD, are requested to get registered through online supplier registration portal available on <https://supplier.bhel.in/>
11. BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on ([www.bhel.com](http://www.bhel.com))) for this tender. RA shall be conducted among the techno commercially qualified bidders. Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered for RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking."  
Bidders are required to submit their acceptance to the terms/ conditions/ modalities before participating in the Reverse Auction in the process compliance form as enclosed. Without this, the bidder will not be eligible to participate in the event.
12. The evaluation of the offer shall be done on the basis of delivered cost (i.e. Total F.O.R. BHEL SBD stores, Bangalore price for supply with necessary loadings as applicable) as per GCC Rev. R0.
13. Please note that detailed offers are to be submitted including the following documents duly stamped & signed on each page:
14. Acceptance of GCC, Rev.R0.
15. Acceptance of Special Conditions of Contract (SCC).

	<b>SOLAR BUSINESS DIVISION</b>	<b>NOTICE INVITING TENDER (NIT)</b>	<b>MATERIAL: SPV Module,72 Cell Multi,5BB,&gt;325wp</b>
<b>TENDER REFERENCE: 30030488</b>			

16. Pre-qualifying Requirements (PQRs) documents including Technical Bid Format with supporting documents.
  17. Technical Deviations and commercial deviations, if any as per format enclosed at Annexure-II of GCC, Rev.R0.
  18. Annexure – I, III, VII, XIII, XIV, XVIII & XIX of GCC Rev R0.
  19. Along with your offer, please submit a copy of this letter duly signed & stamped on each page as token of acceptance of all terms & instructions conveyed.
  20. Un-Priced price schedules (format) duly filled in 'Quoted' or 'Q' in each column/row.
  21. Separate sealed price-bid envelope mentioning Tender/Enquiry No., RFQ due date & Name of the item in BOLD LETTERS on the top of envelope.
- Note: Bidder must submit UN-PRICED Price format duly filled mentioning the word "QUOTED" in place of actual price. The actual price is to be filled in separately and submitted in sealed price bid.**
22. Bidders to keep visiting BHEL website i.e [www.bhel.com](http://www.bhel.com) for any Amendments/Clarifications/Corrigenda/Errata etc issued in respect of the tender documents by BHEL. Same shall be uploaded on above BHEL website.
  23. Order of Precedence.

In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:

1. Amendments/Clarifications/Corrigenda/Errata etc. issued in respect of the tender documents by BHEL.
2. Notice Inviting Tender (NIT)
3. Price Schedule
4. Special Conditions of Contract (SCC)
5. Technical specification & scope of work
6. General Conditions of Contract (GCC)


Thanking You.  
Yours faithfully,

For and on behalf of BHEL

(S Pankaj Kumar)  
**Dy.Manager-MM**

**Enclosures:**

1. Enquiry Letter with Terms & Conditions (This letter)
2. RFQ, PQR, & Technical Specifications No. SPV-4-05-021 Rev 0
3. Special Conditions of Contracts (SCC)
4. Price formats/schedules (Prices should be quoted strictly in this format only)
5. General Conditions of Contracts (GCC Rev R0)
6. Conciliation Scheme
7. Integrity Pact

 BHEL-SBD	<b>SOLAR BUSINESS DIVISION</b> <b>BENGALURU – 560012, INDIA</b> <b>SPV ENGINEERING</b>	<b>Spec. No</b>	<b>SPV-4-05-022</b>
		<b>Rev. No</b>	<b>00</b>
		<b>JOB No.</b>	<b>1092</b>
		<b>Page 1 of 1</b>	

**PRE-QUALIFICATION CRITERIA (PQC) :**

Sl. No	Particulars	Bidder's confirmation
1.	<p>The offer shall be quoted only by the original Indian PV module manufacturer.</p> <p>BIS Certificate to be enclosed.</p>	<p>PV module supplier name:  Manufacturing Plant Location:  Manufacturing capacity / annum :  Website:  (Please mention name of PV module manufacturer, capacity, complete address &amp; contact details with email address.</p>
2.	<p>PV modules offered shall be of DCR type (Solar cells and PV Modules of Indian make).</p>	<p>Yes / No  Solar cell make that will be used :   Pl. enclose tie-up letter with Indian Solar cell manufacturer for supply of solar cells</p>
3.	<p>During technical evaluation, Credentials of vendors will be submitted to BHEL's customer for approval. Only those vendors, who are technically qualified and approved by BHEL's customer before price bid opening/RA, will be considered for further procurement processing.</p>	<p>Accepted / Not accepted</p>

