

**Bharat Heavy Electricals Ltd**  
Electronics Division  
Mysore Road, Bangalore – 560 026

**Tender Documents for Supply and installation of Solar Photovoltaic (SPV) module mounting structures including solar modules mounting for 5MW SPV Power Plant for NEEPCO at Monarchak, Tripura**

**RFQ Ref: HBSMM20004 RFQ Date : 19.03.2014**  
**RFQ Due Date: 11.04.2014**

This Tender Document Contains:

- (1) Request For Quotation
- (2) Technical Specifications : PS- 439-872
- (3) Enclosures B,B1&B2 : Commercial Terms & Conditions, Unpriced Bid Format and Price Bid Format
- (4) General Terms and Conditions (Doc Ref : EDN/IND/ENQ-01)

Note:

Part – I: **To be submitted in a separate sealed cover.**

Part – II: **To be submitted in a separate sealed cover.**

Part-I & Part-II sealed covers should be put in outer envelope and super scribed with RFQ No., RFQ date and due date along with the Name & Address of the tenderer.

Tender document should be dropped in Tender drop box super scribed “SC&PV-MM” kept in reception area of BHEL – Electronics Division, Bangalore.

**For any clarification, the following may be contacted:**

Mr. H B Srinivasa, Sr.Manager (SC&PV-MM)

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# REQUEST FOR QUOTATION

	<b>BHARAT HEAVY ELECTRICALS LIMITED</b> Electronics Division PB No. 2606, Mysore Road Bangalore - 560026 INDIA	RFQ NUMBER: <b>HBSMM20004</b>  RFQ DATE : 19.MAR.2014	Due Date <b>11.APR.2014</b> Time: <b>13:00 HRS</b>  VENUE : <b>NEW ENGG. BLDG</b>
MMI:PU:RF:003			

	(for all correspondence) Purchase Executive : SRINIVAS H B Phone : 26998452 Fax : 00918026989217 E-mail: srinivasahb@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.**

**RFQ TERMS & CONDITIONS:**

1. Submit offer in Two Part- Technical & Price Bid. Refer General Terms & Conditions as per SC&PV- General Terms & Conditions (Page 1 to 13).
2. Technical Specification PS-439-872 Rev 00.
3. Find attached Annexure B(Commercial Terms & Conditions), Annexure B1(Un Priced Bid Format) & Annexure B2 (Price Bid Format).
4. The date in Delivery Column of RFQ is tentative. Vendor to quote their delivery as indicated in Annexure B.

SI No.	Description	Qty	Unit	Delivery qty	Delivery Date
1	PS0679037330 I&C of structure & mounting of Solar mod I&C of Structure & mounting OF Solar modules (1 Structure= 24 modules) REF PS439-872 cl 3.3	984	AU	984	08.OCT.2014
2	PS0679037357 Marking,drilling & Casting of pile as per BHEL Drg 3-679-05-00679 specs. PS-439-872 refer : cl.3.2  Test Certificate	5,904	ST	5,904	08.OCT.2014
3	PS0679037454 Module Mounting Structure as per DRg no 3-679-05-00673 AS PER SPECS.PS-439-872 cl 3.1  Test Certificate	984	ST	984	08.OCT.2014

**Total Number of Items - 3**

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 SI. 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 period 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.  Page 1 OF 1
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	<b>Supply and installation of Solar Photovoltaic (SPV) module mounting structures including solar modules mounting for 5MW SPV Power Plant for NEEPCO at Monarchak, Tripura</b>	PS-439-872
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## 1.0 Introduction

**1.1** Bharat Heavy Electricals Limited (BHEL), Electronics Division, Bangalore is setting up a 5.67 MW Grid connected Solar Photovoltaic (SPV) Power Plant at Monarchak, Tripura of address as below:

NEEPCO TGBPP,  
Monarchak, Sonamura Sub-Division,  
West Tripura, Tripura

1.2 The scope includes various activities is as below:

- (i) Supply of module mounting structures of Fixed angle inclination type
- (ii) Casting of pile foundations and pile caps
- (iii) Installation (erection) of mms
- (iv) Movement of BHEL solar modules from the site storage place and mounting on structures.


### 1.3 Technical documents enclosed along with the tender:

- (a) This technical / purchase specification, PS-439-872
- (b) Pile foundation, BHEL drawing no. 3-679-05-00679
- (c) Structure GA drawing, drawings of individual components and BOM, BHEL drawing no. 3-679-05-00673
- (d) Drawing SPV module 240 watts, BHEL drawing no. 3679020035101
- (e) Proposed (indicative) solar array layout, BHEL Drawing no. 3-679-05-0068001

## 2.0 Pre-qualification criteria (PQC) for vendors

Vendor should have supplied, installed and commissioned a minimum of 2 MW solar photovoltaic (SPV) module mounting structures for SPV power plant projects in India, with individual power plant projects of 1MW and above. Evidence shall be furnished in the form of work completion certificates from clients and/or copies of purchase orders.

Works completed should be only for projects of Solar PV MW-level power plants. Others as roof-top installations, etc., will not be considered for Qualification.

	<b>Supply and installation of Solar Photovoltaic (SPV) module mounting structures including solar modules mounting for 5MW SPV Power Plant for NEEPCO at Monarchak, Tripura</b>	PS-439-872
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**3.0 Scope of supply :** Vendor shall visit the site prior to preparation and submission of the offer, in case it is felt necessary by the vendor, to make an accurate assessment of the site conditions.

#	Scope description	Qty
3.1	Supply of structures (fixed tilt angle type) as per BHEL drawing no. 3-679-05-00673	984 sets
3.2	Civil works of Marking, drilling and casting of pile foundations and pile cap for structure legs (1 structure = 6 foundations) as per BHEL drawing no. 3-679-05-00679	5904 nos
3.2	I&C of Structures and mounting of Solar modules mounting (1 AU = Assembly of one structure and mounting of 24 solar modules)	984 AU

3.3	Delivery
(i)	A prototype of a set of the mounting structure should be fabricated and approved by BHEL within 15 days of the date of Purchase order
(ii)	Total quantity within 10 weeks of prototype approval
3.4	<b>Warranty</b> Vendor shall provide warranty for manufacturing and installation defects for <b>12 months</b> from the date of commissioning or <b>18 months</b> from the date of supply, whichever is earlier.

#### 4.0 Instructions to vendors for Bid submission

4.1	Offer shall be submitted in two-parts (Two part-bid). Both parts shall be in separate sealed envelopes as per instructions in tender. The individual envelopes shall be enclosed in a common bigger envelope with markings on the envelope as per instructions provided in tender.
4.2	First-part shall be techno-commercial bid. Following details shall be furnished: <ol style="list-style-type: none"> <li>1. Covering letter</li> <li>2. Compliance of PQC as per clause no. 2 with certificates</li> <li>3. List of projects executed by the vendor on supply, installation, commissioning of SPV module mounting structures in India during the last three years. The list shall include details such as year of commissioning, client name, kW/MW size of power plant, type of structures / tracking systems, number of units etc. This list is only for reference. However, providing this list is mandatory.</li> <li>4. Filled-up enclosures as per BHEL formats (meant for first-part) provided in tender.</li> <li>5. Company brochure especially with reference to structures and installations.</li> <li>6. Audited balance sheets of the vendor company for the last 3 years.</li> <li>7. Employee / manpower profile of the vendor company.</li> <li>8. Confirmation on supply of hardware spares.</li> </ol>

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	<p>9. List of machinery, tools &amp; tackles, instruments etc that will be deployed at site during construction.</p> <p>10. Stage-wise implementation time schedule.</p>
4.3	Second-part shall be price bid with filled up enclosures as per BHEL format provided in tender.
4.4	In addition to the above instructions, tender document provides detailed instructions for bid submission. Vendor shall submit the bid based on instructions in tender document.

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## 5.0 Power plant configuration

The vendor scope related to module mounting structures, which is elaborated as below:

- (a) The land has been leveled and graded. Drains have been provided suitably to take care of water drainage from the site and hence prevention of water logging.
- (b) Wind speeds are up to 200 Km / hour and workmanship for bolting / assembly to be done tightly / properly.

### 5.1 Parameters of BHEL-supplied solar photovoltaic modules

BHEL-make SPV modules with mono-crystalline cells are employed. Details of modules as follows:

#	Module type	Power	V <sub>oc</sub>	I <sub>sc</sub>	V <sub>mp</sub>	I <sub>mp</sub>	Remarks
1	L20220	~ 240 watts	36V	8.5A	29V	7.94A	24 numbers of modules of this type will be connected in series per string.  One structure, supported by six legs, consists of 24 Nos of modules.

## 6.0 Technical specification

Sl. No.	Item description	Vendor confirmation/Remarks
6.1	<b>Preparation of the site, approximate 25 acres site area is in BHEL scope</b> 1) Jungle clearance, leveling and grading that includes removal of all kinds of bushes and cutting, uprooting and disposal of trees shall be within BHEL scope. HOWEVER, preparation of site such that uprooting of grass at the time of laying of foundation at/around the mounting structure foundations is in the vendor's scope. 2) Provision of bridges across drains as required at the site for materials / equipment movement is in vendor's scope	<b>Accepted Yes / No</b>  <b>Accepted Yes / No</b>
6.2	Orientation of structures shall be in such a way that the SPV modules face South direction.	
6.3	The grouted ISMC125 legs for all the individual structures should be completely vertical and at the same height. Additionally, it shall be ensured that the solar modules make an angle of 23° with the horizontal.	
6.4	The height difference of mounted modules in an array should be ensured to be minimum to avoid the shadow effects.	

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6.5	<p><u>Marking of foundation positions:</u> Total stations of suitable accuracy of coordinates / directions, together with necessary accessories, instruments etc shall be deployed. Quantity of stations shall be adequate to ensure the throughput per day that is needed to complete the contract within the specified schedule.</p>	
6.6	<p>De-watering and complete water removal from the drilled bores to be done before concreting. <b>Note:</b> Quantity of concrete estimated for piles has to be sufficient to take into account possible bore deformation.</p>	
6.7	<p>The activity of foundation shall include all related activities such as excavation, drilling, mixing of concrete of specified grade, casting, curing, pedestal (pile cap) construction, finishing with paint.</p>	
6.8	<p>All support materials for casting of foundations such as Fixtures for concreting, sand, cement, shuttering material if necessary, steel plates, stone jelly, bricks, concrete, etc., shall be within the scope of vendor supply and hence <b><u>shall be deemed included in the supply under cl 3.0.</u></b></p>	
6.9	<p>Minimum grade of concrete used for the foundation shall be M25.</p>	
6.10	<p>Appropriate machinery, tools &amp; tackles and measuring instruments for <b>foundation works</b> such as JCBs, drilling machines, ramming machines, concrete mixers, transport trucks, transport trolleys, jigs / fixtures / templates (for positioning, alignment, shuttering etc), measuring tapes / scales, weighing machines, water level indicators, precision aligners (such as laser), spanners, pliers, torque wrenches, electrically / pneumatically operated screw drivers etc shall be deployed with adequate quantity to ensure the throughput per day that is needed to complete the contract within the specified schedule.</p>	
6.11	<p>Foundation pedestals shall be provided as per BHEL drawing with suitable painting finish and number of coats as shall be approved by BHEL / NEEPCO</p>	
6.12	<p>During the implementation stage, in case <u>certain minor revisions</u> are required in the foundation or structure due to certain unforeseen changes in soil conditions, as might be possible due to rains, floods etc, vendor shall incorporate such revisions.</p>	
6.13	<p>Suitable jigs, fixtures and templates shall be designed, fabricated and deployed at site for carrying out foundation, erection of structures, mounting of modules etc. Quantity of these shall be appropriate to ensure the throughput per day that is needed to complete the contract within specified schedule.</p>	

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6.14	Assembly of module mounting structure shall be as per BHEL drawing no. 3-679-05-00673. The mounting of solar modules shall be done using 4 nos of M6x20 hardware for each solar module.	
6.15	<u>Alignment methods</u> Appropriate methods such as water level indicators, laser alignment etc, as approved by BHEL / NEEPCO, shall be deployed to ensure that the foundation pedestals and structures are aligned with suitable accuracy and precision in vertical, horizontal and lateral directions.	
6.16	<u>Fastening torque</u> (a) All hardware fastenings, wherever applicable, shall be carried out to a pre-determined torque value. Tools such as torque wrench shall be selected accordingly. (b) Wherever possible, electrically operated tools shall be employed to speed up the operations and to ensure accuracy.	
6.17	<u>Erection of steel structures including material movements, placing, assembly, fixing, tightening etc.</u> (a) Vendor shall erect / assemble the structure members as per BHEL drawings. (b) It shall be in vendors' scope to move the solar modules (max 0.5 Km distant) from their storage place to the actual spot of assembly. (c) In this regard, all machinery / tools / tackles / instruments such as cranes, hydra, forklifts, transport trucks, transport trolleys, jigs / fixtures / templates (for positioning, alignment etc), measuring tapes / scales, water level indicators, precision aligners (laser etc), spanners, torque wrenches, electrically / pneumatically operated screw driver sets etc shall be deployed with adequate quantity to ensure the throughput per day that is needed to complete the contract within specified time schedule.	
6.18	<u>Mounting of modules including module movements, placing, aligning, fixing, tightening etc.</u> (a) Vendor shall mount the SPV modules (of BHEL supply) on the structures as per BHEL drawings. (b) Hydra, forklifts, transport trucks, transport trolleys, jigs / fixtures / templates (for positioning, alignment etc), measuring tapes / scales, precision aligners (laser etc), spanners, pliers, torque wrenches, electrically / pneumatically operated screw driver sets etc shall be deployed with adequate quantity to ensure the throughput per day that is needed to complete the contract within specified time schedule.	

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**7.0 Documents to be submitted by the vendor after receipt of purchase order for BHEL / NEEPCO approval:** BHEL approval shall be obtained for the following technical documents, which shall be submitted within seven days from the date of purchase order.

7.1	Drawings of jigs, fixtures and templates for positioning / leveling alignment in foundation works.
7.2	Drawings of jigs, fixtures and templates for positioning / leveling alignment in erection of mounting structures.
7.3	Drawings of jigs, fixtures and templates for positioning / leveling alignment in module mounting works.
7.4	List of sub-vendors (NEEPCO-approved vendors, wherever applicable) for all the BoM items related to (a) foundations, (b) structure members and (c) hardware items.
7.5	List and quantity of total station and associated instruments and accessories for marking for foundation: Details of make, model number, features, accuracy of coordinates / directions, planned throughput per day shall be submitted. Details of marking pins shall be mentioned.
7.6	List and quantity of machinery, tools & tackles, measuring instruments for foundation works – JCBs, drilling machines, ramming machines, concrete mixers, transport trucks, transport trolleys, jigs / fixtures / templates, water level indicators, weighing machines, measuring tapes / scales, precision aligners (laser), spanners, pliers, torque wrenches, electrically / pneumatically operated screw drivers etc. Details of make, model number, planned throughput per day etc shall be submitted.
7.7	List and quantity of machinery, tools & tackles, measuring instruments for erection of mounting structures – cranes, hydra, forklifts, transport trucks, transport trolleys, jigs / fixtures / templates, measuring tapes / scales, water level indicators, precision aligners (laser etc), spanners, pliers, torque wrenches, electrically / pneumatically operated screw driver sets etc. Details of make, model number, planned throughput per day shall be submitted.
7.8	List and quantity of machinery, tools & tackles, measuring instruments for module mounting works – hydra, forklifts, transport trucks, transport trolleys, jigs / fixtures / templates, measuring tapes / scales, precision aligners (laser), spanners, pliers, torque wrenches, electrically / pneumatically operated screw drivers etc. Details of make, model number, planned throughput per day shall be submitted.
7.9	Working procedures and instructions for marking, foundation, erection of mounting structures and mounting of SPV modules.
7.10	Detailed activity-time chart for project implementation.

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7.11	Detailed manpower deployment schedule including quality control team.
7.12	Manufacturing Quality Plan for all vendor supplied items. MQP shall include type tests, routine tests, factory acceptance tests, sampling plan with reference to applicable standards.

