

Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Solar Business Division

Prof CNR Rao Circle, Opp IISC Malleswaram, Bangalore-560012, India

E-Tender

The Quotations are invited under two part bid system for **PREBID TIE UP FOR SUPPLY OF MMS SUPER STRUCTURE(2mm) FOR 500 MW REWA ULTRA MEGA SOLAR LIMITED (RUMSL) SOLAR PARKS, NEEMUCH IN MADHYA PRADESH.** Tender is procured through e-procurement route. Kindly refer website <https://eprocurebhel.co.in/nicgep/app/> for details.

RFQ NO and date	AKPBOS0027 dated 13.05.2021 (e-tender)
RFQ due date & time	24.05.2021 up to 14.00 hrs (IST)
Date, Time & Venue of Part-I Bid Opening	24.05.2021 up to 14.30 hrs (IST)
Date, Time & Venue of Price Bid opening	Will be intimated later for technically accepted vendors
Address for Commercial Communication & Contact Person in BHEL (MM dept)	Mr. Srinivas Anakapalli (09916999898)/ Mr. Vivek Kumar Yadav (09449039232), M/s BHEL EPD Prof CNR Rao circle Opp IISC Malleswaram Bangalore- 560012 Mob: 9916999898 Email: srinivasa.a@bhel.in , vivekyadav@bhel.in Telephone number: 09916999898
Address for Technical Communication & Contact Person in BHEL with CC to MM dept	Mr.Vijay Kumar Choudhary (9415041583) Manager M/s BHEL EPD Prof CNR Rao circle Opp IISC Malleswaram Bangalore- 560012 Email: vijayk.choudhary@bhel.in Telephone number: 9415041583
Name and address of the Independent External Monitor for this tender	IEM :Sh. Arun Chandra Verma, IPS (Retd.) and Sh Virendra Bahadur Singh, IPS (Retd.)

Any Deviations from or additions to the "General Conditions of Contract" or "Special Conditions of Contract" require BHEL's express written consent. The General Terms of Business or Sale of the Bidder shall not apply to this tender.

PRE QUALIFICATION CRITERIA FOR RFQ NO. AKPBOS0027 FOR PREBID TIE UP FOR SUPPLY OF MMS SUPER STRUCTURE(2mm) FOR 500 MW REWA ULTRA MEGA SOLAR LIMITED (RUMSL) SOLAR PARKS, NEEMUCH IN MADHYA PRADESH

1. For Fabrication capacity:

- a) Bidder to be a manufacturer and to have in-house cold roll forming facility with minimum capacity for C or Z or any other profiles all put together (A self-declaration on bidder's letter head to be provided). Minimum capacity required for month for PQC: 500 MT
- b) Bidder to provide the capacity proof for any 1 month within the past three years- Feb'18 – Feb'21 showing minimum capacity per month.

Calendar months only to be considered for evaluation.

To substantiate above, required documents like delivery challans or tax invoice or relevant documents to be furnished.

2. For Hot Dip Galvanization facility:

- a) Either the bidder to have in-house galvanization facility.
Or
- b) Has HDG facility in one of it's subsidiary company.
Or
- c) Has a tie up with another company for HDG Works.

For Sl. a. A self-declaration on bidder's letter head to be provided.

For Sl. No b.) and c.) proper documentation (Stamp paper for tie up/Documentation indicating Sister Unit, as applicable) to be provided. Once a tie-up is declared during tendering time for HDG works, this tie-up cannot be changed during execution of purchase order.

BHEL reserves the right to visit the vendor's, subsidiary vendor or vendor with whom tie-up is established works and demand all relevant certifications and if found unacceptable, offer is liable for rejection.

3. Financial Soundness:

Bidders shall furnish the solvency certificate issued by nationalized/scheduled banks for minimum worth of 300 Lakhs with date of issue not before 6 months from tender opening date.