**Note A :**


- i. Pre-qualification will be carried out based on the details furnished by the vendor / purchase orders, documents from their customers/ inspection of the company/product, if required by BHEL and at its sole discretion.
- ii. The pre-qualification criteria are mandatory requirements and the technical bids will be considered only if all the above Pre-Qualification Criteria are met.

 	<b>SOLAR BUSINESS DIVISION (SBD)</b>	<b>FINANCIAL PRE-QUALIFICATION REQUIREMENT (PQR)</b>
---	--------------------------------------	--

<b>FINANCIAL PRE-QUALIFICATION REQUIREMENT</b>			
<b>TENDER REFERENCE NO.: 30030488</b>			
<b>TENDER DESCRIPTION: Supply of " SPV Module,72 Cell Multi,5BB,&gt;325wp"</b>			
<b>FINANCIAL PQR:</b>			
<b>For Registration:</b> <b>Indian Bidder:</b> Should have GST registration (Copy of same to be submitted)			
<b>For qualification, bidder should have average minimum Annual Turnover as per following details:</b>			
Sr. No.	Details of requirement	Turnover FY	Turnover Value (currency)
1.	<b>AVERAGE ANNUAL TURNOVER DURING THE LAST THREE FINANCIAL YEARS (2020-21, 2019-20, 2018-19) (QUALIFYING VALUE : Rs. 4.5 Crore )</b>	1. 2020-21	
		2. 2019-20	
		3. 2018-19	
		<b>Average of 3 years</b> <b>= <math>\frac{(1) + (2) + (3)}{3}</math></b>	
Supporting documents like <b>Financial standing through latest ITCC</b> , Annual Report (Audited Balance Sheet and Profit & Loss Account) of past three years to be submitted by vendors.			

- MINIMUM AVERAGE ANNUAL FINANCIAL TURNOVER OF THE BIDDER, DURING LAST 3 (THREE) YEARS, ENDING ON 31-03-2021 SHOULD BE **Rs. 4.5 CR. (Rupees Four Crores & Fifty Lakhs Only)**
- AUDITED BALANCE SHEET AND PROFIT & LOSS ACCOUNT FOR LAST 3 (THREE) YEARS, ENDING ON 31-03-2021 NEED TO BE SUBMITTED IN SUPPORT OF ABOVE REQUIREMENT.
- FINANCIAL PRE-QUALIFICATION OF THE FOREIGN BIDDER (OTHER THAN INDIAN BIDDERS) MAY ALSO BE EVALUATED ON THE BASIS OF THE REPORT FROM A REPUTED THIRD PARTY BUSINESS RATING AGENCY LIKE DUN & BRADSTREET, CREDIT REFORM ETC.
- THE EVALUATION OF FOREIGN BIDDER, **EXCHANGE RATE (TT SELLING RATE OF SBI)** AS ON SCHEDULED DATE OF THE TENDER OPENING (PART-1 BID IN CASE OF TWO PART BID) SHALL BE CONSIDERED.
- ALL FOREIGN LANGUAGE DOCUMENTS SHALL BE **TRANSLATED TO ENGLISH** LANGUAGE EITHER BY A **CERTIFIED AGENCY** OR TRANSLATED VERIFICATION BY A VALID AUTHORIZED AGENCY.
- IN CASE AUDITED FINANCIAL STATEMENTS HAVE NOT BEEN SUBMITTED FOR ALL THE THREE YEARS AS INDICATED ABOVE, **THEN THE APPLICABLE AUDITED STATEMENTS SUBMITTED BY THE BIDDERS AGAINST THE REQUISITE THREE YEAR, WILL BE AVERAGED FOR THREE YEARS.**
- IF FINANCIAL STATEMENTS ARE NOT REQUIRED TO BE AUDITED STATUTORILY, THEN INSTEAD OF AUDITED FINANCIAL STATEMENTS, FINANCIAL STATEMENTS ARE REQUIRED TO BE CERTIFIED BY CHARTERED ACCOUNTANT OR EQUIVALENT.
- BHEL RESERVES THE RIGHT FOR INDEPENDENT VERIFICATION OF THE CLAIMS MADE FOR CONFORMANCE TO THE PRE-QUALIFICATION CRITERION. BIDDERS TO ENSURE PROVIDING AUTHENTIC CERTIFICATES / DOCUMENTATION AND CREDENTIALS IN ORDER TO QUALIFY FOR BHEL TENDER PROCESS.