### 8.0 Pre-despatch inspection of vendor supplied items

8.1	<p>Vendor shall provide pre-dispatch inspection call to BHEL / NEEPCO for inspection at manufacturer works, as per BHEL / NEEPCO approved drawings, for all fabricated items such as steel structure members, galvanization process etc.</p> <p>After the inspection, complete set of test reports shall be submitted to BHEL / NEEPCO</p>
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### 9.0 Quality inspections at site

9.1	<p>Prior to start of site leveling, foundation and erection works at site, following shall be submitted for BHEL / NEEPCO approval:</p> <ol style="list-style-type: none"> <li>(1) Design mix for the concrete to be furnished prior starting the piles concreting.</li> <li>(2) Cube testing for concreting to be done for every day of piling.</li> <li>(3) Tilt angle of mounted solar modules to be <math>23^{\circ} \pm 0.5^{\circ}</math>.</li> <li>(4) Pull-out tests on foundation of structure legs as per relevant standards and as shall be approved by BHEL / NEEPCO.</li> <li>(5) Further, FQP shall include tests on concrete as per IS:456.</li> <li>(6) Routine tests, in line with FQP, shall be conducted at site in the presence of BHEL / NEEPCO for which all necessary testing facilities shall be organized at the site by the vendor.</li> <li>(7) Recording formats and check lists for the parameter values measured at the site.</li> </ol>
9.2	Vendor shall submit filled-up recording formats, quality inspection reports and test reports periodically for BHEL / NEEPCO approval.
9.3	For any deviations, formal approval shall be obtained from BHEL / NEEPCO before implementation.

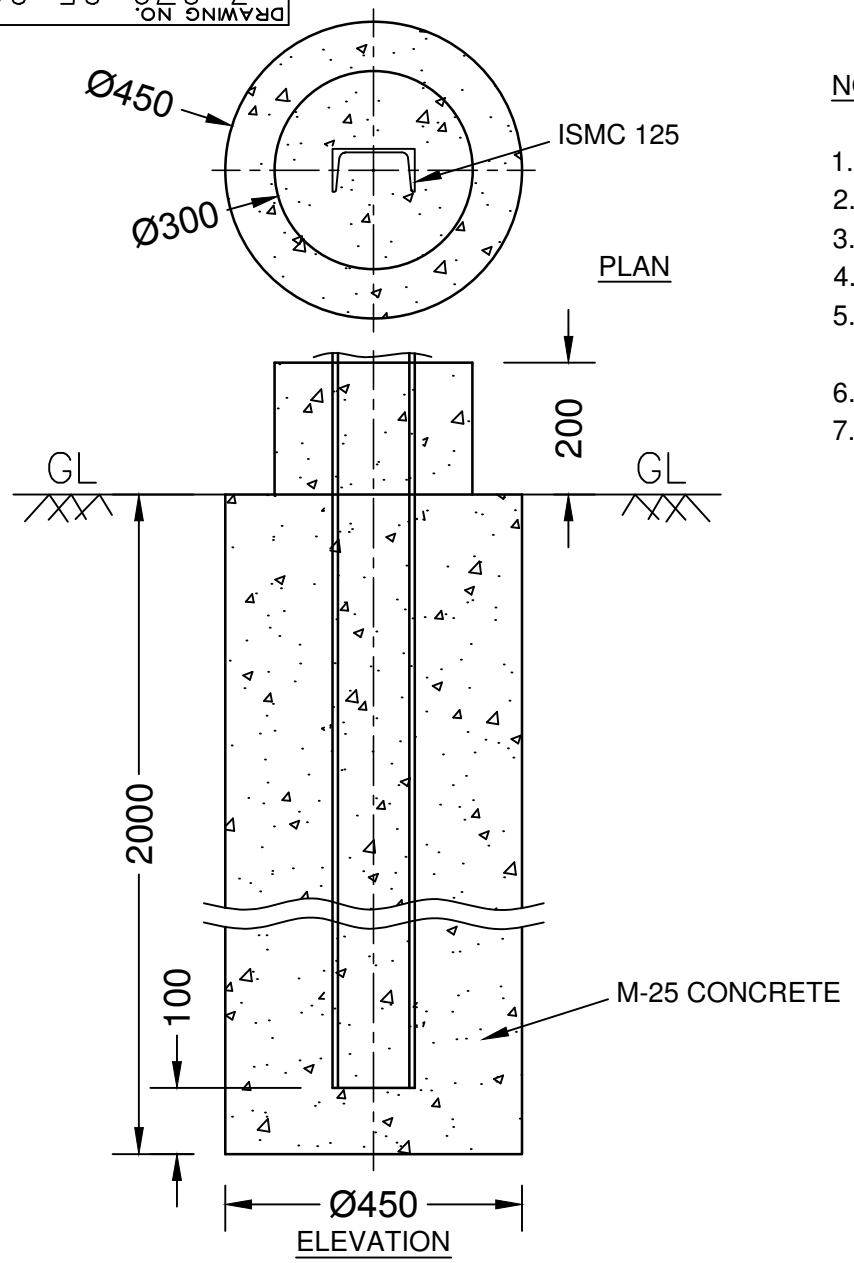
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### 10.0 General conditions

10.1	Vendor shall construct their own site office for the purpose of overseeing and execution of the contract.
10.2	Vendor shall, on their own, organize following infrastructure needed for the construction at their own expenses: (a) Power supply will be supplied by BHEL. In case DG sets etc are required, the same shall be organized by the vendor. (b) Water required for activities such as foundations, concrete mixtures will be arranged by BHEL. (c) All the machinery such as cranes, hydra, JCBs, forklifts, tools & tackles, measuring instruments etc for various activities such as unloading of materials at site, movement of materials, foundation, erection of structures, module mounting, etc., shall be organized by the vendor. (d) Labour required for unloading of vendor materials at site, movement of materials, construction activities etc shall be organized by the vendor.
10.3	Vendor shall construct their own storage area at the site with appropriate fencing, roofing, gate, lock and key arrangements to store and safeguard their items against rain, flood, fire etc.
10.4	Safeguarding the vendor supplied materials from theft and pilferage is the sole responsibility of vendor.
10.5	Insurance for all vendor supplied items shall be within scope of vendor, as applicable until the point of time when the installation is completed in all respect and handed over to BHEL.
10.6	Vendor shall make their own arrangements for necessary food, drinking water and accommodation for their labour and employees posted at the site.
10.7	Vendor shall organize their own labour and transport arrangements to move the BHEL solar modules from their storage locations to the construction point at the site. Storage of SPV modules is within BHEL scope and storage place will be close to the site within 1 KM. Vendor shall carry out such movements only with prior permission from BHEL authorities at the site.
10.8	Vendor shall organize all necessary labour-related statutory requirements such as labour license, PF, ESI, insurance, CAR policy etc.
10.9	Vendor shall maintain updated labour register, with name, age, qualification, salary, attendance details etc at the site.
10.10	Vendor shall use danger boards, wherever required, to ensure safety of the persons during the work at site.
10.11	Vendor shall adhere to all necessary safety norms such as use of helmet, goggles, hand gloves, footwear, aprons etc. It is the ultimate responsibility of the vendor in all respect to prevent accidents at the site and safeguard their labour from accidents.
10.12	Vendor shall submit periodic status report, on daily basis as well as weekly consolidated basis, to BHEL on the progress of the contract.
10.13	Vendor shall participate, as and when intimated by BHEL, in the review discussions at BHEL-EDN (Bangalore) and also at NEEPCO (Monarchak, Tripura).

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DRAWING NO.

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 It must not be used directly or indirectly in anyway detrimental to the interest of the Company  
 REF. DRG.NO.  
 SIGN & DATE  
 INVENTORY NO.



**NOTES:**

1. ALL THE DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. CONTRACTOR MUST VERIFY ALL DIMENSIONS BEFORE STARTING WORK.
3. GRADE OF CONCRETE TO BE M25 OR GREATER.
4. CONCRETING OF PILE Ø300 TO BE UNIFORM.
5. PAINTING OF PILE FOUNDATION ABOVE GROUND LEVEL (GL) TO BE WITH WATER-PROOFCEMENT PAINT.
6. WATER SHALL BE REMOVED FROM DRILLED HOLE BEFORE CONCRETING.
7. ALL SIX LEGS OF A SINGLE STRUCTURE SHALL BE ALIGNED BEFORE CONCRETING.

PRODUCT NAME : 5MW Grid Interactive Power Plant  
 CUSTOMER NAME : at MONARCHAK, TRIPURA, NEEPCO

BHARAT HEAVY ELECTRICALS LIMITED. ELECTRONICS DIVISION, BANGALORE	DRN	NAME	SIGN.	DATE	No. OF VAR
	CKD	NAR	Sd/-	250214	
	APPD	VRK	Sd/-	250214	

DEPT. SC&PV	FOR UNSPECIFIED-TOLERANCES REFER ED 0230499	SCALE 1:2	WEIGHT(Kg)	REF. TO ASSY. DRG.	ITEM NO.	No. OF ITEM
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TITLE	DRAWING NO.	REV.
PILE FOUNDATION OF MODULE MOUNTING STRUCTURE	3 679 05 00679	00
SHEET NO. 01	NO. OF SHEETS 01	

REV.	DATE	ALTERED CHECKED	REV.	DATE	ALTERED CHECKED	REV.	DATE	ALTERED CHECKED
		APPROVED			APPROVED	00		APPROVED
						FIRST ISSUE		

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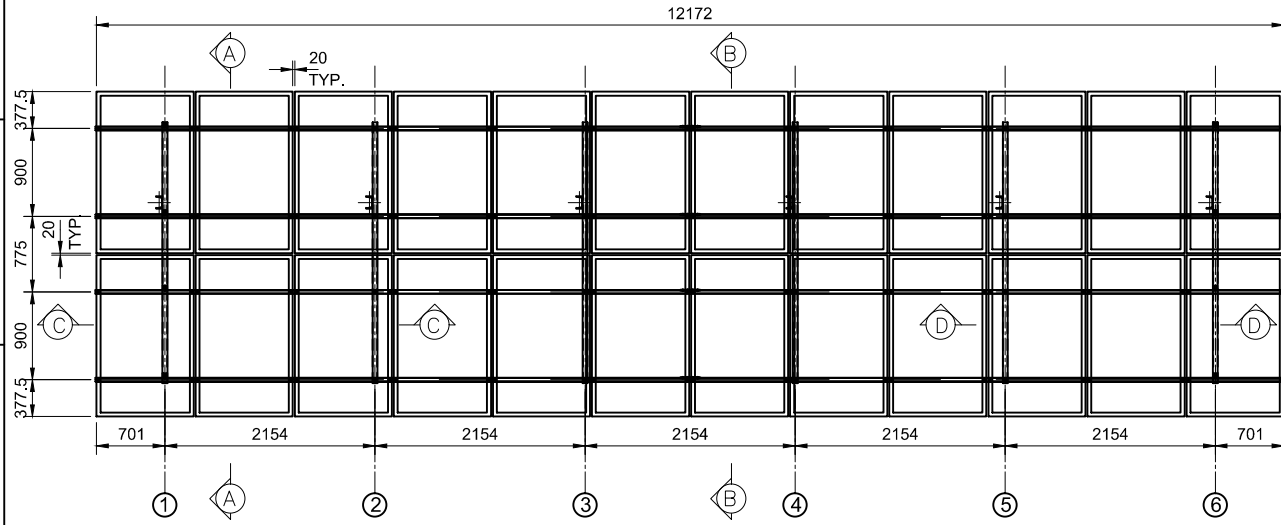
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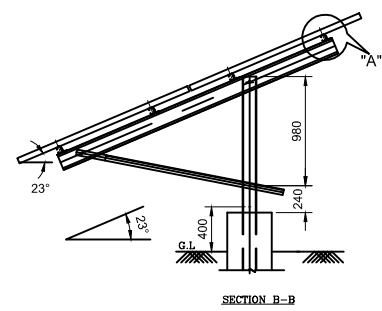
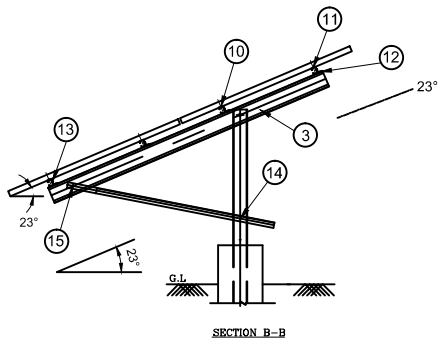
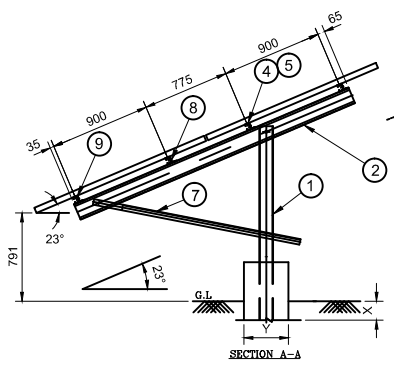
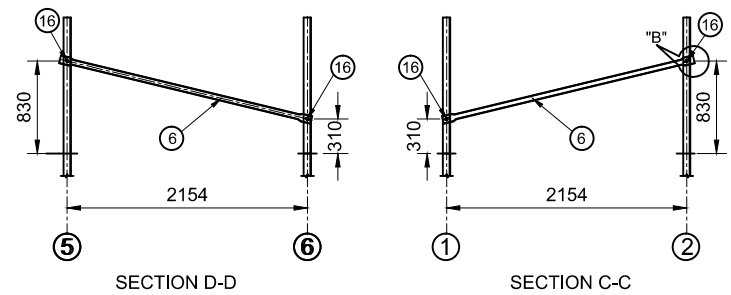
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2 X 12 = 24 MODULE MOUNTING STRUCTURE (L20220)

Notes :

1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM.
2. ALL MEMBERS ARE GALVANIZED EXCEPT SS FASTNERS.
3. HOT DIP GALVANIZING OF COATING THICKNESS OF MINIMUM 85 MICRONS or ABOVE (MINIMUM 610GSM) as per IS:4759.
4. HOLES SIZES ARE SHOWN AFTER GALVANIZING/TREATMENT.
5. REMOVE ALL SHARP AND BURR EDGES.
6. GENERAL ASSEMBLY TOLERANCE LINEAR  $\pm 2$  MM.
7. GENERAL ASSEMBLY TOLERANCE ANGULAR  $\pm 1^\circ$ .
8. IS 808-1989 FOR CHANNEL AND ANGLE.
9. IS 1730 FOR PLATES AND FLATS.
10. IS 2062 FOR MATERIALS AND ANGULAR SECTIONS.
11. ALL WELDS SIZE SHALL BE 5 MM UNLESS OTHERWISE MENTIONED.



REF. DRG. No.

SIGN. & DATE

INVENTORY No.

REV.	DATE	ALTERED	REV.	DATE	ALTERED	DRAWN	NAME	SIGN	DATE
		CHECKED			CHECKED				
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						CHECKED	NAR		140114
						APPROVED	VRK		130114
FIRST ISSUE						DISTRIBUTION OF PRINTS			
						DEPT.	CODE		
						SC&PV	439		

PROJECT : 5MW SOLAR POWER PLANT  
 CUSTOMER : NEEPCO AT MONARCHAK,TRIPURA

**BHARAT HEAVY ELECTRICALS LIMITED.**  
**ELECTRONICS DIVISION, BANGALORE**

TITLE:	MMS FABRICATION AND ASSEMBLY	No. OF SHEETS	13
		SHEET No.	01
		REV	00

M.O. No. AS PER OPEN TOLERANCE TO ED 0230499 BHEL DRG. No. **3 679 05 00673**

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PART NO.	NAME	DESCRIPTION	GRADE	QTY	LENGTH mm	Kg/m	Unit Wt	Total Wt
1	COLUMN (IS: 808&IS: 2062)	ISMC 125	250 MPA	6 NOS	3470	13.10	45.46	272.74
2	BEAM 1 (IS: 811)	120 CS 50X3.15MM THK (with Lip 20mm CR)	310 MPA	2 NOS	2675	5.76	15.41	30.82
3	BEAM 2 (IS: 811)	120 CS 50X3.15MM THK (with Lip 20mm CR)	310 MPA	4 NOS	2675	5.76	15.41	61.64
4	PURLIN 1 (IS: 811)	60 CS 40X2MM THK (with Lip 15mm CR)	310 MPA	4 NOS	6095	2.40	14.63	58.52
5	PURLIN 2 (IS: 811)	60 CS 40X2MM THK (with Lip 15mm CR)	310 MPA	4 NOS	6095	2.40	14.63	58.52
6	BRACING (IS: 1161)	PIPE DIA 48MMX3MM THK	250 MPA	2 NOS	2316	3.23	7.48	14.96
7	STRUT MEMBER (IS: 808 & IS: 2062)	ISA 50X50X4	250 MPA	6 NOS	1888	3.00	5.66	34.0
8	PURLIN CLEAT (IS: 1730)	MS PLATE L45X55X3MM THK	IS 2062	8 NOS	-	-	0.08	0.64
9	SUPPORT PLATE (IS: 1730)	MS PLATE 40X40X3MM THK	IS 2062	8 NOS	-	-	0.03	0.24
10	FISH PLATE (IS: 1730)	MS PLATE 200X50X4MM THK	IS 2062	8 NOS	-	-	0.29	2.32
11	M6X20 HEX BOLT WITH 1 NUT AND 2 FLAT WASHERS + 1 SPRING WASHER		SS304	96 NOS	-	-	-	1.05
12	M12X30 HEX BOLT WITH 1 NUT AND 2 FLAT WASHERS + 1 SPRING WASHER		SS304	24 NOS	-	-	-	1.8
13	M12X35 HEX BOLT WITH 1 NUT AND 2 FLAT WASHERS + 1 SPRING WASHER		SS304	28 NOS	-	-	-	2.1
14	M16X40 HEX BOLT WITH 1 NUT AND 2 FLAT WASHERS + 1 SPRING WASHER		SS304	6 NOS	-	-	-	0.9
15	M16X35 HEX BOLT WITH 1 NUT AND 2 FLAT WASHERS (25MM THREAD) + 1 SPRING WASHER		SS304	6 NOS	-	-	-	0.8
16	M16X45 HEX BOLT WITH 1 NUT AND 2 FLAT WASHERS + 1 SPRING WASHER		SS304	4 NOS	-	-	-	0.6

**NOTES:**

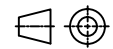
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM.
2. HOLES SIZES ARE SHOWN AFTER GALVANIZING/TREATMENT.
3. REMOVE ALL SHARP AND BURR EDGES.
4. ALL WELDS SIZE SHALL BE 5 MM UNLESS OTHERWISE MENTIONED.

