

## NOTICE INVITING TENDER

Sealed tenders are invited under Two part bid system (Part-I Techno- Commercial Bid & Part-II Price Bid) from reputed manufactures for “supply of 156 mm mono  $\geq$ 4.4watt solar cells ” as per technical specification (PS 439 286 Rev 02) and quantity mentioned in the Quotation format below. Tender document can be downloaded at free of cost from [www.bheledn.com](http://www.bheledn.com) , [www.bhel.com](http://www.bhel.com), [www.tender.gov.in](http://www.tender.gov.in)

Tender document should be dropped in Tender box provided in the Reception of BHEL EDN Bangalore super scribed “**SC&PV-MM and Wednesday**” or **Box No 6** sent by post before due date and time.

Date of Advertisement	24.03.2014
RFQ NO	RCRSCPV104 dated 24.03.2014
Last date for submission of tenders	16.04.2014 up to 13.00 hrs of IST (Indian Standard Time)
Date, Time & Venue of Technical Bid Opening	16.04.2014 at 13.30 hrs. IST New Engineering Building 2 <sup>nd</sup> Floor Bharat Heavy Electricals Limited PB NO 2606, Mysore road, Bangalore-560 026. INDIA
Date, Time & Venue of Price Bid opening	Will be intimated later for technically accepted vendors
Address for Communication & Contact Person	Mr. Ramachandra Sr. Manager (MM-SCPV) Bharat Heavy Electricals Limited PB NO 2606, Mysore road, Bangalore-560 026. INDIA Email: <a href="mailto:ramachandra@bheledn.co.in">ramachandra@bheledn.co.in</a> Telephone number: +91 80 26998476, Handset Number: +91 9980958476 Fax: +91 80 26989217
Name and address of the Independent External Monitor for this tender	<b>“Being appointed; will be advised separately”</b> Pending nomination of new IEM for the specific tender, prospective suppliers/ bidders may address their complaints/ representation as envisaged in the IP to the  Head (MM) of BHEL EDN Bangalore, India

**Integrity Pact** between "BHEL" and "The Bidder / Contractor" (Format as per annexure 3) must be filled and send it to us along with your quotation. This document is part of our tender document.

The offer shall be submitted with terms of Delivery as FCA/**FOB**, BHEL’s international gateway airports list is as per annexure-4 can be referred.

# REQUEST FOR QUOTATION

	<b>BHARAT HEAVY ELECTRICALS LIMITED</b> Electronics Division PB No. 2606, Mysore Road Bangalore - 560026 INDIA	RFQ NUMBER: RCSRCPV104  RFQ DATE : 24.MAR.2014	<b>Due Date</b> <b>16.APR.2014</b> <b>Time: 13:00 HRS</b>  VENUE : <b>NEW ENGG. BLDG</b>
MMI:PU:RF:003			

	(for all correspondence) Purchase Executive : RAMACHANDRA Phone : 0091 80 26998476 Fax : 00918026989219 E-mail: ramachandra@bheledn.co.in
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Please submit your lowest quotation subject to our terms and conditions attached for the material mentioned below. The quotation must be enclosed in a sealed envelope / Fax superscribed with RFQ no.and due date, should reach us on or before the due date by **13.00** hours IST and will be opened on the same day at **13.30** hours at the venue mentioned above. **PLEASE DROP THE OFFER IN THE BOX PROVIDED AT RECEPTION.**

Sl No.	Description	Qty	Unit	Delivery qty	Delivery Date
1	PV0679039007 PV cell 156-mm Mono 4.40 W (3 Busbars) DRW PS439286 02	2,400,000	NO	2,400,000	30.JUN.2014

Total Number of Items - 1

Please note that the tender will be opened in the presence of the bidders or his authorised representatives (maximum two per organisation) who choose to be present with authorisation letters. Refer annexure for the terms and conditions.  
Preference will be given to vendors who accepts our standard payment terms i.e.100% payment - 30 days after receipt of material at our works subject to acceptance. Please specify Terms of delivery, Excise duty, sales tax, Ex-BHEL, Ex-works surcharge, Insurance,P&F, Freight and other taxes very clearly .  
For evaluation,exchange rate(TT selling rate of SBI) as on scheduled date of tender opening (Part-I bid incase of two part bid) shall be considered.  
The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected.The list of banned firms is available on BHEL web site [www.bhel.com](http://www.bhel.com)

- i). This is only RFQ not an order.
- ii). In all correspondence quote RFQ No. & due date.
- iii). In Quotation BHEL material code / RFQ Sl. No. should be mentioned clearly.
- iv). Quotation Envelope / Fax not superscribed with RFQ No.and due date is liable for rejection.
- v). Quotation should remain valid for a minimum peiod of 90 days from due date.
- vi). In case of non-receipt of Quotation or regret letter for 3 consecutive RFQs you are liable to be removed from our vendors list.
- vii). All Prices should be written in words and numbers.
- viii). Excise Chapter Heading should be mentioned for all items where VAT is applicable .