\_\_\_\_\_ Seal and signature of the Bidder

 BHEL-SBD	<b>SOLAR BUSINESS DIVISION</b> <b>BENGALURU – 560012, INDIA</b> <b>SPV ENGINEERING</b>	<b>Spec. No</b>	<b>SPV-4-05-021</b>
		<b>Rev. No</b>	<b>00</b>
		<b>JOB No.</b>	<b>1092</b>
		<b>Page 1 of 8</b>	

**COPYRIGHT AND CONFIDENTIAL**

The information on this document is the property of Bharat Heavy Electricals Limited.  
It must not be used directly or indirectly in anyway detrimental to the interest to the  
company

**TECHNICAL SPECIFICATION**

**FOR**

**SUPPLY OF CRYSTALLINE SILICON PV MODULES**



**SOLAR BUSINESS DIVISION**  
**BENGALURU – 560012, INDIA**  
**SPV ENGINEERING**

Spec. No	SPV-4-05-021
Rev. No	00
JOB No.	1092
Page 2 of 8	

**1. TECHNICAL REQUIREMENTS:**

Sl. No	Item	Remarks
1	PV Module Configuration	Multicrystalline photovoltaic module with 72 nos of cells in 12X6/ 144 no of cells in 24x6 series configuration. The module construction and bill of material shall be as per vendor's approved IEC certification. <b>Please enclose:</b> <b>i. Module overall assembly drawing with mounting holes</b> <b>ii. Data sheet with typical electrical characteristics, I-V curves, temperature coefficients etc.</b>
1 a	DCR PV Module	The modules for this project are of DCR type. Hence, only Solar cells of Indian make to used in the module and modules to be manufactured and supplied by Indian PV module manufacturer.  The bidder shall be approved supplier for CPSU (Tranche-II) Phase-II Scheme being run by the SECI and recognized by the MNRE.
1 b	Module overall dimension	Module overall dimension shall be as below.  Length : 1966 mm  Width : 986 mm  This is to suit the project MMS design. Minor deviations can be accepted subject to compatibility with system design.
1 c	Mounting hole Pitch	PV Modules are required with mounting holes pitch as below.  Vertical : 1200 +/-2 mm  Horizontal : 956 +/-2 mm  Mounting hole size : Oblong hole 9 x 7 mm or higher
2	Power Output	325 Watts and above, in 5 Watt band only. No negative power tolerance will be accepted.
3	System Voltage	Modules shall be suitable for 1000V DC System Voltage application.
4	Efficiency	16.5% (min)
5	Fill Factor	0.75 (min)
6	Temp coefficient of Power	-0.40% or better

**COPYRIGHT AND CONFIDENTIAL**

The information on this document is the property of Bharat Heavy Electricals Limited.  
It must not be used directly or indirectly in anyway detrimental to the interest of the company



**SOLAR BUSINESS DIVISION  
BENGALURU – 560012, INDIA  
SPV ENGINEERING**

<b>Spec. No</b>	<b>SPV-4-05-021</b>
<b>Rev. No</b>	<b>00</b>
<b>JOB No.</b>	<b>1092</b>
<b>Page 3 of 8</b>	