PROJECT : 5MW SOLAR POWER PLANT  
 CUSTOMER : NEEPCO AT MONARCHAK,TRIPURA

**BHARAT HEAVY ELECTRICALS LIMITED.**  
**ELECTRONICS DIVISION, BANGALORE**

TITLE: BILL OF QUANTITY		No. OF SHEETS	13
		SHEET No.	02
		REV	00

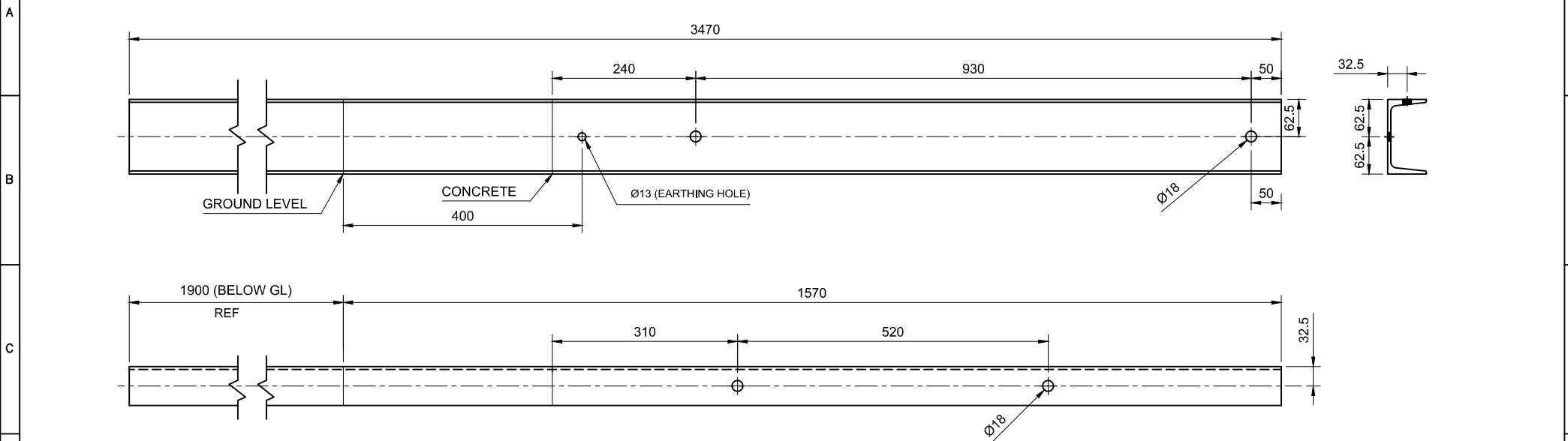
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						APPROVED	VRK		140114
DISTRIBUTION OF PRINTS						DEPT.	CODE		
						SC&PV	439		



M.O. No. AS PER OPEN TOLERANCE TO ED 0230499 BHEL DRG. No. **3 679 05 00673**

DRG No. 3 679 05 00673

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# PART-01

**NOTES:**

1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM.
2. HOLES SIZES ARE SHOWN AFTER GALVANIZING/TREATMENT.
3. REMOVE ALL SHARP AND BURR EDGES.
4. ALL WELDS SIZE SHALL BE 5 MM UNLESS OTHERWISE MENTIONED.

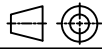
SCALE	MEMBER DESCRIPTION	NOS / STRUCTURE	LENGTH /SIZE	SECTION	PART NO:
1:10	COLUMN	6 NOS	2970	ISMC 125 IS: 228 & IS: 2062	1

PROJECT : 5MW SOLAR POWER PLANT  
 CUSTOMER : NEEPCO AT MONARCHAK,TRIPURA

**BHARAT HEAVY ELECTRICALS LIMITED.**  
**ELECTRONICS DIVISION, BANGALORE**

TITLE: COLUMN		No. OF SHEETS	13
		SHEET No.	03
		REV	00

REV.	DATE	ALTERED CHECKED	REV.	DATE	ALTERED CHECKED	DRAWN	NAME	SIGN	DATE
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							NAR		140114
							VRK		140114
FIRST ISSUE						DISTRIBUTION OF PRINTS			
						DEPT.	CODE		
						SC&PV	439		



M.O. No.	AS PER OPEN TOLERANCE TO ED 0230499	BHEL DRG. No.	<b>3 679 05 00673</b>
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REF. DRG. No.

SIGN. & DATE

INVENTORY No.

DRG. No. 3 679 05 00673

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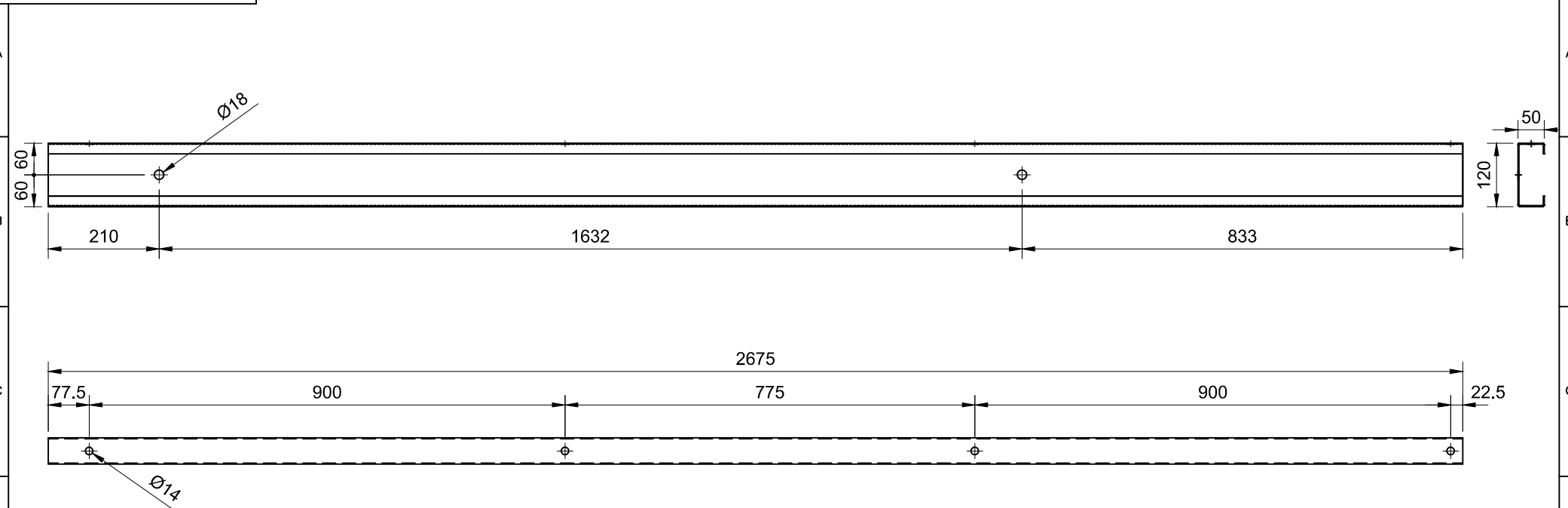
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SIGN. & DATE

INVENTORY No.



## PART-02

**NOTES:**

1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM.
2. HOLES SIZES ARE SHOWN AFTER GALVANIZING/TREATMENT.
3. REMOVE ALL SHARP AND BURR EDGES.
4. ALL WELDS SIZE SHALL BE 5 MM UNLESS OTHERWISE MENTIONED.

SCALE	MEMBER DESCRIPTION	NOS / STRUCTURE	LENGTH / SIZE	SECTION	PART NO:
1:10	BEAM1	02 NOS	2675	120 CS 50X3.15MM (WITH 20 MM LIP)	2

PROJECT : 5MW SOLAR POWER PLANT  
 CUSTOMER : NEEPCO AT MONARCHAK,TRIPURA

**BHARAT HEAVY ELECTRICALS LIMITED.**  
**ELECTRONICS DIVISION, BANGALORE**

TITLE: BEAM-1		No. OF SHEETS	13
		SHEET No.	04
		REV	00

REV.	DATE	ALTERED	REV.	DATE	ALTERED	NAME	SIGN	DATE
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FIRST ISSUE						DISTRIBUTION OF PRINTS		
						DEPT.	CODE	
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M.O. No.	AS PER OPEN TOLERANCE TO ED 0230499	BHEL DRG. No.	<b>3 679 05 00673</b>
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DRG. No. 3 679 05 00673

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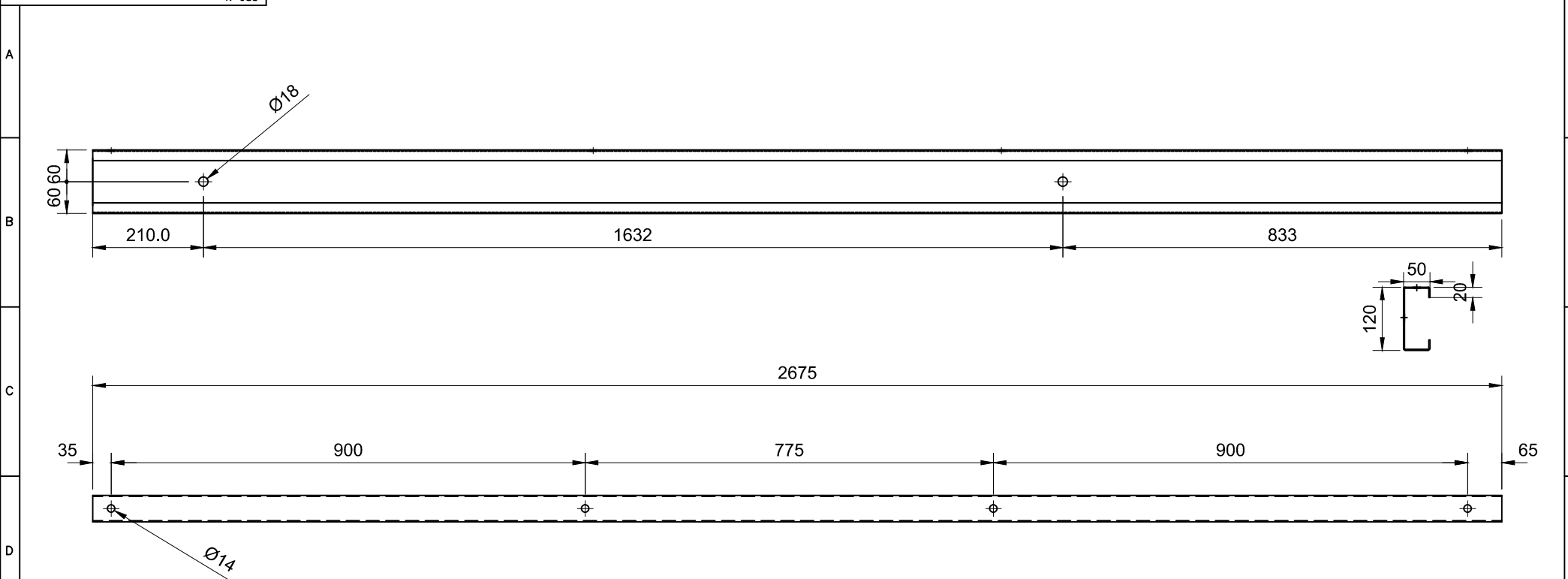
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INVENTORY No.



# PART-03

**NOTES:**

1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM.
2. HOLES SIZES ARE SHOWN AFTER GALVANIZING/TREATMENT.
3. REMOVE ALL SHARP AND BURR EDGES.
4. ALL WELDS SIZE SHALL BE 5 MM UNLESS OTHERWISE MENTIONED.

SCALE	MEMBER DESCRIPTION	NOS / STRUCTURE	LENGTH / SIZE	SECTION	PART NO:
1:10	BEAM 2	04 NOS	2675	120 CS 50X3.15MM (WITH 20 MM LIP)	3

PROJECT : 5MW SOLAR POWER PLANT  
 CUSTOMER : NEEPCO AT MONARCHAK,TRIPURA

**BHARAT HEAVY ELECTRICALS LIMITED.**  
**ELECTRONICS DIVISION, BANGALORE**

TITLE: BEAM-2		No. OF SHEETS	13
		SHEET No.	05
		REV	00

REV.	DATE	ALTERED	REV.	DATE	ALTERED	DRAWN	NAME	SIGN	DATE
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							SAN		140114
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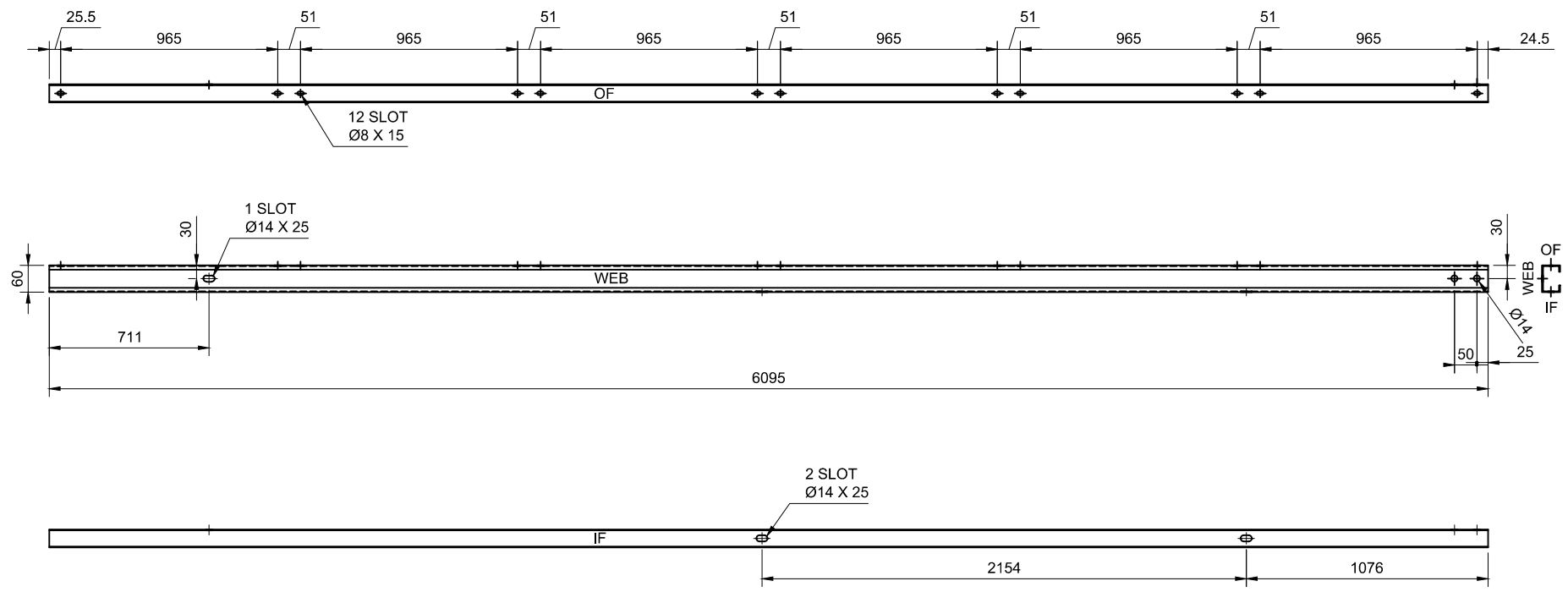
M.O. No.	AS PER OPEN TOLERANCE TO ED 0230499	BHEL DRG. No.	<b>3 679 05 00673</b>
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# PART-04

**NOTES:**

1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM.
2. HOLES SIZES ARE SHOWN AFTER GALVANIZING/TREATMENT.
3. REMOVE ALL SHARP AND BURR EDGES.
4. ALL WELDS SIZE SHALL BE 5 MM UNLESS OTHERWISE MENTIONED.