BHEL reserves the right to ask any other relevant documents to substantiate the above

QUANTITY DISTRIBUTION FOR RFQ AKPBOS0027 FOR PREBID TIE UP FOR SUPPLY OF MMS SUPER STRUCTURE(2mm) FOR 500 MW REWA ULTRA MEGA SOLAR LIMITED (RUMSL) SOLAR PARKS, NEEMUCH IN MADHYA PRADESH

Total quantity 6050.00 MT (Metric Tonnes) to be shared among 03(Three) vendors in the ratio 50:30:20


Splitting as below (Quantity in Tonnes):

Sl no.	Material	Total	L-1 Vendor (MT)	L-2 Vendor (MT)	L-3 Vendor (MT)
		(MT)	50%	30%	20%
1	MMS SUPER STRUCTURE(2mm)	6050	3025	1815	1210

The Order Quantity Share as indicated above will be procured from 03(Three) vendors in the ratio 50:30:20 at L1 matched price. If L2 does not accept L1 price, the same offer will be made to L3, L4, L5, so on. If none of the vendors agree to match L1 rate, BHEL reserves the right to order full quantity on L1 vendor or retender for balance quantity.

If L3 does not accept L1 price, the same offer will be made to L4, L5, so on. If none of the vendors agree to match L1 rate, BHEL reserves the right to order L3 QTY on L1 and L2 vendor or retender for balance QTY.

Any changes in splitting ratio based on the MSE act /Make in India policy or due to any other reason, intimation will be given only to the vendors who have participated in this tender, hence it is mandatory that vendors should participate in the tender.


	Technical specification for supply of Module Mounting Structures (MMS) for Module Mounting Structures for 2 x 170 + 160 MW (500MW) Solar PV Plant at Neemuch Solar park at Neemuch Madhya Pradesh, India	PS-439-1368
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**Technical specification for supply of Module Mounting Structures (MMS) for
Module Mounting
Structures for 2 x 170 + 160 MW (500MW) Solar PV Plant at Neemuch Solar
park at Neemuch Madhya Pradesh, India**

Revision details :Rev.00	Prepared VKC	Approved PM	Date 28.03.2021
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Acronym Used:

1. MTC = Mill test Certificate.
2. MQP= Material quality plan.
3. OEM=Original Equipment manufacturer.
4. MMS = Module Mounting Structures.
5. PSI= Pre shipment inspection.

1.0 Introduction

BHEL and GAIL mutually identified and agreed to address 2x170+160 MW (500 MW) developer mode tender floated by Rewa Ultra Mega Solar Limited (RUMSL- a JV between SECI and MP Govt) at Neemuch Solar Park. This document describes the technical specification for Module Mounting Structure (MMS) that constitute the solar array of the plant. MMS are steel structures over which solar PV modules are mounted. The MMS comprises columns, rafter, purlin, bracings, sag angles, SMB angles, earthing strips, purlin splice, purlin cleat, column plates etc. and having varying thickness from 1.6 mm to 6 mm and different quantities as per design requirement.

2.0 Vendor scope of supply

#	Item description	Qty.	Fabrication Details
1	Supply of MMS	As per BOM	As per BHEL BOM & Drawings

3.0 Enclosures to this tender


1. Indicative Bill of Material.
2. Indicative GA & Fabrication Drawings for tender purpose only.
3. Typical sample MQP.

4.0 Sub-vendors of steel sheets

Vendor shall procure the raw materials (steel sheets) from OEM sub-vendors viz TISCO, SAIL, JINDAL, RINL. In case of any sub-vendors other than the above, vendor to request the alternate sub vendor, however End customer /BHEL reserves the right to approve or disapprove the same. For pre galvanized steel, bidders to inform their vendors to BHEL at the time of tender submission.

5.0 Fabrication

Fabrication of MMS shall be as per the drawing furnished by BHEL along with the Manufacturing Clearance.