7	Operating Conditions	SPV module shall perform satisfactorily with ambient temperatures between -10° C & +85° C and shall withstand gust up to 140 Km/h on the surface of the panel.
8	IEC Certifications	The PV modules supplied shall be with valid IEC certifications as below. 1. IEC 61215-1:2016 (Design Qualification and Type Approval-Part 1) 2. IEC 61215-1-1:2016 (Design Qualification and Type Approval-Part1-1) 3. IEC 61215-2:2016 (Design Qualification and Type Approval-Part 2) 4. IEC 61730-1:2016 (Safety Qualification – Part 1) 5. IEC 61730-2:2016 (Safety Qualification – Part 2) 6. IEC 61701:2011 (Salt Mist Corrosion testing) 7. IEC 62804-1:2015 (Test methods for the detection of PID - Part 1) 8. IEC 62716 – 1: 2013 (Ammonia Corrosion (NH3) ) Vendors shall use Bill of materials for manufacture of PV modules as per subset of approved CDF of IEC Certificates. <b>All IEC Certificates to be submitted with tender.</b>
9	Module Safety Class	Safety Class - II
10	<b>BIS Registration</b>	As per the Solar Photovoltaics, Systems, Devices and Components Goods (Requirements for Compulsory Registration) Order, 2017, Government of India, PV Modules used in the grid connected solar power projects in India shall be registered with BIS and bear the Standard Mark as notified by the Bureau of Indian Standards. <b>Enclose copy of BIS Registration for PV modules</b>
11	<b>BILL OF MATERIALS</b>	
11.1	Solar cells	Pl. indicate <b>Type : Multicrystalline technology</b> <b>Cell Source :</b> <b>Size of Cells :</b> <b>Cell efficiency : 18.3% min</b> <b>No. of busbars</b> <b>Enclose a copy of Solar cell data sheet with electrical parameters.</b>
11.2	EVA	Fast cure type, UV resistant, Gel content > 75 %.
11.3	Glass	High transmission (> 90 %), low iron, toughened glass with minimum thickness of 3.2 mm and bending less than 0.3%.
11.4	Back Sheet	The back sheet used in the crystalline silicon based modules shall be of 3 layered structure. The thickness of back sheet should be of minimum 300 microns with water vapor transmission rate less than 2.0 g/ m <sup>2</sup> /day

**COPYRIGHT AND CONFIDENTIAL**

**The information on this document is the property of Bharat Heavy Electricals Limited.  
It must not be used directly or indirectly in anyway detrimental to the interest of the company**






**SOLAR BUSINESS DIVISION  
BENGALURU – 560012, INDIA  
SPV ENGINEERING**

<b>Spec. No</b>	<b>SPV-4-05-021</b>
<b>Rev. No</b>	<b>00</b>
<b>JOB No.</b>	<b>1092</b>
<b>Page 4 of 8</b>	

		(38°C at 90% RH). The Back sheet can be fluoro polymer based or of any other well proven technology. The backsheet shall have globally benchmarked durability properties on Moisture barrier, Tensile Strength (Machine Direction & Transverse Direction), Elongation retention and UV stability and shall be able to withstand system voltage of 1000 V.
11.5	PV Module Frame	Corrosion resistant, anodized Aluminum. The anodizing thickness shall be 15 microns or better.
11.6	Junction box	IP67 grade with 3 nos. of bypass diodes, UV resistant & weather-proof <b>Junction box shall have two 4 sq mm UV resistant cables of minimum 1.2 metre length and plug-in connectors (male and female).</b> <b>Cables shall be of solar grade and shall conform to specification EN 50618.</b>
11.7	Adhesive for framing, junction-box fixing and potting	As per manufacturer's IEC test report
11.8	RFID	Each PV module deployed must use a Radio Frequency identification (RFID) tag for traceability. RFID shall either be placed inside the laminate or behind name plate sticker or behind bar code label pasted on the back sheet of PV module and must be able to withstand harsh environmental conditions during the module lifetime. RFID tag shall contain the following information: a. Name of module manufacturer with country of origin b. Month & year of manufacture of modules c. Name of cell manufacturer with country of origin d. Month & year of manufacture of cells e. IV curve f. Wattage, $I_{max}$ , $V_{max}$ , $V_{oc}$ , $I_{sc}$ , & fill factor g. Module model number h. Unique serial number i. Date and year of obtaining IEC qualification certificates j. Name of test lab issuing IEC certificates k. Other relevant information on traceability of solar cells and module as per ISO 9000/9001 and ISO 14001
11.9		Each module shall be provided with a name plate label (sticker) containing the following information: a. Name of module manufacturer