SCALE	MEMBER DESCRIPTION	NOS / STRUCTURE	LENGTH / SIZE	SECTION	PART NO:
1:10	PURLIN 1	04 NOS	6095	60 CS X 40 X 2MM THK. (WITH 15 MM LIP)	4

PROJECT : 5MW SOLAR POWER PLANT  
 CUSTOMER : NEEPCO AT MONARCHAK,TRIPURA

REV.	DATE	ALTERED	REV.	DATE	ALTERED	DRAWN	NAME	SIGN	DATE
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						SC&PV	439		



**BHARAT HEAVY ELECTRICALS LIMITED.**  
**ELECTRONICS DIVISION, BANGALORE**

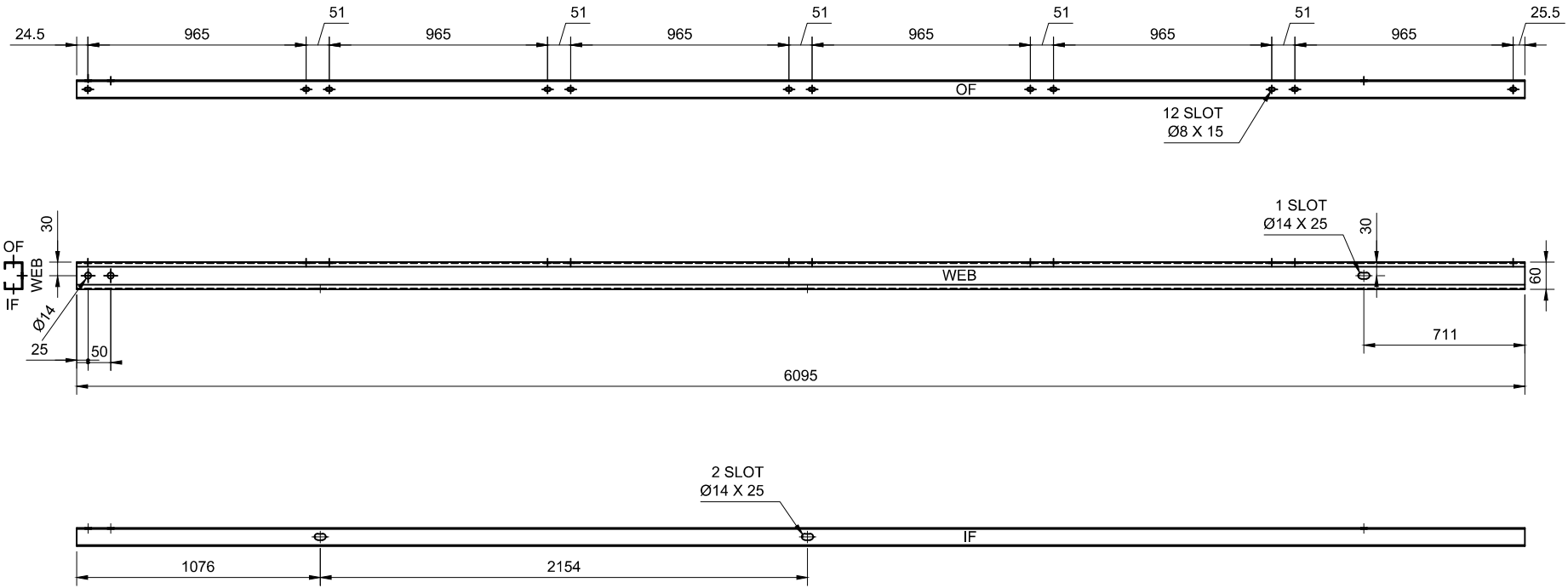
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		SHEET No.	06
		REV	00

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# PART-05

**NOTES:**

1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM.
2. HOLES SIZES ARE SHOWN AFTER GALVANIZING/TREATMENT.
3. REMOVE ALL SHARP AND BURR EDGES.
4. ALL WELDS SIZE SHALL BE 5 MM UNLESS OTHERWISE MENTIONED.

SCALE	MEMBER DESCRIPTION	NOS / STRUCTURE	LENGTH / SIZE	SECTION	PART NO:
1:10	PURLIN 2	04 NOS	6095	60 CS X 40 X 2MM THK. (WITH 15 MM LIP)	5

PROJECT : 5MW SOLAR POWER PLANT  
 CUSTOMER : NEPCO AT MONARCHAK,TRIPURA

REV.	DATE	ALTERED / CHECKED / APPROVED	REV.	DATE	ALTERED / CHECKED / APPROVED	DRAWN	NAME	SIGN	DATE
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							NAR		140114
							VRK		140114
FIRST ISSUE						DISTRIBUTION OF PRINTS			
						DEPT.	CODE		
						SC&PV	439		



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**ELECTRONICS DIVISION, BANGALORE**

TITLE: PURLIN 2		No. OF SHEETS	13
		SHEET No.	07
		REV	00

M.O. No.	AS PER OPEN TOLERANCE TO ED 0230499	BHEL DRG. No.	<b>3 679 05 00673</b>
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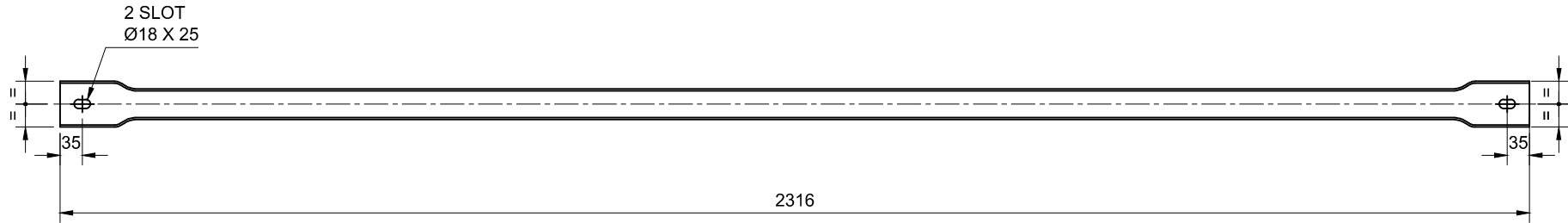
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# PART-06

**NOTES:**

1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM.
2. HOLES SIZES ARE SHOWN AFTER GALVANIZING/TREATMENT.
3. REMOVE ALL SHARP AND BURR EDGES.
4. ALL WELDS SIZE SHALL BE 5 MM UNLESS OTHERWISE MENTIONED.

SCALE	MEMBER DESCRIPTION	NOS / STRUCTURE	LENGTH /SIZE	SECTION	PART NO:
1:10	BRACING	2 NOS	2316 MM	Ø48MM X 3 MM THK ROUND PIPE	6

PROJECT : 5MW SOLAR POWER PLANT  
 CUSTOMER : NEEPCO AT MONARCHAK,TRIPURA

**BHARAT HEAVY ELECTRICALS LIMITED.**  
**ELECTRONICS DIVISION, BANGALORE**

TITLE: BRACING		No. OF SHEETS	13
		SHEET No.	08
		REV	00

REV.	DATE	ALTERED	REV.	DATE	ALTERED	NAME	SIGN	DATE
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						SC&PV	439	



M.O. No.	AS PER OPEN TOLERANCE TO ED 0230499	BHEL DRG. No.	<b>3 679 05 00673</b>
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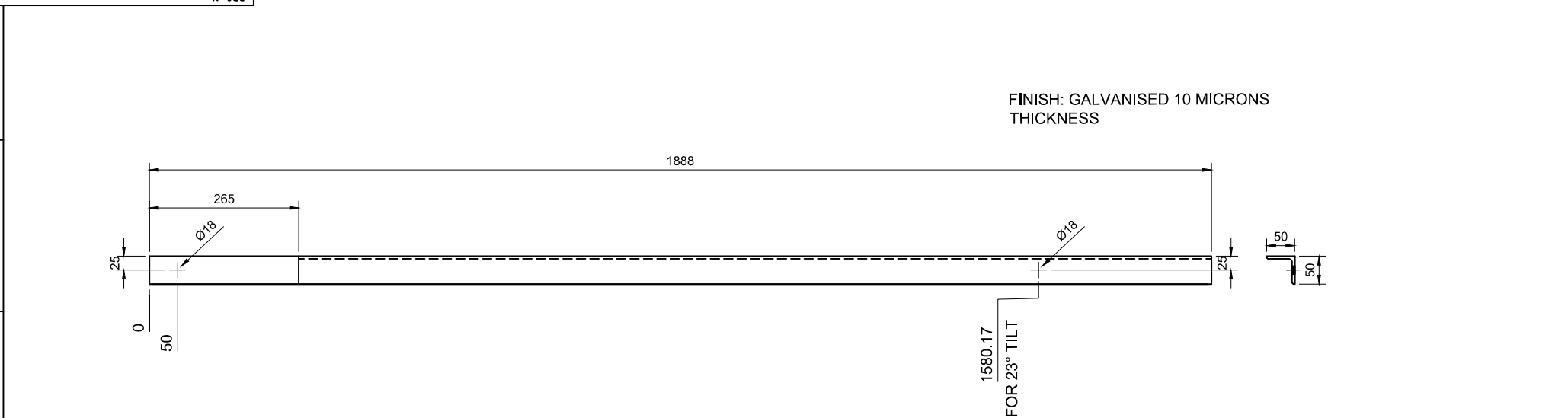
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REF. DRG. No.

SIGN. & DATE

INVENTORY No.



FINISH: GALVANISED 10 MICRONS THICKNESS

# PART-07

**NOTES:**

1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM.
2. HOLES SIZES ARE SHOWN AFTER GALVANIZING/TREATMENT.
3. REMOVE ALL SHARP AND BURR EDGES.
4. ALL WELDS SIZE SHALL BE 5 MM UNLESS OTHERWISE MENTIONED.

SCALE	MEMBER DESCRIPTION	NOS / STRUCTURE	LENGTH /SIZE	SECTION	PART NO:
1:10	STRUT MEMBER	6 NOS	1888	ISA 50x50x4 IS: 226 & IS: 2062	7

PROJECT : 5MW SOLAR POWER PLANT  
 CUSTOMER : NEEPCO AT MONARCHAK,TRIPURA

**BHARAT HEAVY ELECTRICALS LIMITED.**  
**ELECTRONICS DIVISION, BANGALORE**

TITLE: STRUT MEMBER		No. OF SHEETS	13
		SHEET No.	09
		REV	00

REV.	DATE	ALTERED	REV.	DATE	ALTERED	DRAWN	NAME	SIGN	DATE
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FIRST ISSUE						DISTRIBUTION OF PRINTS			
						DEPT.	CODE		
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M.O. No.	AS PER OPEN TOLERANCE TO ED 0230499	BHEL DRG. No.	<b>3 679 05 00673</b>
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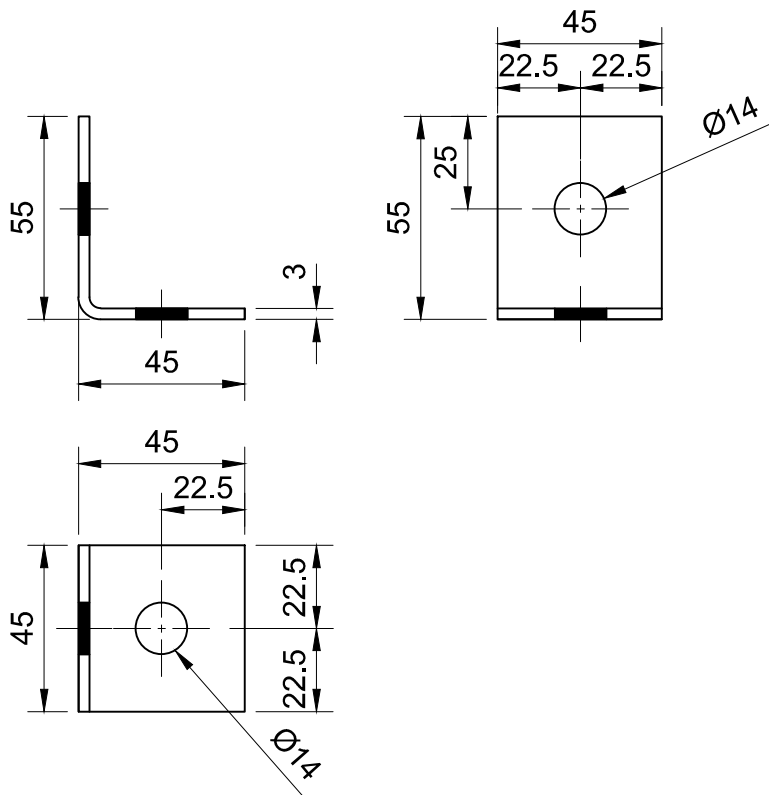


PLATE THICKNESS :- 3MM  
**PART-8**

**NOTES:**

1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM.
2. HOLES SIZES ARE SHOWN AFTER GALVANIZING/TREATMENT.
3. REMOVE ALL SHARP AND BURR EDGES.
4. ALL WELDS SIZE SHALL BE 5 MM UNLESS OTHERWISE MENTIONED.

SCALE	MEMBER DESCRIPTION	NOS / STRUCTURE	LENGTH /SIZE	SECTION	PART NO:
1:2	PURLIN CLEAT	8 NOS	-	MS PLATE L45 X55X 3	8

PROJECT : 5MW SOLAR POWER PLANT  
CUSTOMER : NEPCO AT MONARCHAK,TRIPURA

**BHARAT HEAVY ELECTRICALS LIMITED.**  
**ELECTRONICS DIVISION, BANGALORE**

TITLE: PURLIN CLEAT		No. OF SHEETS	13
		SHEET No.	10
		REV	00

REV.	DATE	ALTERED	REV.	DATE	ALTERED	NAME	SIGN	DATE
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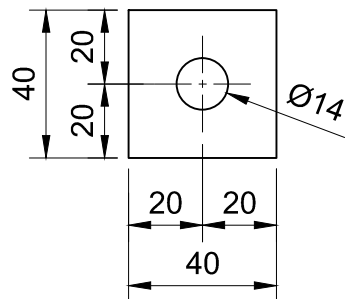


PLATE THICKNESS :- 3 MM  
**PART-9**

**NOTES:**

1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM.
2. HOLES SIZES ARE SHOWN AFTER GALVANIZING/TREATMENT.
3. REMOVE ALL SHARP AND BURR EDGES.
4. ALL WELDS SIZE SHALL BE 5 MM UNLESS OTHERWISE MENTIONED.

SCALE	MEMBER DESCRIPTION	NOS / STRUCTURE	LENGTH /SIZE	SECTION	PART NO:
1:2	SUPPORT PALTE	8 NOS	-	MS PLATE 40 X40X 3	9

PROJECT : 5MW SOLAR POWER PLANT  
CUSTOMER : NEEPCO AT MONARCHAK,TRIPURA

**BHARAT HEAVY ELECTRICALS LIMITED.**  
**ELECTRONICS DIVISION, BANGALORE**

TITLE: SUPPORT PLATE		No. OF SHEETS	13
		SHEET No.	11
		REV	00

REV.	DATE	ALTERED	REV.	DATE	ALTERED	NAME	SIGN	DATE
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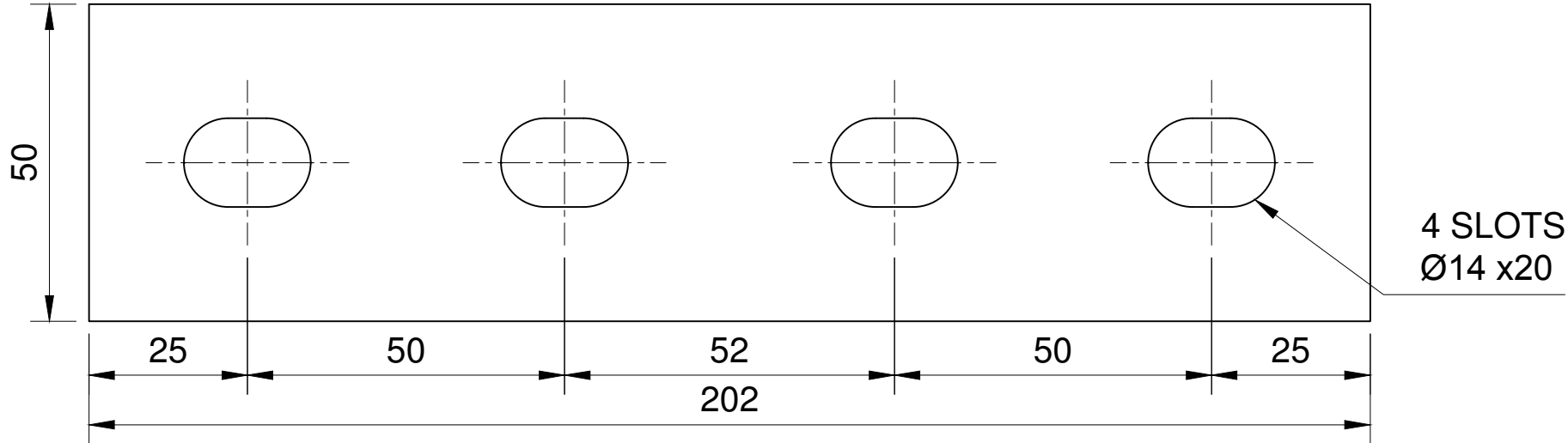


PLATE THICKNESS :- 4 MM

# PART-10

**NOTES:**

1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM.
2. HOLES SIZES ARE SHOWN AFTER GALVANIZING/TREATMENT.
3. REMOVE ALL SHARP AND BURR EDGES.
4. ALL WELDS SIZE SHALL BE 5 MM UNLESS OTHERWISE MENTIONED.