For and On behalf of BHEL.

## **GENERAL TERMS AND CONDITIONS**

### **Request for Quotation (RFQ)**

- Any Purchase Order resulting from this enquiry shall be governed by these general terms and conditions listed below and special terms and conditions, if any, along with this enquiry of Bharat Heavy Electricals Limited, Electronics Division, Bangalore-560026 (hereinafter referred to as BHEL EDN).
- Any of the terms and conditions not acceptable to supplier, shall be explicitly mentioned in the quotation. Otherwise, it will be treated as that all terms and conditions of this enquiry are acceptable.
- If counter terms and conditions are offered by supplier, BHEL EDN shall not be governed by such terms and conditions, unless it is agreed and incorporated in the Purchase Order of BHEL EDN.
- Any deviation to the terms and conditions not mentioned in the quotation by supplier in response to this enquiry will not be considered, if put forth subsequently or after issue of order, unless clarification is sought for by BHEL EDN and agreed upon in the Purchase Order of BHEL EDN.
- BHEL EDN reserves the right to adopt Reverse Auction for the enquiry sent, at its discretion
- BHEL EDN shall be at liberty to cancel / amend the tender at any time, before ordering, without assigning any reason.

### **Quotation**

Quotation is to be submitted in two part bid (techno-commercial and price bids), the techno-commercial bid (Format as per Annexure-1) shall be put in one sealed envelope super scribed as `Techno commercial bid' with enquiry number: (RCRSCP104) and due date (16.04.2014). The price bid (Format as per annexure -2) shall be put in another sealed envelope super scribed as `Price bid' with only the enquiry number (RCRSCP104). Both these envelopes must be put in another sealed envelope super scribed with enquiry number and due date of opening. Tender document should be dropped in Tender box provided in the Reception of BHEL EDN Bangalore super scribed "**SC&PV-MM and Wednesday**" or sent by post before due date and time. Techno-commercial bid will be opened on same day i.e. 16.04.2014 at New Engineering building, 2nd Floor, BHEL Electronics division, Bangalore, India at 13:30 IST.

- Quotation through fax / email is acceptable but when addressed to the specific fax number and email address given in the enquiry, to be sent well in advance to enable BHEL EDN purchase person drop in the tender box before the scheduled opening date and time. **Supplier is fully responsible for lack of secrecy on information of such quotations.**
- BHEL EDN is not responsible for any delay in receipt of quotation sent by supplier through post / fax/email and late quotation will be rejected.
- Quotation should be, as far as possible, free from correction / overwriting. Correction / overwriting, if any, should be signed by authorized person with the company seal.
- The rates must be quoted indicating basic material rate, packing, forwarding, freight & insurance, discount, if any, and applicable taxes and duties, **each of them shown separately.**
- It is preferred to indicate the **rates in both figures and words.** In such case, if there is difference / discrepancy between the rates in figures and words, the **least of the two** rates will be considered.
- If there is any difference / discrepancy in rates quoted for per unit and total and any arithmetic addition for number of items, **the lower** of the rates beneficial to BHEL EDN will be considered.
- In case any supplier is unable to quote, supplier shall send a regret letter without fail

- Address of the Tenderer, the name of the person to whom all the correspondences are to be addressed should be indicated, with telephone number / mobile number (both Office & Residence), e-mail address company website address and fax numbers.
- **Packing:** Goods must be adequately packed in proper carton / wooden box / drums / suitable container to protect against loss, damage or corrosion and to withstand normal inland transportation and handling. Purchase order number and lot number to be printed on each carton box.
- No import license will be given by BHEL EDN unless otherwise specifically stated.
- Change in rate is not allowed once the quotation is accepted and order is placed.
- **Penalty:** Failure to supply within the delivery time as per purchase order will make the supplier liable to an unconditional **penalty of 0.5 % (half percent) per week at the basic price of the goods for the undelivered quantity, subject to a maximum of 10%.**
- Purchase Order will be placed on the lowest quotation only among the technically & commercially accepted quotations. Lowest quotation is determined on the basis of Total Cost to BHEL EDN including basic value, taxes and duties, freight, insurance, loading factors for deviations to terms and conditions.
- **Loading factors:** Loading factors as below will be added to the quoted basic price to evaluate the lowest quotation for non-agreement to BHEL EDN commercial terms.