**COPYRIGHT AND CONFIDENTIAL**

**The information on this document is the property of Bharat Heavy Electricals Limited.  
It must not be used directly or indirectly in anyway detrimental to the interest of the company**

 <b>BHEL-SBD</b>	<b>SOLAR BUSINESS DIVISION</b> <b>BENGALURU – 560012, INDIA</b> <b>SPV ENGINEERING</b>	<b>Spec. No</b>	<b>SPV-4-05-021</b>
		<b>Rev. No</b>	<b>00</b>
		<b>JOB No.</b>	<b>1092</b>
		<b>Page 5 of 8</b>	

		b. Module model number and Serial number c. Overall Dimension (W x L x D) d. Weight in Kg e. $P_{max}$ , $V_{oc}$ , $I_{sc}$ , $I_{max}$ & $V_{max}$ f. System Voltage g. Relevant standards and certifying lab name h. Warnings, if any i. Other relevant information, etc  Nameplate shall be clearly visible and shall not be hidden by equipment wiring. It shall be durable for the entire life of panel.
11.10	BOM as per CDF of IEC Certificate	Solar cells and module materials shall be used as per approved CDF as per IEC Certificate. <b>Enclose copy of approved CDF as per IEC Certificate.</b>
11.11	RFID Reader	One number RFID reader (gun type) has to be supplied free of cost by the bidder which has to be compatible to read the module I-V data from the RFID Tag & download the data to Computer. All necessary associated Software, Cables and accessories are to be provided free of cost along with the RFID reader.
11.12	.PAN File	Third Party verified .PAN file for each module wattage offered shall be provided for carrying out PVSYS calculations at our end.
11.13	I-V curves and temperature coefficients	The bidder shall provide the sample solar PV module electrical characteristics including current-voltage (I-V) performance curves and temperature coefficients of power, voltage and current. <b>Enclose Sample I-V performance curve of for highest wattage of modules offered.</b> <b>Temperature coefficient of Power (Pmax) :</b> <b>Temperature coefficient of Voltage (Voc) :</b> <b>Temperature coefficient of Current (Isc) :</b>
12	Online Supplier Registration in BHEL web portal	<b>New Vendors to BHEL shall complete online Supplier Registration Form in BHEL web portal supplier.bhel.in on or before the tender due date.</b> <b>Unit to be selected : BHEL, Solar Business Division</b>

## 2. QUALITY ASSURANCE


Module Quality Plan, Data Sheet and GTP shall be subject to customer's approval. Each lot of modules shall be subject to Pre Shipment Inspection (PSI) by BHEL and BHEL customer.

Quality plan will include the following:

- I. Incoming Quality Checks on bought out item
- II. In-process Quality Checks
- III. Sample tests on final product by the customer.

### COPYRIGHT AND CONFIDENTIAL

The information on this document is the property of Bharat Heavy Electricals Limited.  
 It must not be used directly or indirectly in anyway detrimental to the interest of the company

 <b>BHEL-SBD</b>	<b>SOLAR BUSINESS DIVISION</b> <b>BENGALURU – 560012, INDIA</b> <b>SPV ENGINEERING</b>	<b>Spec. No</b>	<b>SPV-4-05-021</b>
		<b>Rev. No</b>	<b>00</b>
		<b>JOB No.</b>	<b>1092</b>
		<b>Page 6 of 8</b>	

### 3. WARRANTY

PV modules must be warranted for output wattage, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years. Performance of PV modules shall be evaluated on yearly basis and the report will be verified for warranty conformance. The suggestions and remedial measures for better performances shall be submitted by the manufacturer if required. A Back to back tripartite agreement to be signed between the client, BHEL, and Manufacturer.

### 4. Insurance or Bank Guarantee for Power Output Warranty

The PV module power output warranty as per the technical specification shall be insured and backed up through an insurance policy by a reputed insurance company which will cover against the PV module power output warranty in case of insolvency or bankruptcy of the PV module manufacturer. The Bidder shall submit a suitable insurance from Third Party.