SCALE	MEMBER DESCRIPTION	NOS / STRUCTURE	LENGTH /SIZE	SECTION	PART NO:
1:2	FISHPALTE	8 NOS		MS PLATE 202X50X4	10

PROJECT : 5MW SOLAR POWER PLANT  
 CUSTOMER : NEEPCO AT MONARCHAK,TRIPURA

**BHARAT HEAVY ELECTRICALS LIMITED.**  
**ELECTRONICS DIVISION, BANGALORE**

TITLE: FISH PLATE		No. OF SHEETS	13
		SHEET No.	12
		REV	00

REV.	DATE	ALTERED	REV.	DATE	ALTERED	DRAWN	NAME	SIGN	DATE
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							NAR		140114
							VRK		140114
FIRST ISSUE						DISTRIBUTION OF PRINTS			
						DEPT.	CODE		
						SC&PV	439		



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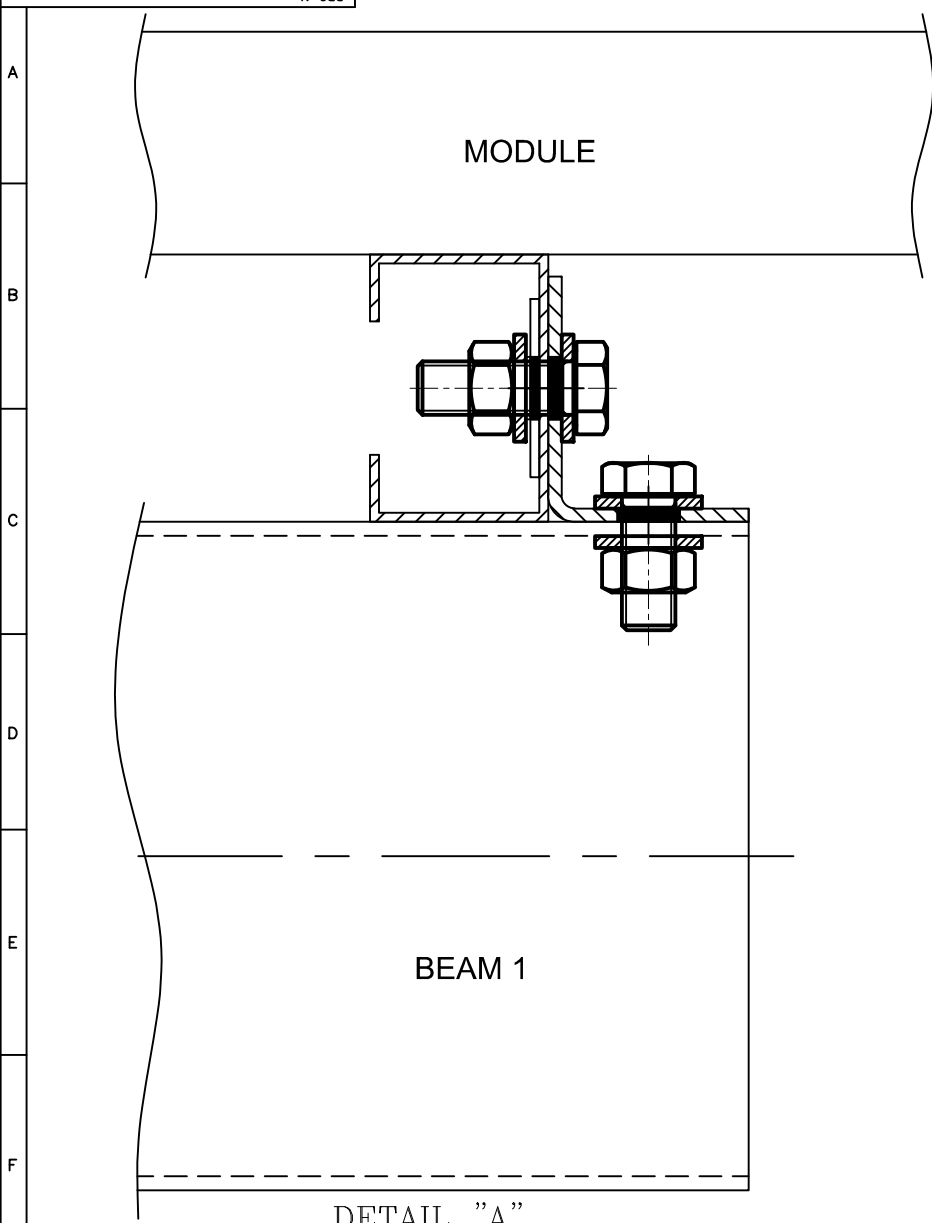
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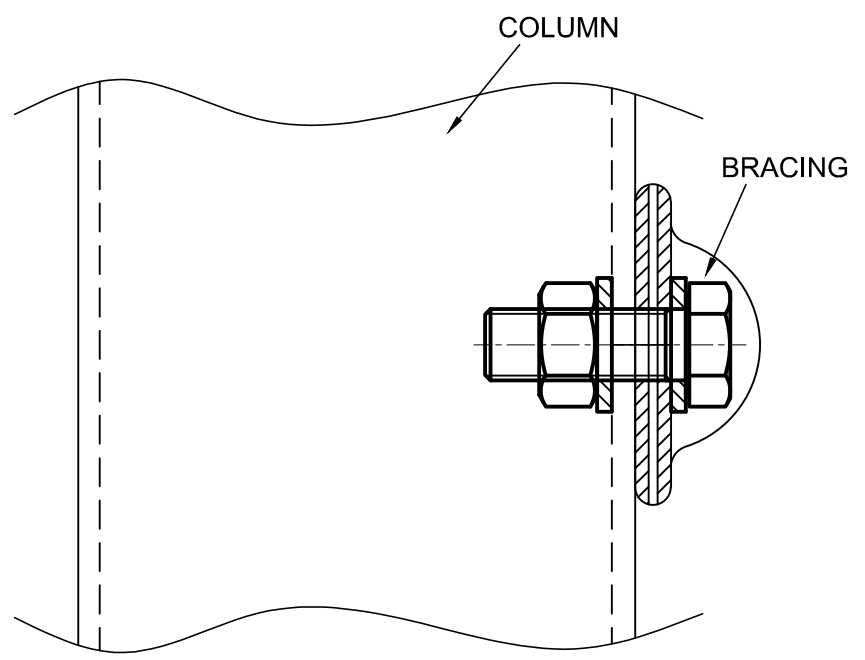
REF. DRG. No.

SIGN. & DATE

INVENTORY No.



DETAIL "A"



DETAIL "B"

PROJECT : 5MW SOLAR POWER PLANT  
 CUSTOMER : NEEPCO AT MONARCHAK,TRIPURA

**BHARAT HEAVY ELECTRICALS LIMITED.**  
**ELECTRONICS DIVISION, BANGALORE**

TITLE: MMS FABRICATION AND ASSEMBLY		No. OF SHEETS	13
		SHEET No.	13
		REV	00

REV.	DATE	ALTERED	REV.	DATE	ALTERED	NAME	SIGN	DATE
		CHECKED			CHECKED			
		APPROVED	00		APPROVED			
			DRAWN			SAN		140114
			CHECKED			NAR		140114
			APPROVED			VRK		130114
			DISTRIBUTION OF PRINTS					
			DEPT.			CODE		
			SC&PV			439		
			FIRST ISSUE					

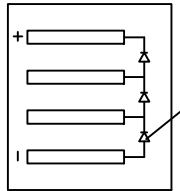
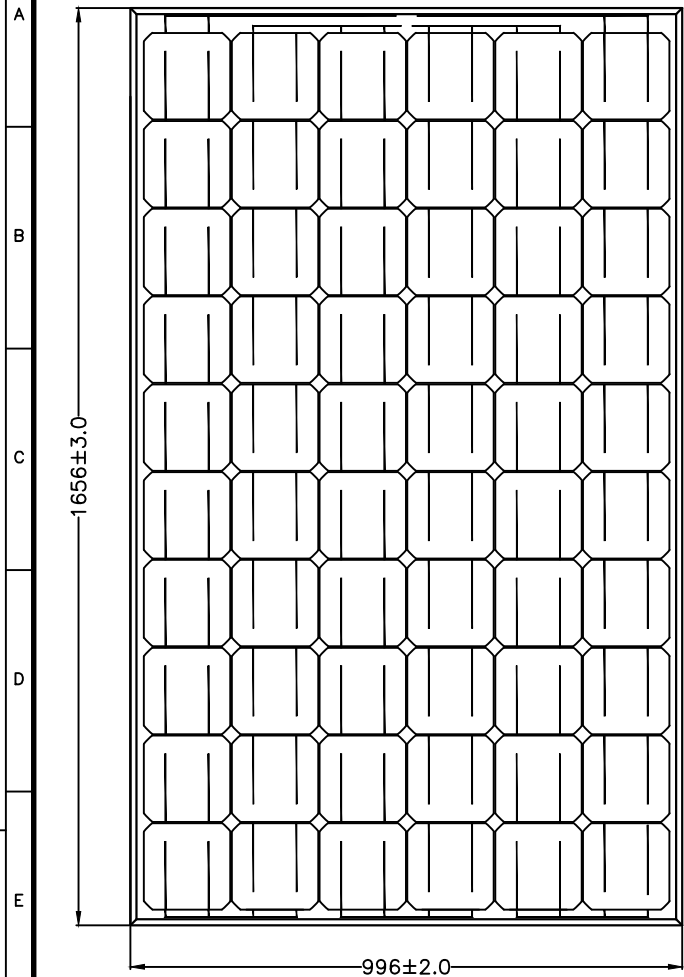


M.O. No. AS PER OPEN TOLERANCE TO ED 0230499 BHEL DRG. No. **3 679 05 00673**

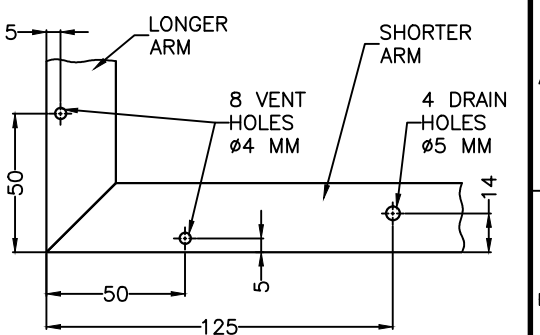
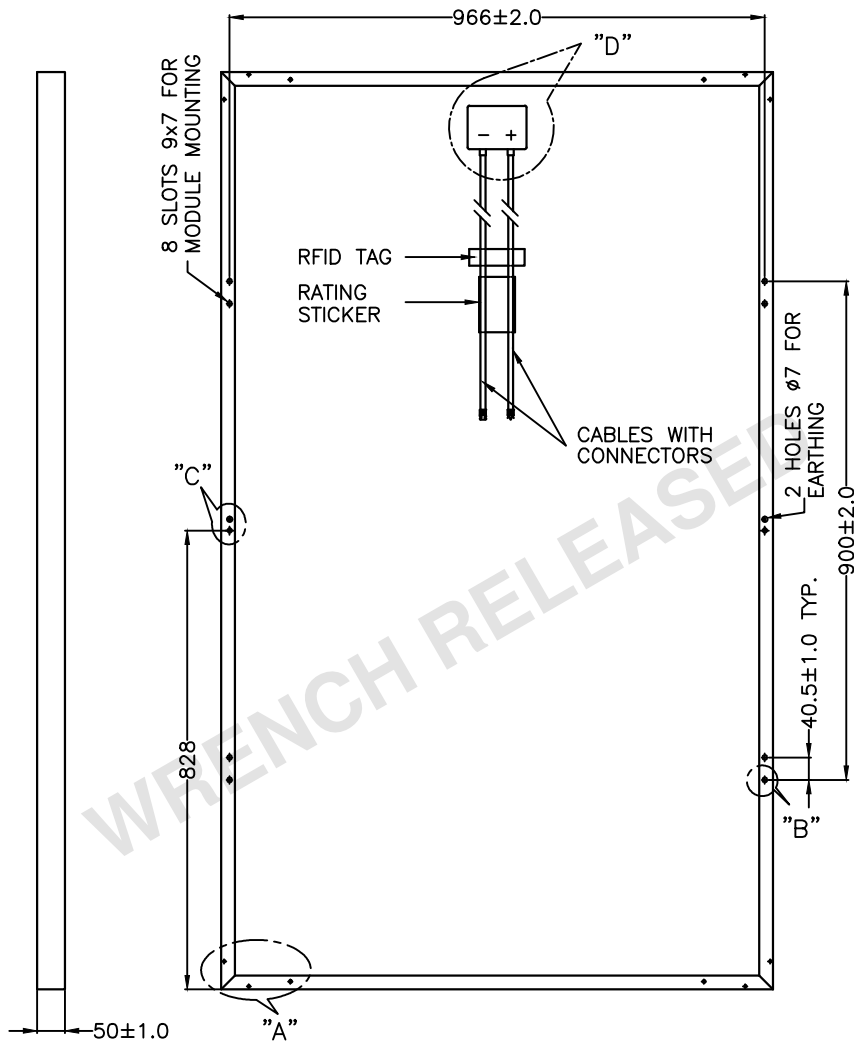
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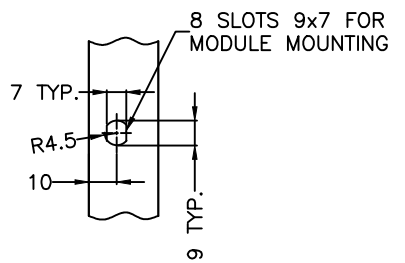
DRAWING NO. 3 679 02 00351



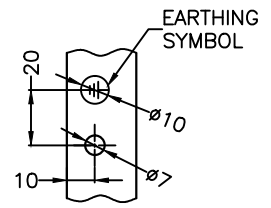
DETAIL "D"



DETAIL - "A"



DETAIL - "B"



DETAIL - "C"