**For non-agreement to BHEL Payment terms of 100% Sight draft:** If the quotation is `Payment through LC: Loading factor = 2.5%

**For non-agreement to BHEL Terms of delivery of FOB/FCA:** If the quotation is `Terms of delivery as ex-works: Loading factor = 2.5%

**For non-agreement of penalty for delayed delivery:** If the quotation is `Not agreeable', Loading factor = 10%; If the quotation is with any other: Loading factor (10% - quoted max %)

- Penalty for delayed delivery will be reckoned with respect to P.O delivery as given below  
If the delivery is FOB terms then Air way bill date will be the reference.  
If the delivery is ex-works supplier, then Invoice date will be the reference.
- Any legal suit in respect of this enquiry lies in the jurisdiction of Court of Bangalore only.

**Qualification process:** Technical bids of all tender shall be only opened on the due date. Pre-qualification will be carried out based on the details furnished by the vendor / feedback from their customers / inspection of the company / product if required by BHEL and at its sole discretion. The Pre-qualification criteria are mandatory requirements and the technical bids will be evaluated only when the Pre-Qualification criteria are met. Offer of such of those tenderer who are technically acceptable will be eligible for price bid opening. The date and time of price bid opening of technically accepted tenderer will be intimated in writing by email or fax or by post by giving minimum reasonable time for attending the price bid opening. BHEL will intimate in writing by email for tenderers whose offer is technically rejected before opening the price bid. BHEL will not entertain any claims of technically rejected supplier and no explanation shall be made by BHEL.

Materials shall be dispatched by through Air shipment /Sea Shipment/ Trans-shipment worthy packing. Any damage and later rejection, due to poor / improper packing shall be to supplier's account. Any damage/rejection should be replaced immediately without any extra cost to BHEL. Vendor shall ensure compliance with all statutory requisites as laid down by local bodies, state & Central Government. All the products supplied to BHEL shall comply with the standard requirements of ISO 14001 & OHSAS 18001.

TOTAL COST TO BHEL:

Purchase order will be placed on the lowest bidders only among the technically & commercially accepted quotations. Lowest bidder is determined on the basis of the total cost to BHEL.

Total cost to BHEL = Total basic value in foreign currency + FOB charges (if any) + Packing & Forwarding charges (if any) + Cost Insurance Freight (CIF) + Basic Custom Duty (BCD) + Counter Veiling Duty (CVD) + Educational Cess + Special Additional Duty (SAD) + Entry TAX + Service TAX (if applicable) + Loading factors for deviations to commercial terms & conditions.

Note: Exchange rate ruling on the date of Tender opening (Technical bid / un-priced Bid) will be considered for converting foreign currency to Indian currency. Exchange rates published in Economic Times (TT selling specified by SBI) will be considered.

No import license will be given by BHEL EDN unless otherwise specifically stated.

**BHEL RFQ No. : RCRSCPV104 dated 24.03.2014 Due On 16.04.2014**

**Offer Reference No:** .....

**Supplier Name** : .....

(Please write Company's name and print in Company Letter Head)

### Quotation Format

Sl. No.	Particulars	Bidder's Confirmation (Acceptable / Not Acceptable) Please indicate deviations, if any.
<b>A. PRE-QUALIFICATION CRITERIA</b>		
1	The offer shall be quoted only by the original solar cell manufacturer. Any offers received from parties other than original solar cell manufacturers shall be rejected.	Manufacturing Plant Location: (Complete Address & Contact Details)
2	Vendor should have a minimum of 100 MW per annum production capacity for mono crystalline silicon solar cells.	Annual in-house manufacturing capacity for mono crystalline solar cells: ..... MW
3	The vendor should have cumulatively supplied at least 13,00,000 nos. of 156 mm mono crystalline silicon solar cells of $\geq 4.4$ watts to Indian customers during the period from April 2012 to March 2014.	Reference list of customers and documentary evidence is mandatory.
<p><b>NOTE:</b></p> <p>1. Pre-qualification will be carried out based on the details furnished by the vendor / feedback from their customers / inspection of the company / product if required by BHEL and at its sole discretion.</p> <p>2. The Pre-qualification criteria are mandatory requirements and the technical bids will be evaluated only when the Pre-Qualification criteria are met.</p>		
<b>B. TECHNICAL</b>		
1.	<b>Mono Solar Cells as per BHEL Technical Specification</b> 156-mm Pseudo Square Mono Crystalline Silicon Solar Cells offered shall comply as per BHEL Technical Specification PS-439-286 Rev 02 with a minimum wattage of 4.4 Watts per Cell and with 3 bus bars (continuous front bus bars and continuous/ discontinuous back bus bars)	Acceptable / Not Acceptable
2.	<b>Solar Cell Wattage Required:</b> 4.4 watts (minimum) The complete technical information, solar cell pattern and catalogue shall be given for the quoted solar cell	Solar Cell Wattage Quoted:

3.	<b>Test Certificate</b> to be issued for each lot mentioning wattage and dimensions of cells. The test certificate shall mention BHEL Purchase Order Number and quantity supplied.	Acceptable / Not Acceptable
4.	<b>Replacement of Defective Solar Cells</b> Supplier shall agree for replacing visually defective solar cells (broken, chips, mis-printing, electrical rejects, etc.) found during opening of the cell packets at the time of actual use at BHEL.	Acceptable / Not Acceptable
<b>C. COMMERCIAL</b>		
1.	<b>Terms of Payment:</b> 1. 100% against "SIGHT DRAFT" on presentation of documents to our bankers <input data-bbox="1154 533 1211 579" type="checkbox"/>  2. 100 % LC against submission of dispatch documents (Tick <input checked="" data-bbox="228 695 253 726" type="checkbox"/> as applicable) <input data-bbox="1154 653 1211 699" type="checkbox"/> <b>Note :</b> <b>Payment through LC will be subject to a loading factor of 2.5 %.</b> <b>Advance payment shall not be accepted.</b>	
2.	<b>Terms of delivery:</b> 1. F.O.B international Airport (Indicate name of International Airport). BHEL approved Airports enclosed. Supplier to select Airport as per BHEL list only. <input data-bbox="1154 947 1211 993" type="checkbox"/>  2. Ex-works (Tick <input checked="" data-bbox="228 1188 253 1220" type="checkbox"/> as applicable) <input data-bbox="1154 1115 1211 1161" type="checkbox"/> <b>Note : Offer with terms of delivery as Ex-works shall be subject to a loading factor of 2.5 %.</b>	Name of Airport :
3.	<b>Validity:</b> Quotation should remain valid for 30 days from the RFQ due date.	Quotation Validity :
4.	<b>Slab Quantities :</b> Vendor shall quote slab rates for quantities of 1,00,001 to 8,00,000 nos., 8,00,001 to 16,00,000 nos. and 16,00,001 to 24,00,000 nos. BHEL at its sole discretion shall place purchase order for any one of the above quantities.	Acceptable / Not Acceptable
5.	<b>Delivery Schedule required by BHEL:</b>	Vendor delivery schedule :

	First delivery of 6,00,000 numbers shall commence four weeks from the date of purchase order. And thereafter 6,00,000 numbers per week.	1,00,001 to 8,00,000 nos. –  8,00,001 to 16,00,000 nos. -  16,00,001 to 24,00,000 nos. -
6.	Penalty for delayed delivery: 0.5 % per week for undelivered portion subject to a maximum of 10 %.	Acceptable / Not Acceptable
7.	<b>Price basis:</b> Price is to be quoted on <b>per cell basis</b> . Purchase order will be placed on number of solar cells basis. L1 (Lowest Price) vendor shall be evaluated by BHEL on price <b>per cell basis</b> . Price shall remain same till completion of supply of total ordered quantity.	Acceptable / Not Acceptable
8.	<b>Quantity Splitting:</b> BHEL reserves the right to split the RFQ quantity in the ratio of 60 % on L1 and 40 % on L2 vendors (Technically accepted offers) subject to the condition that L2 vendor accepting L1 price on <b>per cell basis</b> . In the event of L2 vendor not accepting L1 price, full RFQ quantity shall be placed on L1 vendor only.	Acceptable / Not Acceptable
9.	<b>Bank charges (If applicable)</b> Bank charges within India is to BHEL account and outside India is to Vendor's account	Acceptable / Not Acceptable
10.	<b>BHEL Guidelines for Indian Agents of Foreign Suppliers</b> Supplier shall adhere to "BHEL Guidelines for Indian Agents of Foreign Suppliers" in case the supplier has Indian Agent.	Acceptable / Not Acceptable
11.	<b>Integrity Pact</b> The bidder shall sign an "INTEGRITY PACT" in the formats enclosed.	Enclosed : Yes / No