The Successful Bidder who is not able to provide insurance of PV modules as above, shall submit a Bank Guarantee of 10% of contract value through BHEL consortium bank, valid for a period of Ten (10) years and 90 days. The minimum validity of the Bank guarantee shall be Two (2) years and shall be renewed by the bidder on their own subsequently for every Two (2) years prior to thirty (30) days of its expiry. In case the PV module fails to provide power output as per its performance warranty, and if the bidder fails to rectify, replace or repair the PV module, then BHEL shall carry out the necessary rectification, repair or replacement at its own discretion at the risk and cost of the supplier. The cost of such rectification, repair or replacement shall be encashed from the Bank Guarantee against PV Module Warranty. The same shall be replenished by the supplier within thirty (30) days, failing which the entire Bank Guarantee amount shall be encashed and all pending payment shall be withheld by BHEL till such amount is replenished by the supplier. In another instance, if the supplier becomes bankrupt or insolvent, then BHEL shall immediately encash the entire amount of the Bank Guarantee against PV Module Warranty.

### 5. PACKING & IDENTIFICATION OF PV MODULE


The modules shall be packed in carton boxes. One carton box shall contain one module power rating (Eg. 325 Wp). Carton box and Pallets shall be adequately designed to prevent damage or deterioration during transportation to site in remote road conditions, handling and storage in site till the time of its installation. The carton box should display the manufacturer's name, number of modules, type, serial numbers, module wattage etc. Modules found damaged at the time of opening of the cartons in the project site shall be replaced free of cost by the module manufacturer.

### 6. GENERAL CONDITIONS

- a. PV Modules shall be manufactured at the vendor's works only.

#### **COPYRIGHT AND CONFIDENTIAL**

**The information on this document is the property of Bharat Heavy Electricals Limited.  
It must not be used directly or indirectly in anyway detrimental to the interest of the company**

 <b>BHEL-SBD</b>	<b>SOLAR BUSINESS DIVISION</b> <b>BENGALURU – 560012, INDIA</b> <b>SPV ENGINEERING</b>	<b>Spec. No</b>	<b>SPV-4-05-021</b>
		<b>Rev. No</b>	<b>00</b>
		<b>JOB No.</b>	<b>1092</b>
		<b>Page 7 of 8</b>	


- b. Manufacturing clearance shall be given only after approval of Vendor’s Credentials, Quality plan, Pre-Shipment inspection plan and approval of drawings and datasheet by BHEL’s customer.
- c. The successful bidder shall ensure compliance to any certifications/ registrations required for PV modules as per Central or State Governments/ it’s agencies, during execution of the contract.

**7. Enclosures :**

Sl. No.	Document
1.	Signed copy of BHEL Specification SPV-4-05-021-REV00 for confirming to supply as per BHEL Specification.
2.	Tie-up letter with Indian Solar cell manufacturer for supply of solar cells
3.	IEC 61215-1, IEC 61215-1-1, IEC 61215-2 , IEC 61730-1 & 2, IEC 61701, IEC 62804 , IEC 62716 test certificates.
4.	Approved CDF (Bill of Materials) of PV modules as per IEC certificates.
5.	Over all PV module assembly drawing indicating mounting hole pitch & data sheet for PV modules.
6.	Third party verified .PAN files for each wattage of PV modules offered.
7.	Data sheet for Solar cells used for manufacturing PV modules.
8.	Soft copy of all above documents and IEC test reports to be sent by e-mail to the email id as mentioned in tender documents.
9.	List of equipment available for manufacture and testing of PV modules, PV module production in MW during last 3 financial years, Turnover in the last 3 financial years.
10.	PV module installation and O&M manual

**COPYRIGHT AND CONFIDENTIAL**

**The information on this document is the property of Bharat Heavy Electricals Limited.  
It must not be used directly or indirectly in anyway detrimental to the interest of the company**

 <b>BHEL-SBD</b>	<b>SOLAR BUSINESS DIVISION</b> <b>BENGALURU – 560012, INDIA</b> <b>SPV ENGINEERING</b>	<b>Spec. No</b>	<b>SPV-4-05-021</b>
		<b>Rev. No</b>	<b>00</b>
		<b>JOB No.</b>	<b>1092</b>
		<b>Page 8 of 8</b>	