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT



**BHARAT HEAVY ELECTRICALS LIMITED.**  
**ELECTRONICS DIVISION, BANGALORE**

DRN	NAME	SIGN.	DATE	No. OF VAR
SAN		Sd/-	290811	
CKD	NAR	Sd/-	290811	
APPD	SR	Sd/-	290811	

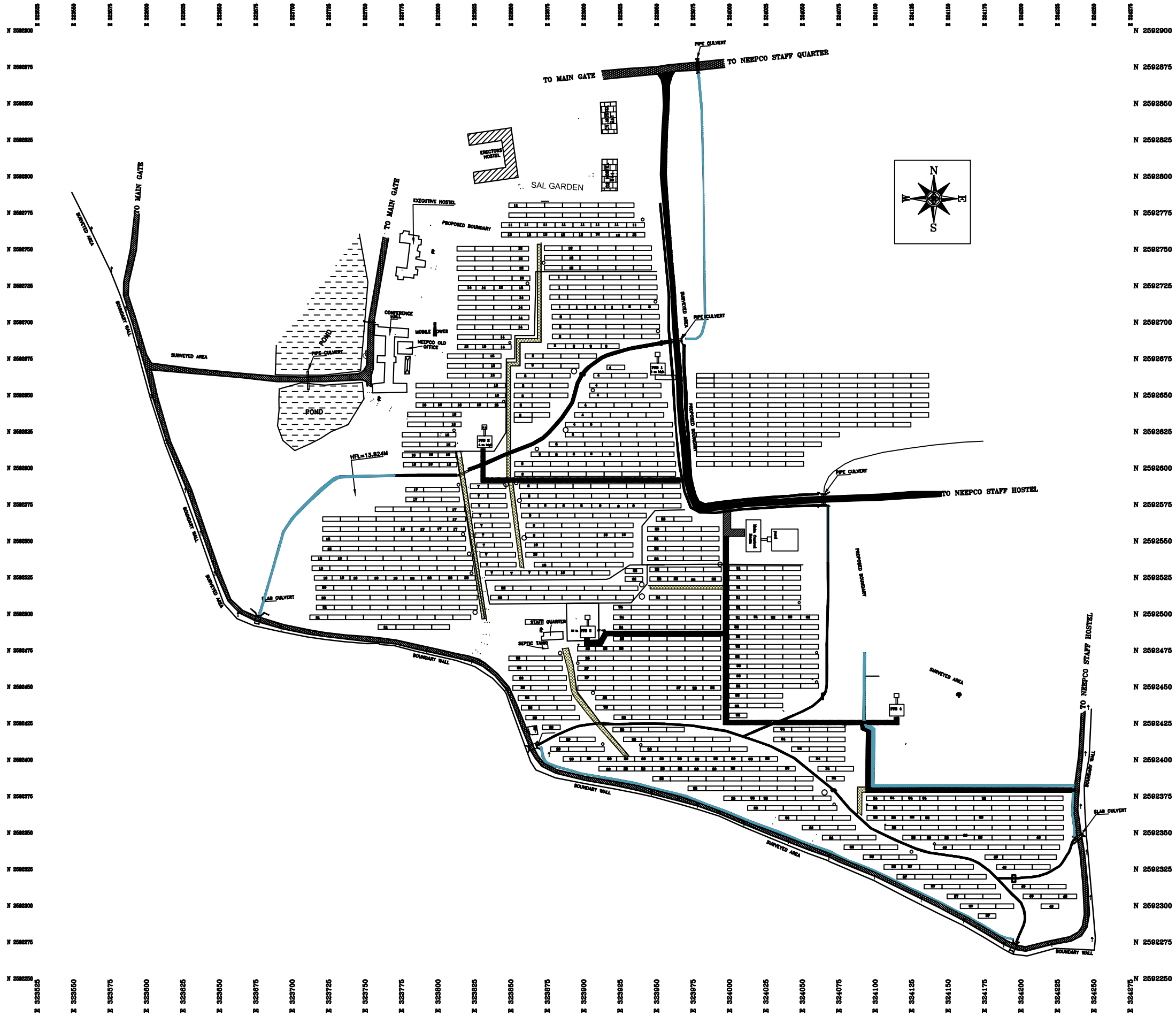
DEPT. SC&PV	FOR UNSPECIFIED-TOLERANCES REFER ED 0230499	SCALE	WEIGHT(Kg)	REF. TO ASSY. DRG.	ITEM NO.	No. OF ITEM
CODE 439		1 : 10				

TITLE: **PHOTOVOLTAIC MODULE-L20220**  
**156mm Mono Solar Cell (Corner Block Type)**

DRAWING NO. **3 679 02 00351**

SHEET NO. 01 NO. OF SHEETS 01

REV.	DATE	ALTERED CHECKED	SAN CHECKED	REV.	DATE	ALTERED CHECKED	SAN CHECKED	REV.	DATE	ALTERED CHECKED	SAN CHECKED
		APPROVED	APPROVED SR	01	071012	APPROVED	APPROVED SR	00		APPROVED	
DIM 50±1.0 WAS 50±0.1				FIRST ISSUE							



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N 2592875  
N 2592850  
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E 3232300  
E 3232250

LIST OF TBM

TBM NO.	EASTING	NORTHING	RL	REMARKS
TBM-1	323906.118	2592926.894	16.890	TOP OF RP CULVERT
TBM-2	323907.542	2592926.528	17.094	TOP OF RP CULVERT
TBM-3	323922.827	2592921.919	16.790	FLIGHT LEVEL OF STAIR NEAR C1 HOSTEL
TBM-4	323922.181	2592924.176	16.848	FLIGHT LEVEL OF STAIR NEAR C1 HOSTEL
TBM-5	323926.698	2592924.291	16.861	TOP OF SLAB CULVERT
TBM-6	323926.698	2592924.474	16.823	TOP OF SLAB CULVERT
TBM-7	324197.269	2592923.700	16.826	TOP OF SLAB CULVERT
TBM-8	324207.244	2592924.828	16.811	TOP OF SLAB CULVERT
TBM-9	324029.287	2592924.890	16.826	TOP OF CULVERT NEAR STAFF QUARTER
TBM-10	324029.287	2592924.970	16.827	TOP OF CULVERT NEAR STAFF QUARTER

LEGEND

SL.NO.	DESCRIPTION	SYMBOL	SL.NO.	DESCRIPTION	SYMBOL	SL.NO.	DESCRIPTION	SYMBOL
1.	BRICK SOLING ROAD		8.	DC cable trench (120 mm <sup>2</sup> )		15.	BOUNDARY WALL	
2.	EARTHEN ROAD		9.	POND		16.	Asphalted Road	
3.	BUILDING		10.	CONTOUR		17.	Pathways (W/M)	
4.	SIMPPOCA HUTMENT		11.	33 KV cable trench		18.	Pathways	
5.	HUTMENT		12.	SURVEYED AREA		19.	Elevated area	
6.	MOBILE TOWER		13.	Home pipe for cables		20.	Drains	
7.	TUBE WELL		14.	LAMP POST			Kulcha Drains	

- NOTES
- All dimensions are in Metre.
  - Co-ordinates of this Survey are with respect to GPS. Map datum: WGS 84, UTM: 46 North.
  - All the levels are with respect to BM-6, which is situated at top of culvert at plant. value=17.660m supplied by client.
  - Contour interval =0.5 Metre.
  - North : True North.

CUSTOMER: NORTH EASTERN ELECTRIC POWER CORPORATION LTD. (A GOVERNMENT OF INDIA ENTERPRISE)

CLIENT: BHARAT HEAVY ELECTRICALS LIMITED  
Post Box No 2605, Mysore Road  
Bangalore - 560026

PROJECT: 5MW SOLAR PV POWER PROJECT

BHEL'S CONTRACTOR/SURVEYING AGENCY:	NAME	SIGN	DATE
	DRN.	SAN	
	CHD.	SC	
	APPD.	VRK	

TITLE: ARRAY LAYOUT INCLUDING INTERNAL PATHWAYS AND DRAINS, AT MONARCHAK NEEPCO SITE, TRIPURA

DRG. NO. SCALE: 1:1000 DRAWING NO. 3 679 05 00680 REV 00  
SHEET NO. 01 NO. OF SHEETS: 01

**Bharat Heavy Electricals Ltd.,**  
(A Government of India undertaking)  
**Electronics Division**  
PB No.2606, Mysore Road, Bangalore-560026, India

**Enquiry - General Terms & Conditions (Two part bid)**

**I. Enquiry / Request for Quotation (RFQ):**

- (a) 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**).
- (b) Any of the terms and conditions not acceptable to vendor, shall be explicitly mentioned in the quotation. Otherwise, it will be treated as that all terms and conditions of this enquiry are acceptable.
- (c) If counter terms and conditions are offered by vendor, BHEL EDN shall not be governed by such terms and conditions, unless it is agreed and incorporated in the Purchase Order of BHEL EDN.
- (d) Any deviation to the terms and conditions not mentioned in the quotation by vendor 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.
- (e) BHEL EDN reserves the right to adopt Reverse Auction for the enquiry sent, at its discretion.
- (f) BHEL EDN shall be at liberty to cancel the tender at any time, before ordering, without assigning any reason.
- (g) Any specific terms and conditions to be complied will be mentioned in RFQ.**

**II. General Terms and conditions:**

**1. TWO PART BID:** Quotation shall be submitted in two part bid i.e.

**(a) Techno-commercial i.e., Un-priced Bid (in one sealed envelope):**

Techno-commercial bid shall be submitted with complete description of the equipment, specification compliances to the enquired specification and all the commercial terms & conditions indicated in the **COMMERCIAL TERMS (ANNEXURE-A for Foreign Purchase and ANNEXURE-B for Indigenous Purchase)**. Any other enclosure, which the vendor wishes to submit like product catalogue, technical literature etc., may also be submitted in a sealed envelope super scribed clearly as **"TECHNO-COMMERCIAL BID" with RFQ No. and DUE DATE**. An un-priced copy of price bid (without price) as per **ANNEXURE A-1 for Foreign Purchase and ANNEXURE B-1 for Indigenous Purchase** shall also be enclosed with the techno-commercial bid for evaluation of commercial terms.

**The vendor shall not give the price in the technical bid.**

Confirmation to BHEL specifications shall be indicated by the vendor in the respective columns provided in the purchase specification wherever applicable. Deviations to the specification / item description, if any shall be brought out clearly indicating "DEVIATION TO BHEL SPECIFICATION" without fail as a part of technical offer.

Compliance to Pre-qualification criteria (if applicable) shall also be enclosed with the Techno-commercial bid.

Manufacturer's name, their trade mark and brand, part number, alternate material to the one asked in enquiry, if any, should be mentioned in quotation and illustrative leaflets giving technical particulars etc. are to be attached to facilitate consideration and technical evaluation of the quotation. BHEL EDN material code number (as in enquiry) shall be indicated for each item quoted.

**(b) Price Bid (in one sealed envelope):**

Price bid should contain basic unit prices, discount if any, applicable taxes & duties, packing & forwarding charges (if applicable), Freight & insurances (if applicable), FOB charge (if applicable) etc., in a sealed envelope super scribed clearly as **"PRICE BID" with RFQ No. and DUE DATE**.

It is preferred to indicate the rates in both figures and words. In such case, if there is a difference / discrepancy

**Signature of tenderer / with seal**

between the rates in figures and words, the **amount in words shall prevail**. Price bid shall be quoted as per **ANNEXURE A-2 for Foreign Purchase and ANNEXURE B-2 for Indigenous Purchase**.

**(c) Tender Offer (above two envelopes inside another sealed envelope):**

Both these sealed envelopes [(a) Techno-commercial i.e., un-priced Bid and (b) Price Bid] shall be kept in a single sealed envelope and super scribed clearly with **RFQ No. and DUE DATE**.

2. The above sealed envelope (Tender) shall reach our office on or before the due date by 13:00 hrs. Quotations are to be dropped in the tender box marked for the OPENING ON respective days i.e., **MONDAY (BOX No.4)/ WEDNESDAY (BOX No.6)/ FRIDAY (BOX No.8)** kept at BHEL-EDN's Reception area of our works with caption "**CE, SC & PV, DEFENCE**". **Quotations also can be dispatched by Couriers / Registered post / FAX / e-mail to the Purchase Executive indicated in the RFQ at the risk of vendor / bidder.**

Quotation through courier / register post / fax / email 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 personnel to drop in the tender box before the scheduled opening date and time. Vendor is fully responsible for lack of secrecy on information of such quotations. Vendor shall confirm with the concerned purchase executive after sending the offer regarding such delivery mode to ensure participation. BHEL EDN is not responsible for any delay in receipt of quotation sent by vendor through post/fax/email.

Late Tenders i.e., Tenders received after due date & time will be rejected.

3. The rate quoted shall be in units stated in the enquiry. Where quotation is in terms of unit other than that in enquiry, relationship between the two units must be furnished in the quotation.
4. As far as possible, the quotations shall be free from corrections / overwriting. Corrections / overwriting, if any should be signed by authorized person with the company seal. Any typographical errors, totaling mistakes, currency mistakes, multiplication mistakes, summary mistakes observed in your priced bids, BHEL may consider whichever is beneficial to BHEL for evaluation. Vendor shall doubly ensure that the quote is correct and complete. The corrections / overwriting if any shall be signed with the seal.
5. Quotations are to be duly signed. Unsigned bids/offers are liable for rejection.
6. Tenders will be opened at **13:30 hrs** & the venue is New Engineering Building, 2<sup>nd</sup> floor, MM conference hall, BHEL EDN, Bangalore. All the tenderers or their authorized representatives (with authorization letter from their principals) may witness opening of techno-commercial bid on the due date.
7. After evaluation of techno-commercial bids, price bids of only those which are technically & commercially accepted, will be opened on a subsequent date, which will be intimated to the concerned in advance for witnessing of price bid opening.
8. The quantity in each item to be purchased may vary from quantity enquired according to the actual requirement at the time of placing the purchase order.

**9. DUN & BRADSTREET REPORT (for Foreign purchase):**

In case of foreign vendors, BHEL reserves the right to verify the Dun & Bradstreet report during techno-commercial scrutiny. Please mention DUN Number in **Techno-Commercial bid**.

**10. Payment of Agency Commission to Indian Agent (for Foreign purchase):**

- a. BHEL shall deal directly with foreign vendors, wherever required, for procurement of goods. However, if the foreign principal desires to avail of the services of an Indian agent, then the foreign principal should ensure compliance to regulatory guidelines - which require mandatory submission of an Agency Agreement.
- b. It shall be incumbent on the Indian agent and the foreign principal to adhere to the relevant guidelines of Government of India, issued from time to time.

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- c. The Agency Agreement should specify the precise relationship between the foreign OEM / foreign principal and their Indian agent and their mutual interest in the business. All services to be rendered by agent/ associate, whether of general nature or in relation to the particular contract, must be clearly stated by the foreign supplier/ Indian agent. Any payment, which the agent or associate receives in India or abroad from the OEM, whether as commission or as a general retainer fee should be brought on record in the Agreement and be made explicit in order to ensure compliance to laws of the country.
- d. Any agency commission to be paid by BHEL to the Indian agent shall be in Indian currency only.
- e. Tax deduction at source is applicable to the agency commission paid to the Indian agent as per the prevailing rules.
- f. In the absence of any agency agreement, BHEL shall not deal with any Indian agent (authorized representatives / associate / consultant, or by whatever name called) and shall deal directly with the foreign principal only for all correspondence and business purposes.
- g. The “Guidelines for Indian Agents of Foreign Suppliers” shall apply in all such cases.
- h. The supply and execution of the Purchase Order (including indigenous supplies/ service) shall be in the scope of the OEM/ foreign principal. The OEM/ foreign principal should submit their offer inclusive of all indigenous supplies/ services and evaluation will be based on ‘total cost to BHEL’. In case OEM/ foreign principal recommends placement of order(s) towards indigenous portion of supplies/ services on Indian supplier(s)/ agent on their behalf, the credentials/ capacity/ capability of the Indian supplier(s)/ agent to make the supplies/ services shall be checked by BHEL as per the extant guidelines of Supplier Evaluation, Approval & Review Procedure (SEARP), before opening of price bids. It will be the responsibility of the OEM/ foreign principal to get acquainted with the evaluation requirements of Indian supplier/ agent as per SEARP available on [www.bhel.com](http://www.bhel.com).

The responsibility for successful execution of the contract (including indigenous supplies/ services) lies with the OEM/ foreign principal. All bank guarantees to this effect shall be in the scope of the OEM/ foreign principal.

#### 11. Installation & Commissioning:

- (a) Scope will be as per Purchase Specification. I&C value should be quoted separately by bidders.
- (b) Wherever, Service Tax is applicable –
- (c)
  1. The Tenderers shall furnish the Service Tax Registration Number in their offer.
  2. If the Tenderer is not having Service Tax Registration Number, he shall submit an undertaking to the effect that,
    - a. in case he is awarded the contract, he shall register with Service Tax Authorities and furnish the Registration Number before commencement of work, OR
    - b. his turnover value is below the threshold limit prescribed by the Service Tax Act and in case he is awarded the contract, whenever his turnover crosses the threshold limit at any time during the execution of the contract, he shall forthwith register with Service Tax Authorities and furnish the Registration Number to BHEL. (This sub-clause is NOT applicable where the taxable turnover of the present tender is above the prescribed threshold limit).
  3. Any offer not complying with the above clauses is liable to be rejected.
  4. The above clauses apply even where the price quoted is “inclusive of taxes”.
  5. If the Service Tax Registration Number is not furnished to BHEL before the first bill is submitted (except as provided in Clause 2(b) above), the bills will not be passed (even if the price is “inclusive of taxes”).
  6. In case of contracts involving multiple bills, every bill (commencing with the 2<sup>nd</sup> bill) shall be accompanied with a declaration that the contractor has discharged his tax liability on the earlier bill (i) by paying the money to the Government (along with Challan details) or (ii) by utilization of Input Service Tax Credit available with him or (iii) being exempt as his turnover continues to be below the threshold limit. In the absence of such a declaration, the bill shall not be passed.
  7. In case of contracts involving a single bill, the bill shall be accompanied with an undertaking that the contractor shall discharge his tax liability on that bill as per law.

12. **TOTAL COST TO BHEL:** Purchase order will be placed on the lowest quotation (L1) only among the technically & commercially accepted quotations. Lowest quotation (L1) is determined on the basis of the total cost to BHEL. Loading Factors for deviation to BHEL Commercial terms and conditions will be considered.

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For Foreign offers, the Exchange rate (TT selling rate of SBI) shall be taken as under.

Single part bids	Date of Tender opening
Two/Three part bid	Date of Part-1 bid opening
Reverse Auction	Date of Part-1 bid opening

If the relevant day happens to be a bank holiday, then the forex rate as on the previous bank (SBI) working day shall be taken.