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An indicative GA & Fabrication Drawings are attached in the tender document for reference purpose. However, detailed drawing specifying the final section, length and dimensions of each member of MMS will be furnished with manufacturing clearance only. Vendors are advised to study the drawing circulated with the tender documents in detail to understand the specification, nature and tolerances of fabrication. No claim related to fabrication issues shall be entertained after placement of purchase order.

6.0 Galvanization

The MMS shall be hot dip galvanized with average coating thickness to be minimum 80 micron and local coating thickness shall be minimum 70 microns for protection against corrosion.

Hot dip galvanization for parts conform to IS-4759. Galvanization shall be measured with elcometer and Vendor shall submit the report. Material can be sent for testing to NABL accredited laboratory as and when required at cost of vendor. Test to determine corrosion performance of MMS as per the applicable IS/ASTM, as and when required.

7.0 Manufacturing Quality Plan (MQP)

A typical sample of MQP for the MMS is enclosed. Inspection reports to be made with respect to the same. Mass fabrication of MMS- to commence from the date of Manufacturing Clearance from BHEL only.

8.0 Prototype Inspection


A prototype MMS structure of 1 MMS Table has to be made and inspected by BHEL/End Customer personnel. The inspection shall be carried out at pre-galvanized assembled stage and post galvanized assembled stage. The prototype will be inspected with all MMS members including fasteners and 2 nos of PV Module frame. The PV Module frame drawing will be supplied by BHEL and Vendor has to make 2 complete PV Module frames using angles or with other available materials. As the prototype is done for dimensional check so the material strength of MMS members and fasteners need not be as per BOM but the dimensions to be exactly as per fabrication drawings. Vendor have to absorb the cost of proto type and no extra cost will be paid for Proto.

Mass fabrication of Super Structure to commence from the date of prototype clearance only.

9.0 Test reports

Every PSI Call should accompany the following reports.

- I. MTC.
- II. Internal inspection report (Dimensional + galvanization thickness) as per instruction specified in BHEL MQP and BHEL Drawing.
- III. Photographs of the offered lot.
- IV. BHEL- EDN will go through the reports and depute personnel for PSI.
- V. PSI to be done by BHEL/TPI/Customer

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Before dispatch of material BHEL may carry out required tests on random samples of MMS from the NABL accredited testing lab for Raw Material chemical properties, Mechanical properties etc. The cost towards all these tests shall be borne by vendor.

10.0 Packing instructions

The MMS components shall be packed in bundles with steel straps with corner wedges of plastic/fibre/rubber material to prevent damage to surface during handling. Adequate no. of steel straps shall be provided depending upon the length of the MMS components and bundles shall be in lots of 50 nos. /100 nos. for easy handling and accounting.

11.0 Marking Instructions

All MMS shall be marked for part identification on 100% basis. As MMS are being supplied by multiple vendors, hence each super structure items have to mark his vendor initial on each piece . Vendor to indicate the initial which he will mark along with the Technical specification to BHEL for approval as multiple vendors should not have same initial.

12.0 Delivery Schedule

1. Vendor to offer the prototype of 1-MMS Table within 10 days of BHEL providing the complete drawings.
2. Final drawing of MMS shall be issued after Prototype only and Mass manufacturing to begin with these drawings.
3. Vendor has to deliver the material at minimum required MT per Month as indicated in tender from the date of issue of mass manufacturing clearance/final drawings.

13.0 Warranty

1. The supplied Module mounting structures shall be warranted for a minimum period of 18 Months from the date of supply.
2. During the period of Warranty, the vendor shall remain liable to replace any defective parts, that becomes defective in the plant due to solely from faulty materials or workmanship, provided such defective parts are not repairable at site. After replacement the defective parts shall be returned to the vendor's works at the expense of the vendor's unless otherwise arranged.
3. If any defects not remedied within a reasonable time, BHEL may proceed to do work at the vendor's risk and cost, but without prejudice to other rights, which the BHEL may have against the vendor in respect of such defects.