Place:

Date:

**Signature of Tenderer / with Seal**



**BHEL RFQ No. : RCRSCPV103 dated 24.03.2014 Due On 16.04.2014**

**Offer Reference No:** .....

**Supplier Name :** .....

(Please write Company's name and print in Company Letter Head)

**PRICE FORMAT:**

Sl. No.	Item Description	Quantity	Price per Cell	Currency
1	156-mm Pseudo Square Mono Crystalline Silicon Solar Cells offered shall comply as per	1,00,001 to 8,00,000 nos.		
2	BHEL Technical Specification PS-439-286 Rev 02 with a minimum wattage of 4.4 Watts per	8,00,001 to 16,00,000 nos.		
3	Cell and with 3 bus bars (continuous front bus bars and continuous/discontinuous back bus bars)	16,00,001 to 24,00,000 nos.		

**NOTE:**

1. A clause wise deviation, if any, has to be brought out clearly. If there are no deviations, the vendor has to positively certify compliance to the specifications in toto.
2. Offer with incomplete checklist are liable for rejection and no further correspondence will be entertained.
3. Offer not accepting BHEL Terms and Conditions (both Technical & Commercial) are liable for rejection and the offer will not be considered even if the price is L1 as per BHEL Terms.
4. BHEL shall place Purchase order on number of solar cells basis.

**Signature of Tenderer / with Seal**

Place:

Date:

**INTEGRITY PACT**

**Between**

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at “BHEL House”, Siri Fort, New Delhi – 110049 (India) hereinafter referred to as “The Principal”, which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

**and**

\_\_\_\_\_, (description of the party along with address), hereinafter referred to as “The Bidder/ Contractor” which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

**Preamble**

The Principal intends to award, under laid-down organizational procedures, contract/s for

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_. The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

## **Section 1 – Commitments of the Principal**

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
  - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
  - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
  - 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

## **Section 2 – Commitments of the Bidder(s)/ Contractor(s)**

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
  - 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in

order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/ PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

2.1.4 The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

### **Section 3 – Disqualification from tender process and exclusion from future contracts**

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidders(s)/ Contractor(s) from the tender process or take action as per the separate “Guidelines for Suspension of Business Dealings with Suppliers/ Contractors” framed by the Principal.

## **Section 4 – Compensation for Damages**

- 4.1 If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.

## **Section 5 – Previous Transgression**

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

## **Section 6 – Equal treatment of all Bidders/ Contractors/ Sub-contractors**

- 6.1 The Bidder(s)/ Contractor(s) undertake(s) to demand from his sub-contractors a commitment consistent with this Integrity Pact. This commitment shall be taken only from those sub-contractors whose contract value is more than 20% of Bidder's/ Contractor's contract value with the Principal.
- 6.2 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
- 6.3 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

## **Section 7 – Criminal Charges against violating Bidders/ Contractors /Sub-contractors**

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

## **Section 8 –Independent External Monitor(s)**

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or

take corrective action, or heal the situation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

8.6 The Monitor will submit a written report to the CMD, BHEL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.

8.7 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.

8.8 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC / PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

8.9 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.

8.10 The word 'Monitor' would include both singular and plural.

## **Section 9 – Pact Duration**

9.1 This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.

9.2 If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the CMD, BHEL.

**Section 10 – Other Provisions**

- 10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.
- 10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- 10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- 10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 10.5 Only those bidders/ contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

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For & On behalf of the Principal  
(Office Seal)

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For & On behalf of the Bidder/ Contractor  
(Office Seal)

Place-----

Date-----

Witness: \_\_\_\_\_  
(Name & Address) \_\_\_\_\_  
\_\_\_\_\_

Witness: \_\_\_\_\_  
(Name & Address) \_\_\_\_\_  
\_\_\_\_\_





Electronics Division, Bangalore

ANNEXURE 4

LIST OF INTERNATIONAL AIRPORTS.