- (1) If Freight is quoted extra, original money receipt from Transporter shall be submitted for payment of Freight charges.
- (2) C-form : For issue of form "C", vendor has to furnish "E1/E2" form.

## 12. **FIRM PRICE:**

Rates quoted should be firm from the date of offer, till completion of supply. No enhancement in the rates and changes in the techno-commercial terms will be allowed once the quotation is accepted and order is placed.

If Installation & Commissioning is in vendor's scope, then the price shall remain FIRM till commissioning & handing over of the complete system.

## 13. **TERMS OF PAYMENT:**

**1. SUPPLY FOR FOREIGN PURCHASE :** Payment will be made against "SIGHT DRAFT" on presentation of documents to our bankers . Payment through LC is also made subject to loading factors as per Clause 25 (A). For LC payment bank charges within India will be borne by BHEL and outside India will be to vendor's account.

The payment terms are as follows:

### **SIGHT DRAFT PAYMENT (direct payment):**

#### **SUPPLY :**

(a) **I&C not included in vendor's scope :** 90% payment of Supply value + 100% Taxes shall be made with 45 days credit from the date of receipt of material at site. Balance 10% on execution of PBG valid for warranty period + 6 months claim period from any of the BHEL Consortium banks.

(b) **Supply & I&C in vendor's scope :** 80% payment of Supply value + 100% Taxes shall be made with 45 days credit from the date of receipt of material at site. 10% on completion of I&C and certification line item wise on pro-rata basis. Balance 10% on execution of PBG valid for warranty period + 6 months claim period from any of the BHEL Consortium banks..

### **(B) FOR INDIGENOUS PURCHASE (DIRECT PAYMENT):**

#### **1. For Supply :**

(a) **I&C not included in vendor's scope :** 90% payment of basic Supply value + 100% Taxes and duties shall be made with 45 days credit from the date of receipt of material at site. Balance 10% on execution of PBG valid for warranty period + 6 months claim period from any of the BHEL Consortium banks. PBG value shall be 10% of basic supply PO value.

(b) **Supply and I&C in vendor' scope :** 80% payment of basic Supply value + 100% Taxes and duties shall be made with 45 days credit from the date of receipt of material at site. 10% on completion of I&C and certification line item wise on pro-rata basis. Balance 10% on execution of PBG valid for warranty period + 6 months claim period from any of the BHEL Consortium banks. PBG value shall be 10% of basic supply PO value.

**2. For I&C:** 100% on completion of I&C and certification line item wise on pro-rata basis.

**3. Civil Works :** 90% on completion of activity milestone and certification line item wise from site-in charge. Balance 10% against PBG for 10% of basic Civil value valid warranty period + 6 months claim period from any of the BHEL Consortium banks. PBG value shall be 10% of basic civil PO value.

**4. O&M :** 100% O&M charges are payable as per RFQ terms against report certified by BHEL.

If PBG cannot not be submitted, vendors can also accept for the final 10% payment, payable after the warranty period + 6 months of claim period against supplementary invoice subject to the completion of commissioning (if applicable) as PBG is linked to

**Signature of tenderer / with seal**

Warranty period.

For any deviation in payment term, the offer will be loaded as per Clause 25.00.

**5. ADVANCE PAYMENT: Quotations with “Advance payment/Inland LC” shall be rejected.**

**14. PENALTY:**

Failure to supply within the delivery time as per purchase order will make the vendor 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%.

Supply : Date of issue of pre-shipment inspection/ call letter with supporting documents like test reports/conformance to test carried by the vendor will be treated as date of dispatch for the purpose of penalty calculation wherever Pre-Inspection is carried out.

For all other activities, the actual date of completion of activity as certified by concerned site-incharge will be considered for the purpose of penalty calculation.

**15. PBG:**

Performance Bank Guarantee (PBG) to be submitted on non-judicial stamp paper as per the BHEL prescribed format given in **ANNEXURE-E for Foreign Purchase and Annexure-F for Indigenous Purchase** for 10% of the total supply value obtained from any BHEL member (consortium) banks indicated in **ANNEXURE-G**.

**The Bank Guarantee shall be submitted directly to the concerned Purchase Executive by the issuing Bank with their forwarding letter.** BHEL will verify independently with the bank to establish the authenticity. Alternately, standby LC issued from approved banker can also be considered.

**16. TERMS OF DELIVERY:**

**(a) FOR IMPORTED PURCHASE:**

Price offered shall be for goods packed and delivered **FOB** Seaport,/FCA International Airport including packing, forwarding, Handling, Ancillary charges like processing of Sight Draft, negotiation charges of bank, Export declaration, Certificate of origin etc.

Packing shall be Air/Sea worthy, best suitable for trans-shipment and to take care of transit damages. If containerized, no. of containers & size of container shall be mentioned. Packing weight (gross & net) Packing dimensions shall be given prior to shipment to ascertain whether the consignment can be carried on standard cargo in contract or as ODC.

Wooden packing material for all the foreign consignments should be treated as per ISPM-15 & **Fumigation / Phytosanitary certificate** to be submitted to the freight forwarders/ BHEL along with the invoice, B/L, packing list etc.

Vendors shall indicate the name of International Airport/Seaport. Approved Airports are as per **Annexure-C**. The consignment shall be handed over to BHEL approved freight forwarder as mentioned in PO.

**(b) FOR INDIGENOUS PURCHASE:**

Equipment shall be delivered on “FOR SITE” basis, inclusive of freight, packing, insurance & forwarding charges.

Packing shall be Road / Rail / Air / Sea worthy, best suitable for transshipment and to take care of transit damages.

Smaller consignments can be dispatched through Courier services/ RPP with the prior approval of the purchasing Executive.

**17. DELIVERY REQUIREMENT:**

Delivery date mentioned in RFQ is tentative. Actual requirement is as per RFQ terms & conditions.

**18. VALIDITY:**

Quotation should remain valid for a period of **90 days** from the date of technical bid opening.

**19. POST-ORDER REQUISITES:**

- a. Vendor shall give an Order Acknowledgement indicating the delivery date within one week of receipt of PO.
- b. Pre-shipment inspection at vendor’s works, if required, will be carried out by BHEL/ Customer. Required assistance will have to be provided by the vendor at the time of pre-shipment inspection.
- c. Test certificates, Calibration certificates and warranty certificates as stipulated at the time of ordering shall be furnished.

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- d. Items shall be dispatched by Air worthy /Sea worthy/ Road worthy packing. Any damage and later rejection, due to poor / improper packing shall be to vendor's account.
- e. Any damage/rejection should be made good or replaced immediately without any extra cost to BHEL such as freight, duties, taxes etc. The liability is restricted to the value of the order.
- f. Wherever commissioning is involved, it shall be carried out by the vendor's qualified engineers. Scope of work includes installation, commissioning and start-up trials till satisfactory performance level is reached as certified by BHEL.
- g. BHEL will not be responsible for any loss, damage or injuries to vendor's personnel sustained during installation / commissioning / start-up trials. Vendor shall ensure compliance with all statutory requisites as laid down by local bodies, state & Central Government. Vendor shall indemnify BHEL for all damages/ losses to various personnel during their presence in BHEL's premises for whatever purpose.
- h. Suitable markings & damage control indicating devices shall be provided where applicable.
- i. Equipment shall comply with the standard requirements of ISO 14001 & OHSAS 18001.

**20. RISK PURCHASE:**

The purchaser at his discretion may also make purchase of the materials NOT supplied in time at the RISK & COST of the supplier. In this event, it will be obligatory on the part of the supplier who fails to supply the goods in time to make good to BHEL any loss due to such risk purchase.

**21. GENERAL TERMS AND CONDITIONS GOVERNING REVERSE AUCTION (RA):**

- (a) BHEL reserves the right to go for Reverse Auction (RA) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. All bidders to give their acceptance for participation in RA.  
Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA.
- (b) In case BHEL decides to go for Reverse Auction, only those bidders who have given their acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit "online sealed bid" in the Reverse Auction. Non-submission of "online sealed bid" by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue."
- (c) **Kindly refer to Annexure D for Terms & Conditions of Reverse Auction.**
- (d) Vendor shall confirm acceptance for RA in **ANNEXURE A/B**.

**22. REGRET LETTER:** In case any vendor is unable to quote, vendor shall send a regret letter.

**23.** Any dispute arising out of this, shall be referred to the sole arbitration of Head of Dept. Materials Management of group concerned, BHEL EDN or any other officer nominated by him and his award shall be final and binding on the parties. The venue of the arbitration in all cases shall be Bangalore, India.

**24.** Any legal suit in respect of this enquiry lies in the court of Jurisdiction of Bangalore (India) only.

**25. LOADING FACTORS:**

Loading factors as detailed below will be added to the quoted price (basic) to evaluate the lowest quote for non compliance of BHEL standard commercial term.

**A (i). For non compliance of standard Terms of payment (For Foreign Purchase Orders)**

Sl. No.	BHEL standard term	If you quote	Loading factor in % for non-compliance
1	80% against "SIGHT DRAFT" + 20% after commissioning and against PBG (where both commissioning & PBG are applicable)	Payment through Letter of Credit (LC)	10%

**In general, if the quote is through L/C, it shall be opened 30 days prior to dispatch and valid for 3 months.**

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***A(ii).For non compliance of standard Terms of payment (For Indigenous Purchase Orders)***

Sl. No.	BHEL standard term	If you quote	Loading factor in % for non-compliance
1	As per RFQ Terms	Any other Payment term	10%

***B.For non compliance of standard Terms of Penalty***

Sl. No.	BHEL standard term	If you quote	Loading factor for non-compliance
1	Penalty of 0.5% per week subject to max. of 10% on the basic value of the items not supplied /delayed	Other than the above.	Loading Factor 10%-Quoted Max %

**26. Non Compliance of Warranty terms** : Offers not complying with Warranty terms as per RFQ Terms is liable for rejection.

**ANNEXURE- C*****LIST OF INTERNATIONAL AIRPORTS***

<b>Sl. No</b>	<b>Country</b>	<b>Air Ports</b>
1	Austria	Vienna, Linz, Graz
2	Australia	Sydney, Melbourne, Perth
3	Belgium	Antwerp, Brussels
4	Canada	Toronto, Montreal
5	China	Shanghai
6	Cyprus	Lamaca
7	Czech Republic	Prague (Via Frankfurt)
8	Denmark	Copenhagen
9	Egypt	Cairo
10	Finland	Helsinki
11	France	Paris (Rosny), Lyon
12	Germany	Darmstadt, Manheim, Nurnberg, Hamburg, Stuttgart, Munich, Koln, Dusseldorf & Hannover, Frankfurt, Berlin
13	Hong Kong	Hong Kong
14	Italy	Rome, Milan, Turin, Bologna, Florence
15	Ireland	Dublin
16	Israel	Telaviv
17	Japan	Tokyo, Osaka
18	Malaysia	Kuala lumpur, Penang
19	Netherlands	Amsterdam, Rotterdam
20	New Zealand	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
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.	Landon (Heathrow), Newcastle, Oxford, Cheltham, Bristol, Welling borough, Birmingham, East Midland, Manchester, Leeds, Glasgow.
37	U.S.A.	New York, Chicago, San Francisco, Los Angeles, Atlanta
38	Ukraine	Kiev

**Annexure - D****Terms & Conditions of Reverse Auction**

Against this enquiry for the subject item/ system with detailed scope of supply as per enquiry specifications, BHEL may resort to "REVERSE AUCTION PROCEDURE" i.e., ON LINE BIDDING (THROUGH A SERVICE PROVIDER). The philosophy followed for reverse auction shall be English Reverse (No ties).

- (1) For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
- (2) Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit 'online sealed bid' in the Reverse Auction. Non-submission of 'online sealed bid' by the bidder for any of the eligible items for which techno-commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
- (3) BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
- (4) In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
- (5) Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
- (6) Bidders have to fax the Compliance form (annexure IV ) before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
- (7) In line with the NIT terms, BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL" like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
- (8) Reverse auction will be conducted on scheduled date & time.
- (9) At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
- (10) The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, (Annexure VII) as provided on case-to-case basis to Service provider within two working days of Auction without fail.
- (11) In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL"s standard practice.
- (12) Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the „Business Rules of Reverse Auction", which will be communicated before the Reverse Auction.
- (13) If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action *as per extant BHEL guidelines*, shall be initiated by BHEL and the results of the RA scrapped/ aborted.
- (14) The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
- (15) In case BHEL decides to go for reverse auction, the H1 bidder(s) (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

**Signature of tenderer / with seal**

**ANNEXURE-E****PERFORMANCE BANK GUARANTEE  
(FOR FOREIGN PURCHASE ORDERS)  
BANK NAME AND ADDRESS**

Bharat Heavy Electricals Limited (BHEL),  
Electronics Division,  
PB No. 2606,  
Mysore Road,  
BANGALORE- 560 026  
INDIA  
Dear Sirs,

**Ref: CONTRACT PERFORMANCE GUARANTEE.**

WHEREAS you have entered into a contract reference No PO NO. \_\_\_\_\_ with M/s \_\_\_\_\_ having its registered office at \_\_\_\_\_ for the supply of \_\_\_\_\_ as detailed in your purchase order No. \_\_\_\_\_ which is hereinafter referred to as "the said contract" and WHEREAS M/s \_\_\_\_\_ has undertaken to produce a Bank Guarantee for 10% ( Ten Percent ) of \_\_\_\_\_ the contract price amounting to \_\_\_\_\_ ( \_\_\_\_\_ ) to secure its obligations to Electronics Division, BHEL having its registered office at New Delhi for the performance of the contract including the warranty of the equipment supplied, We \_\_\_\_\_ Bank \_\_\_\_\_ hereby expressly, irrevocably and unreservedly undertake and guarantee as principal obligors on behalf of M/s \_\_\_\_\_ that in the event Bharat Heavy Electricals Ltd. (B.H.E.L.) declares to us in writing that M/s \_\_\_\_\_ has not fulfilled any obligation according to the contractual obligation of the said contract, to pay you on demand and without demur to Bharat Heavy Electricals Ltd., Electronics Division , Mysore Road, P.B.No. 2606, Bangalore-560 026, India an amount of \_\_\_\_\_ (in words \_\_\_\_\_ ) subject to as may be determined below:

- 1) Notwithstanding any right M/s. \_\_\_\_\_ may have directly against you or any disputes raised by M/s \_\_\_\_\_, Your written demand shall be conclusive evidence to us that repayment is due under the terms of the said contract and shall be binding on us.
- 2) We shall not be discharged or released from this undertaking and Guarantee by any arrangements, variations made between you and M/s. \_\_\_\_\_ with or without our consent and Knowledge or by any alterations in the obligations of M/s. \_\_\_\_\_ by any forbearance whether as to payment, time, performance or otherwise.
- 3) This guarantee shall remain valid until the end of twenty-four weeks after the close of the warranty period or until the same is reported by BHEL to us whichever is earlier.
- 4) We agree and undertake not to revoke this guarantee during its validity unless discharged in writing by you subject to the provision of clause (7) below.
- 5) This guarantee shall be a continuing guarantee subject to the foregoing and shall not be discharged by any change in the constitution of the Bank or M/s. \_\_\_\_\_.
- 6) This guarantee shall be governed by and constructed in accordance with the Laws of India.
- 7) At any time \_\_\_\_\_ Bank may render this guarantee null and void by paying to Bharat Heavy Electricals Ltd. the full amount being \_\_\_\_\_ (in words \_\_\_\_\_ )

**Note:**

- (1) To be executed in Non-Judicial stamp paper by any authorized Indian Bank.
- (2) To be submitted directly by banker to concerned executive in purchase dept., Please give BHEL address to banker.
- (3) Do not enclose with Bank document.
- (4) Any Modification & omissions to this are not permitted

Signature of tenderer / with seal

**ANNEXURE - F****PERFORMANCE BANK GUARANTEE  
(FOR INDIGENOUS PURCHASE ORDERS)**

THIS DEED OF GUARANTEE made and executed on the \_\_\_\_\_ day of \_\_\_\_\_ (year), by the \_\_\_\_\_ (Bank), registered under the Companies Act 1956/Nationalized Bank constituted under the Banking Companies (acquisition and transfer of undertakings) Act constituted under the State Bank of India Act / Subsidiary Banks Act, having its registered / head office at \_\_\_\_\_ represented herein by its Branch Manager / authorized representative Sri. \_\_\_\_\_ & Sri. \_\_\_\_\_ (Hereinafter called 'guarantor' which term shall mean and include its successors and assigns)

**IN FAVOUR OF BHARAT HEAVY ELECTRICALS LIMITED**

\_\_\_\_\_ (Buyer's Name), a company registered under the companies Act, 1956 having its registered office at BHEL House at Siri Fort , New Delhi-100 049 and its Electronics Division at Mysore road, Bangalore-26 (hereinafter referred to as the 'Company' Which term shall include its successors and assigns):

Whereas the company has placed an order on \_\_\_\_\_ (State the name of the company / firm and its address) (hereinafter referred to as the 'Supplier' which term shall mean and include its liquidators, successors and assign) for the supply of system under order / Contract No. Dt. \_\_\_\_\_

AND WHEREAS the supplier has agreed to supply the materials and carryout the works as detailed and in accordance with the terms set out in the said order/contract.