**8. Confirmation by the vendor :**

Sl. No.	Item	Acceptance by the Module manufacturer (Yes / No)
1.	Multi Crystalline PV Modules with power output $\geq$ 325 Wp in 5 watts bands.	
1 a	Modules supplied shall be of DCR type (Cells of Indian make to be used and modules to be manufactured and supplied by Indian PV Module manufacturer)	
2.	Multi Crystalline PV Modules suitable for 1000 V System Voltage application	
3.	Availability of IEC 61215-1, IEC 61215-1-1, IEC 61215-2 , IEC 61730-1 & 2, IEC 61701, IEC 62804 , IEC 62716 test certificates and IEC Test reports with CDF.	
4.	PV Modules registered with BIS (Bureau of Indian Standards)	
5.	Back sheet : 3 layered structure, thickness $\geq$ 300 microns, Water Vapour Transmission Rate less than 2.0 g/ m <sup>2</sup> /day	
6.	Junction box cable length : 1.2 Metres minimum	
7.	RFID Tag inside or outside the laminate	
8.	Supply of 1 no. of hand held RFID reader with accessories	
9.	Adherence to Manufacturing Quality Plan and Pre-Shipment Inspection as per customer	
10.	Bill of materials as per subset of the CDF of the IEC Certificates	
11.	Submitted online Supplier Registration Form in BHEL web portal supplier.bhel.in (Applicable for unregistered bidders only)	



**9. DEVIATION SHEET**

Sl. No.	Particulars	Bidder's Confirmation
1.	<b>Confirmation to BHEL Specification</b> SPV-4-05-021-REV00 <b>in complete</b>	<b>Yes / No</b>  <i>Please indicate deviations, if any.</i>

\_\_\_\_\_  
Signature of Tenderer with stamp

**COPYRIGHT AND CONFIDENTIAL**



The information on this document is the property of Bharat Heavy Electricals Limited.  
It must not be used directly or indirectly in anyway detrimental to the interest of the company

 	<b>SOLAR BUSINESS DIVISION (SBD)</b>	<b>SPECIAL CONDITIONS OF CONTRACT (SCC)</b> <b>Rev. No. 00</b>	<b>Item Description: : SPV Module,72 Cell Multi,5BB,&gt;325wp</b> <b>TENDER REF. : 30030488</b>
---	--------------------------------------	---	--

These Conditions shall be read in conjunction with General Condition of Contract (GCC Rev R0) enclosed along with the tender enquiry. In case of any conflict or inconsistency, the requirement of SCC shall prevail over the GCC.

The name of our Plant/ Unit may please be read as SOLAR BUSINESS DIVISION (SBD) as it was changed from ELECTRIC & PHOTOVOLTAIC DIVISION (EPD)

1.	Type of Contract	Supply of <b>SPV Module,72 Cell Multi,5BB,&gt;325wp</b>
2.	Project Name	<b>6.5 MW Nalanda Solar rooftop Project</b>
3.	Consignee address	<b>Address:</b> <b>Nalanda University,</b> <b>Rajgir, District Nalanda,</b> <b>Bihar - 803116, India</b>
4.	Buyer and Paying Authority	BHARAT HEAVY ELECTRICALS LIMITED - SOLAR BUSINESS DIVISION (SBD), BANGALORE. (Formerly known as ELECTRIC & PHOTOVOLTAIC DIVISION)
5.	Buyer IEC CODE/ GST No.	IEC CODE: 0588138690 / GST No: 29AAACB4146P1ZB
6.	Mode of Dispatch	By Road Note: It is Vendor's responsibility to ensure availability of Trucks schedule etc. well in advance for dispatch of material to meet contractual delivery requirement. <ul style="list-style-type: none"> <li>• Part shipment is allowed.</li> <li>• Transshipment is not allowed.</li> </ul> It is also the vendor's responsibility to ensure material is dispatched through shortest possible route. By ROAD.
7.	Price basis	<u><b>Indigenous purchase -</b></u> Price to be quoted on FOR Destination, inclusive of packing & forwarding charges. Taxes and duties to be paid in line with GCC. Material to be dispatched on freight pre-paid basis to BHEL SBD. Price to be quoted as per attached format (Unpriced Price Bid).
8.	Evaluation of Offer	On Overall basis as per Cl. No. 19.0 of GCC (Instructions to bidders). Any new taxes/ duties structure as and when implemented by the Government shall become applicable & evaluation shall be done based on the new taxes/ duties structure.  The evaluation currency for this tender shall be INR.
9.	Price Variation	Not Applicable. Prices shall be firm till the completion of contract.
10.	Change of Scope	In case of <b>changes in scope of the tender</b> and/ or technical specifications and commercial terms & conditions by BHEL during techno-commercial evaluation and before Price bid Opening, the same will be communicated only to the bidders who have participated in the tender. The techno-commercially qualified bidders shall be asked to submit Impact Price bid, if applicable.
11.	Quantity Splitting	<b>Not Applicable</b>
12.	Quantity Variation	Based on BHEL's requirement, the quantity shall vary $\pm 30\%$ of the tender quantity.