SNo	Country	Air Ports
1	Austria	Vienna, Linz, Graz.
2	Australia	Sydney, Melbourne, Perth
3	Belgium	Antwerp, Brussels
4	Canada	Toronto, Montreal
5	China	Shanghai.
6	Cyprus	Larnaca.
7	Czech Republic	Prague (Via Frankfurt)
8	Denmark	Copenhagen
9	Egypt	Cairo
10	Finland	Helsinki
11	France	Paris (Roissy), Lyon
12	Germany	Darmstadt, Manheim, Nurnberg, Hamburg, Stuttgart, Munich, Koln, Dusseldorf & Hannover, Frankfurt, Berlin.
13	Hongkong	Hongkong
14	Italy	Rome, Milan, Turin, Bologna, Florence
15	Ireland	Dublin
16	Israel	Telaviv.
17	Japan	Tokyo, Osaka
18	Malaysia	Kaulalampur, Penang
19	Netherlands	Amsterdam, Rotterdam
20	Newzealand	Auckland
21	Norway	Oslo
22	Oman	Muscat
23	Philippines	Manila
24	Romania	Bucharest
25	Russia	Moscow
26	Saudi Arabia	Riyad.
27	Singapore	Singapore
28	Slovakia	Bartislowa.





## Electronics Division, Bangalore

LIST OF INTERNATIONAL AIRPORTS.

SNo	Country	Air Ports
29	South Africa	Johannesburg, Durban.
30	South Korea	Kimpo
31	Spain	Barcelona
32	Sweden	Stockholm, Gothenburg, Milano
33	Switzerland	Basle, Zurich, Geneva
34	Taiwan	Taipei
35	U.A.E	Dubai
36	U.K	London (Heathrow), Newcastle, Oxford, Cheltham, Bristol, Wellingborough, Birmingham, East Midland, Manchester, Leeds, Glasgow.
37	U.S.A	Newyork, Chicago, Sanfrancisco, Los Angeles, Atlanta
38	Ukraine	Kiev



A4-11

## PURCHASE SPECIFICATION

GROUP: PHOTOVOLTAICS

Spec. No

PS-439-286

Rev. No

02

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**ITEM : 156-mm PSEUDO SQUARE MONO CRYSTALLINE SILICON SOLAR CELLS WITH 3-BUSBARS****1.0 PHYSICAL CHARACTERISTICS**

- 1.1 MATERIAL : Mono Crystalline Silicon.
- 1.2 DIMENSIONS : 156± 1 mm (Side to Side)  
200± 1 mm to 210± 1 mm (Corner to Corner)
- 1.3 SHAPE : Pseudo Square
- 1.4 THICKNESS : 190 ± 20 microns
- 1.5 METALISATION : **Number of Bus bars : Three (Front and Back)**  
Distance between bus bars: 52 mm (centre to centre)  
Front – Silver busbars shall be continuous  
Back – Silver busbars shall be continuous/discontinuous with Aluminum BSF
- 1.6 AR Coating : PECVD Silicon Nitride (Deep blue color)

**2.0 ELECTRICAL CHARACTERISTICS**

- 2.1 POWER OUTPUT (Pmax) : ≥ 4.40 Watts
- 2.2 CELL EFFICIENCY : ≥ 18.4 %
- 2.3 VOLTAGE AT MAX.POWER POINT : 520 mV (Typical)
- 2.4 OPEN-CIRCUIT VOLTAGE : 620 mV (Typical)
- 2.5 SHORT-CIRCUIT CURRENT : 8.80 A (Typical)
- 2.6 FILL FACTOR : 0.75 (Typical)

REVISION (02)  
Electrical characteristics revised.

APPROVED BY

SR

PREPARED

ISSUED

DATE

PJ

Engg

12-03-14

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**PURCHASE SPECIFICATION**

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**3.0 VISUAL CHARACTERISTICS :**

3.1 Cells shall not have any edge chips or cracks or deep scratches on the surface.

3.2 Cells shall not have any misalignment and misprints in the front grid pattern.

3.3 Cells shall not have any finger prints or stains or paste smudges on the surface.

3.4 Cells shall not have Silicon Nitride coating colour variations or inhomogeneity.

**4.0 PACKING CONDITIONS**

4.1 Cells shall be packed tightly with heat shrinkable sleeves, then in foam or thermocole or carton boxes. Cell boxes shall be further packed in carton box / plywood box suitable for air-freight.

4.2 Manufacturer name, Cell type, lot number, wattage / efficiency quantity in each packet, date of manufacture to be indicated on each packet.

4.3 Test certificate shall be provided along with each consignment.

4.4 BHEL Purchase Order (PO) Number shall be mentioned on the plywood Boxes.

**5.0 SAMPLING SIZE FOR INSPECTION AT BHEL**

I. Visual Inspection:

Single Sampling Plan as per IS: 10673-1983, General Inspection Level I, AQL 2.5 %

II. Physical & Electrical Measurement:

Single Sampling Plan as per IS: 10673-1983, Special Inspection Level S-4, AQL 2.5 %

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