AND WHEREAS the company is not required to pay to the supplier a sum of Rupees \_\_\_\_\_ being the 10% of the value of the goods supplied / Works performed / Services rendered under the said order / contract between the supplier and the company, till the company is satisfied with the mechanical Warranties and the performance standards stipulated in the said order / contract between the company and the supplier has been duly fulfilled, except against a Bank Guarantee for the said sum of Rs \_\_\_\_\_ in favour of the company by reputed Bank, in which case the company has agreed to make payment to the supplier of the said sum of Rupees \_\_\_\_\_ being ( ...% ) of the value of the goods supplied / Works performed / Services rendered under the agreement between the supplier and the company and the Guarantor has at the request of the supplier, agreed to furnish this Guarantee subject to the terms and conditions stated below:

NOW THIS DEED WITNESSES THAT IN pursuance of the above said agreement, the guarantor hereby agrees and covenants With company is as follows :-

- 1) That during the period this contract of Guarantee remains effectual, the guarantor shall be liable in respect of the amount due and owing to the company in respect of the payments to the extent of Rs \_\_\_\_\_ (in words) \_\_\_\_\_ against any loss or damage caused to or suffered by the company by reasons of any breach of the terms of the said order / contract / Agreement by the supplier.
- 2) The Guarantor hereby undertakes to pay the amounts due and payable under this guarantee without any demur, merely on demand from the company intimating that the amount claimed is due by way of loss or damage caused to or suffered or would be caused or suffered by the supplier of any terms contained in the said order / contract. Any such demand made on the guarantor shall be conclusive as regards the amount due and payable by the Guarantor irrespective of the fact whether the Contractor / supplier admits or denies.
- 3) The Guarantor further agrees that the agreement herein contained shall remain in force and effect till all the supplies to be made / Works to be performed / Services to be rendered under the said order / contract / agreement are completed to the entire satisfaction of the company or till company certifies that the terms and conditions of the said order / contract / agreement have been fully and properly carried out by the said supplier and accordingly discharges the Guarantee. Unless a demand or claim under this guarantee is made on the guarantor in writing on or before the expiry of claim period indicated in clause 6 below, the guarantor shall be discharged from all the liability under this guarantee thereafter.
- 4) The guarantor further agrees with the company that the company shall have the fullest liberty without the consent of the guarantor and without effecting in any manner the obligations of the guarantor hereunder to vary any of the terms of the said order / contract / agreement or extend the time of performance by the said supplier from time to time or refrain from exercising the power exercisable by the company against the said supplier or to forebear or omit to enforce any of the terms and conditions relating to the said order / contract / agreement, and the guarantor shall not be relieved of its liability in whole or in part , by reason of any act, commission or forbearance on the part of the company or by reason of any such variation, or extension being granted to the said

**Signature of tenderer / with seal**

supplier or by reason of any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving the guarantor.

- 5) The guarantor undertakes not to revoke this guarantee during its currency except with the previous consent of the company in writing.
- 6) Notwithstanding anything herein above contained, the liability of the guarantor under these presents is restricted to Rs\_\_\_\_\_. The guarantee shall be in force till its expiry on \_\_\_\_\_ unless a demand is made on the guarantor within SIX months from the date of expiry, all the liability of the guarantor under this guarantee shall stand fully discharged. The decision of the claimant in regard to breach of contract is final and binding on the Bank.

IN WITNESS whereof, the guarantor, acting through it authorized representative has executed this deed of Guarantee on the day, month and year first above written.

(Seal of the Bank to be affixed)

WITNESS

- 1.
- 2.

**Note:**

- (1) To be executed in INR 100 Non-Judicial stamp paper by any authorized Indian Bank.
- (2) To be submitted directly by banker to concerned executive in purchase dept., Please give BHEL address to banker.
- (3) Do not enclose with Bank document.
- (4) Any Modification & omissions to this are not permitted.

## ANNEXURE – G

**BHEL MEMBER BANKS (CONSORTIUM BANKS)****PBG SHALL BE ISSUED FROM THE FOLLOWING BANKS OR THEIR BRANCH OFFICES ONLY**

1	STATE BANK OF INDIA
2	PUNJAB NATIONAL BANK
3	HDFC BANK
4	SYNDICATE BANK
5	CANARA BANK
6	INDIAN BANK
7	ST. BANK OF HYDERABAD
8	ICICI BANK
9	STANDARD CHARTEREDBANK
10	UCO BANK
11	KOTAK MAHINDRA
12	ORIENTAL BANK OF COMMERCE
13	STATE BANK OF TRAVANCORE
14	CENTRAL BANK
15	IDBI BANK
16	FEDERAL BANK
17	HSBC LTD
18	DEUTSCHE BANK
19	CORPORATION BANK
20	CITI BANK
21	BANK OF BARODA
22	ABN AMRO BANK
23	UNITED BANK OF INDIA
24	VIJAYA BANK
25	UNION BANK OF INDIA
26	PUNJAB & SIND BANK
27	ANDHRA BANK
28	BANK OF INDIA
29	AXIS BANK

The above list is tentative and is subject to change from time to time.  
The Purchase Executive shall be contacted for confirmation of the same.

Signature of tenderer / with seal

COMMERCIAL TERMS & CONDITIONS (to be enclosed with TECHNO-COMMERCIAL BID) (For Indigenous Purchase Orders)				
RFQ No.HBSMM20004 RFQ DATE : 19.03.2014 DUE DATE : 11.04.2014 FOR MMS-NEEPCO,Tripura				
Sl No.	Terms	BHEL Term	Confirmation	Deviation / Remarks
1	Bidding	(a) Bid has to be submitted as Two Part – in two sealed covers- Techno Commercial Bid(Part-1) & Price Bid (Part-II)- clearly written on each cover both put in a single sealed envelope super-scribed with RFQ No. and Due date.	Acceptable / Not acceptable	
		(b) Documents as called in Pre-Qualification Criteria (Clause 2.0 of PS-439-872) to be submitted along with technical bid(Part-1).	Acceptable / Not acceptable	
		(c) Annexures-B & B1 to be submitted along with technical bid (Part-1) & Annexure-B2 to be submitted along with Price bid (Part-II).	Acceptable / Not acceptable	
		(d) Clause-wise compliance to BHEL Purchase specification along with all documents as called in Technical specification to be submitted along with technical bid(Part-1).	Acceptable / Not acceptable	
2	Price Basis	Firm i.e., from the date of PO to completion of supply if I&C is not applicable. If I&C is in supplier's scope,then the prices shall remain Firm till commissioning & handing-over of the complete system. (PVC clause not acceptable).	Acceptable / Not acceptable	
3	Terms of Delivery	Free On Road Basis to Project site :NEEPCO MONARCHAK SITE,TRIPURA	Acceptable / Not acceptable	
4	Delivery Period	(a) Supply : Completion within ten (10) weeks from the date of Prototype Approval & MC.	Acceptable / Not acceptable	
		(b) Prototype fabrication and approval : Within 15 days of the date of PO .	Acceptable / Not acceptable	
		(b ) I&C : Completion within sixteen (16) weeks from PO date.	Acceptable / Not acceptable	
		(c) Civil Works : Completion within twelve (12) weeks from the date of Manufacturing Clearance.	Acceptable / Not acceptable	
5	Payment Term	(a)Supply : Payment of 80% basic Supply value + 100% Taxes shall be made with 45 days credit from the date of receipt of material at site. 10% on completion of I&C and certification line item wise on pro-rata basis. Balance 10% on execution of PBG valid for supply warranty period + 6 months claim period from any of the BHEL Consortium banks.	Acceptable / Not acceptable	
		(b)I&C: 90% of basic I&C value + 100% Taxes & Duties on completion of I&C and certification line item wise on pro-rata basis.Balance 10% on execution of PBG valid for warranty period+ 6 months claim period from any of the BHEL Consortium banks.	Acceptable / Not acceptable	
		(c)Civil Works: 90% on completion of works and certification line item wise on pro-rata basis.Balance 10% on execution of PBG valid for warranty period + 6 months claim period from any of the BHEL Consortium banks.	Acceptable / Not acceptable	
		( d )For any other deviation loading will be done as per clause 25(A) of Enquiry - General Terms & Conditions (Ref : SCPV/BOS/01-Rev 01)	Acceptable / Not acceptable	
6	Excise Duty	(a) To confirm whether applicable. If applicable, indicate prevailing rate of Excise duty.	Applicable / Not applicable	Prevailing rate of Excise duty : ..... %
		(b) BHEL is trying to avail Customs Duty & Excise duty exemption.Successful bidder shall support with all relevant documents.	Acceptable / Not acceptable	
7	Sales Tax	(a) To confirm whether applicable. If applicable, indicate prevailing rate of Sales Tax against Form c.	Applicable / Not applicable	Prevailing rate of Sales Tax against Form c: ..... %
		(b) For issue of form "C", vendor has to furnish "E1/E2" form.Please confirm that "E1/E2 Sale form" will be submitted.	Acceptable / Not acceptable	
		( c ) Wherever E1/E2 transactions are made, CST will not be reimbursed.	Acceptable / Not acceptable	
8	Value Added Tax	Since it is inter-state movement of goods, VAT is not applicable. Only CST against form C is applicable.	Applicable / Not applicable	CST applicable @.....%
		OR Both are in the same State, VAT is applicable please indicate VAT applicable.	Applicable / Not applicable	VAT applicable @.....%
9	Octroi	To confirm whether applicable, if applicable indicate current rate of Octroi.	Applicable / Not applicable	Octroi.....%
10	Service Tax	To confirm whether applicable, if applicable indicate current rate of Service Tax.Furnish Service Tax Regn. No.  Confirmation that Service Tax register is maintained.	Applicable / Not applicable	Service Tax .....% Service Tax Regn. No. .... S.Tax Register maintained : Yes/No

COMMERCIAL TERMS & CONDITIONS (to be enclosed with TECHNO-COMMERCIAL BID) (For Indigenous Purchase Orders)				
RFQ No.HBSMM20004 RFQ DATE : 19.03.2014 DUE DATE : 11.04.2014 FOR MMS-NEEPCO,Tripura				
Sl No.	Terms	BHEL Term	Confirmation	Deviation / Remarks
11	Works Contract Tax	Vendor shall ensure quoting WCT inclusive.TDS applicable as per provisions of Tripura VAT Act. Vendor to be registered under Tripura VAT, file returns & remit applicable VAT/WCT.Declaration in Form as per Tripura VAT to be submitted by vendor.TDS is applicable as per provisions of Tripura VAT Act. The WCT% included in the offer shall be indicated for availing credit wherever applicable..	Acceptable / Not acceptable	WCT @ .....% included in quoted rate
12	Freight	Freight shall be included (since it is on FOR basis to site) in unit rate quoted.	Acceptable / Not acceptable	
13	Insurance	Transit insurance is in vendor scope in addition to the insurance as per Clause 10.5 of PS-439-872.Insurance shall be included in the unit rate quoted.	Acceptable / Not acceptable	
14	Evaluation of L1 vendor	(a)Over all L1 of Supply + I&C + Civil Works on "FOR" basis to site will only be considered.	BHEL	
		The percentage of Supply, Civil works and I&C values shall be in the range indicated below(approximately,with overall tallying to 100% ) : (a) Supply : 68-72% (b) I&C : 24-28% (c) Civil : 2-6%	Acceptable / Not acceptable	
15	Warranty / Guarantee	(a) Supply : 12 months from the date of I&C or 15 months from the date of supply whichever is earlier. (b) Workmanship / I&C : 12 months from I&C.	Acceptable / Not acceptable	
16	Pre Shipment Inspection	Pre Shipment Inspection will be carried out by BHEL/Customer for which test report shall be sent one week in advance.	Acceptable / Not acceptable	
17	Penalty	Penalty of 0.5% per week at the basic price of the good for undelivered quantity of supply portion, subject to a maximum of 10%. For Supply, Pre Shipment Inspection Call Letter Date (Receipt of test report) will be treated as delivery for purpose of penalty. For other activities the activity completion date as certified by Engg. will be considered for penalty calculation.	Acceptable / Not acceptable	
		For any deviation, loading will be done as per Clause 25.B of Enquiry - General Terms & Conditions(Ref : SCPV/BOS/01-Rev 01)	Agree/Not Agree	
18	Road Permit	Road permit if applicable will be given by BHEL before Dispatch of ordered Items	BHEL	
19	PBG	(a)PBG shall be furnished in the BHEL prescribed format. (b) Deviation if any Please specify	Agree/Not Agree	
20	Despatch Documents	Complete set of despatch documents in 3 sets shall be forwarded to BHEL directly. Despatch documents include Commercial Invoice, Excise Invoice (if ED is applicable), Lorry receipt (L/R), Packing list, Warranty certificate, Insurance intimation letter, & Original Performance Bank Guarantee (Directly from issuing bank to BHEL). One set of Invoice, Packing list and L/R shall be faxed immediately after despatch to BHEL-EDN, Bangalore.	Acceptable / Not acceptable	
21	Reverse Auction	BHEL reserves the right to conduct Reverse auction.Procedure for the same will be informed by BHEL . Please confirm your acceptance for reverse auction.	Acceptable / Not acceptable	
22	Other terms & conditions	For any other Terms and Conditions, kindly refer to the enclosed Enquiry - General Terms & Conditions(Ref : SCPV/BOS/01-Rev 00)	Acceptable / Not acceptable	
24	Validity	(a) Quotation should remain valid for a period of 90 days from the due date	Acceptable / Not acceptable	
		(b)Deviation if any Please specify	(b)	
25	Bank Charges	(a) All Bank charges to respective accounts	Acceptable / Not acceptable	
		(b) Deviation if any Please specify	(b)	

AUTHORISED SIGNATORY WITH SEAL

TECHNICAL BID ENCLOSURE FOR COMPLIANCE OF QUOTE : UNPRICED BID											
RFQ No.HBSMM20004 dt.19.03.2014 due on 11.04.2014 for MMS-NEEPCO,Tripura											
SI No.	Mat Code	Short Text	Quantity	Unit	Quoted	Taxes					Remarks
						ED %	CST %	VAT %	WCT %	Service Tax %	
1	PS0679037454	Module Mounting Structure	984	ST	YES/NO				NA	NA	Taxes Included
2	PS0679037357	Marking,drilling & Casting of pile	5904	ST	YES/NO	NA	NA	NA			Taxes Included
3	PS0679037330	I&C of structure & mounting of Solar modules	984	AU	YES/NO	NA	NA	NA	NA		Taxes Included
<b>E. Freight Charges including Service Tax @ 12.36% on 25% of Freight Value : Included in Unit rate</b>											
<b>F. Insurance Charges : Included in Unit rate</b>											

## NOTE :

1.Your quoted prices shall be on "FOR" basis to site.

**2.The quoted prices shall be inclusive of all Taxes & Duties, Packing & Forwarding charges, Freight & Insurance.**

**3.However, the percentage of taxes considered against each item may pls be indicated in the column for Taxes for the purpose of availing Tax Credit.**

4. The above format shall be used for compliance.(Reproducing on your letter head is acceptable.)

Authorized Signatory with seal

PRICE BID												
RFQ No.HBSMM20004 dt19.03.2014 due on 11.04.2014 for MMS-NEEPCO,Tripura												
Sl No.	Material	Short Text	Quantity	Unit	Unit Rate (Rs.)	Total Value(Rs.) (Qty X Unit Rate)	Taxes					Remarks
							ED %	CST %	VAT %	WCT %	Service Tax %	
1	PS0679037454	Module Mounting Structure	984	ST						NA	NA	Taxes Included
	Unit Rate in words :											
2	PS0679037357	Marking,drilling & Casting of pile	5904	ST			NA	NA	NA			Taxes Included
	Unit Rate in words :											
3	PS0679037330	I&C of structure & mounting of Solar modules	984	AU			NA	NA	NA	NA		Taxes Included
	Unit Rate in words :											
<b>E. Freight Charges including Service Tax @ 12.36% on 25% of Freight Value : Included in Unit rate</b>												
<b>F. Insurance Charges : Included in Unit rate</b>												

## NOTE :

1.Your quoted prices shall be on "FOR" basis to site.

**2.The quoted prices shall be inclusive of all Taxes & Duties, Packing & Forwarding charges,Freight & Insurance.**

**3.However, the percentage of taxes considered against each item may pls be indicated in the column for Taxes for the purpose of availing Tax Credit.**

4. The above format shall be used for compliance.(Reproducing on your letter head is acceptable.)

Authorized Signatory with seal