 	<b>SOLAR BUSINESS DIVISION (SBD)</b>	<b>SPECIAL CONDITIONS OF CONTRACT (SCC)</b> <b>Rev. No. 00</b>	<b>Item Description: : SPV Module,72 Cell Multi,5BB,&gt;325wp</b> <b>TENDER REF. : 30030488</b>
---	--------------------------------------	---	--

13.	Reverse Auction	<p>BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on (www.bhel.com) for this tender. RA shall be conducted among the techno commercially qualified bidders.</p> <p>Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered for RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking.”</p> <p>Bidders are required to submit their acceptance to the terms/ conditions/ modalities before participating in the Reverse Auction in the process compliance form as enclosed. Without this, the bidder will not be eligible to participate in the event.</p>
14.	Delivery Period	<p>Completion of supply shall be within delivery schedule as below:</p> <p>A. For SPV Module,72 Cell Multi,5BB,&gt;325wp 20,200 Nos within 04 weeks from the date of Manufacturing Clearance.</p>
15.	Unloading at Site	In the scope of BHEL
16.	Document Approval	<p>Vendor has to submit MQP and the same will be evaluated by BHEL Quality department. MQP shall be submitted by the bidders within 7 days from the date of PO for approval.</p>
17.	Transit Insurance	<p>In BHEL Scope.</p> <p>Prior Dispatch, intimation shall be issued to Insurance agency by the supplier about the value of consignment, dispatch details, along with one set of documents consisting of LR /BL copy, Packing List, Challan indicating the items dispatched (with their weights). A copy of above should be sent by email to <a href="mailto:General.Claims@tataaig.com">General.Claims@tataaig.com</a> <a href="mailto:Prabhutav.Dadhich@tataaig.com">Prabhutav.Dadhich@tataaig.com</a> , <a href="mailto:Saurabh1.Agrawal@tataaig.com">Saurabh1.Agrawal@tataaig.com</a> &amp; <a href="mailto:Samir.Paul@tataaig.com">Samir.Paul@tataaig.com</a> and copy to the following BHEL Email IDs of dealing executives</p> <p><b>Insurance Details:</b></p> <p>For Indigenous:  Insurer: Tata AIG General Insurance Company Limited  Policy no: 0865092085  Period: 01/06/2021 – 31/05/2022  ADDRESS: 301, 3rd floor, RG City Center, LSC Block-B, Lawrence Road, New Delhi, 110035. Tel: 011-27196505; Fax: 011-27196516</p>
18.	Payment terms	<p>Clause no: 9.1 of GCC R0 to be read as follows:-</p> <p><b>9.1 FOR INDIGENOUS PURCHASE:-</b>  <b>FOR SUPPLY OF ITEMS ( SI No. 1 of Price format)</b></p> <p>9.1.1 98% of basic price of material supplied, as per PO, along with 100% taxes &amp; duties (as applicable) &amp; freight charges, shall be paid on pro-rata basis within 45 days from the date of MRC &amp; receipt of complete documents as per order/contract subject to acceptance of materials.</p> <p>2% of basic value shall be deducted from payment as TDS &amp; TDS Certificate shall be issued by BHEL, as per amendment in GST Law. GOI has amended GST Law - Section 51 of the CGST Act 2017 wherein</p>