

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

E-Tender


The Quotations are invited under two part bid system for supply of MMS Super Structure for 75 MW Solar PV projects for M/s GSECL at Dhuvanan.

Tender is procured through e-procurement route. Kindly refer website <https://bhel.abcprocure.com/EPROC/> for details.

RFQ NO and date	AKPBOS0010 dated 26.06.2020 (e-tender)
RFQ due date & time	07.07.2020 up to 13.00 hrs (IST)
Date, Time & Venue of Part-I Bid Opening	07.07.2020 up to 13.30 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), SC&PV MM Department, BHEL Electronics Division, PB NO 2606, Mysore road, Bangalore-560 026. INDIA Email: srinivasa.a@bhel.in , vivekyadav@bhel.in Telephone number: +91 80 26998824, +91 80 26998237
Address for Technical Communication & Contact Person in BHEL with CC to MM dept	Mrs. Punam Mishra (9448987217) Sr Manager Mr. Yaswanth (9642986518), Dy Manager SC&PV ENGINEERING Department, BHEL Electronics Division, PB NO 2606, Mysuru road, Bengaluru-560 026. INDIA Email: punammishra@bhel.in ; yaswanth@bhel.in Telephone number: +91 80 26998991, +91 80 26988251s

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.

REQUEST FOR QUOTATION

	BHARAT HEAVY ELECTRICALS LIMITED Electronics Division PB No. 2606, Mysore Road Bangalore - 560026 INDIA	RFQ NUMBER: AKPBOS0010 RFQ DATE : 26.06.2020	Due Date/Day: 07.07.2020 Time : 13:00 HRS
MMI:PU:RF:003			
(address for communication) :		(for all correspondence) Purchase Executive : SRINIVAS ANAKAPALL Phone : 080 26998824 Fax : E-mail: srinivasa.a@bhel.in	

SI No.	Description	Qty	Unit	Delivery qty	Delivery Date
1	PS0679081968 MMS Super structure * HSN/SAC : 7308 As per spec PS-439-1303 , Rev N0.01	720	TO	288 432	10.10.2020 10.10.2020

Total Number of Items - 1

- 1.
- 2.

TWO PART BID

NOTES:

1. This RFQ is governed by:
 - a) INSTRUCTIONS TO BIDDERS/SELLERS and GENERAL CONDITIONS OF CONTRACT FOR PURCHASE available at <http://edn.bhel.com> (**RFQ-PO Terms & Conditions**)
 - b) Any other specific Terms and Conditions mentioned.
- * The HSN/SAC no mentioned against the line items in the RFQ are indicative only.

For and On behalf of BHEL.

SRINIVAS ANAKAPALL
Semiconductors & Pho

1 OF 1

Pre-Qualification Criterion for the Tender AKPBOS0010 will be as follows:

A. For Fabrication capacity:

Bidder to be a manufacturer and to have in-house cold roll forming facility with minimum capacity of 400MT per month for C or Z or any other profiles all put together. Vendor to provide the capacity proof for any 2 months within the past three years- May '17 – May '20 showing minimum 400MT each month.

Or

Minimum capacity of 500MT for any 1 month within the past three years May '17 – May '20.

Calendar months only to be considered for evaluation.

To substantiate above, required documents like delivery challan or tax invoices or any relevant documents to be furnished.

Or

*Chartered engineer certificate certifying minimum capacity of the 500MT per month for fabrication. This certificate should have been issue not earlier than 6 months from the date of tender opening date. Certificate should clearly states that bidder has in-house cold roll forming facility.

** Only those vendors are eligible to submit Chartered Engineer Certificate, whose companies are formed not earlier than 1 year from the date of Tender Opening or they have set up a new cold forming line not earlier than six months from the date of tender opening.

B. Hot Dip Galvanization facility

i) Either the bidder to have in-house galvanization facility.

Or

ii) Has HDG facility in one of it's subsidiary company.

Or

iii) Has a tie up with another company for HDG Works.

For Sl. No ii.) and iii.) proper documentation (Stamp paper/Documentation indicating Subsidiary company) 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.

**Quantity distribution for RFQ AKPBOS0010 for MMS-Super Structure
for 75MW GSECL Dhuvaran SolarProject**

Total quantity of 720 Tonnes to be split into 2 vendors as detailed below:


Splitting as below (Quantity in Tonnes) :

Total	L-1(60%)	L-2(40%)
720	432	288

The Order Quantity Share of 60%:40% will be procured from two vendors at L1 matched price. L1 will be offered 60% of total quantity. 40% will be offered to L2 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, then balance quantity may be offered to L-1 vendor or BHEL may go for retendering.

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.

GSECL75 MW - BOM												
Mark No	Item Description (Dimensions in mm)	Minimum yeild Strength	Galvanization	Lip	Nos.	Length/Area	CS Area	Unit Wt	Total wt - Ungalvanized(Ap prox)	Total wt galvanized(Approx)	No to be supplied	Total Weight
	COLD FORMED SECTION			mm		mm/	cm2	kg/m	kg	kg	Nos	MT
PU1	80CS40X1.6	250 MPA	Minimum 80 Microns at any point	10	4	3906	2.69	2.11	32.99	35.63	9040	80.53
Master Purlin	80CS40X1.6	250 MPA		10	4	3002	2.69	2.11	25.36	27.39	72320	495.12
PU10	80CS40X1.6	250 MPA		10	4	2142	2.69	2.11	18.09	19.54	9040	44.16
SG1	30LU30X1.6	250 MPA			18	1340	0.912	0.72	17.27	18.65	71400	73.98
SG2	30LU30X1.6	250 MPA			9	720	0.912	0.72	4.64	5.01	35700	19.87
												713.66
										Miscellenous (BOM will be given after PO , if applicable)		6.34
Total Quantity in MT												720.00

	Purchase specification Module Mounting Structures For 75 MWp Dhuvaran for GSECL	PS-439-1303
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Technical Specification for
Supply of Super Structure for Module Mounting structures for
75 MWp Dhuvaran for GSECL

Revision details :R 01	Prepared	Approved	Date
	NY	PM	26.06.2020

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 ಎನ್. ಯಶವಂತ, ಉಪ ನಿರ್ದೇಶಕ / ಎಸ್.ಸಿ. & ಪಿ.ಎಂ.-ಎಂ.ಎ.
 N.YASWANTH, DEPUTY MANAGER / SC & PY-ENGG.
 BHEL-EDN, MYSORE ROAD, BENGALURU-560026

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	Purchase specification Module Mounting Structures For 75 MWp Dhuvaran for GSECL	PS-439-1303
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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

Bharat Heavy Electricals Limited (BHEL), Electronics Division, Bangalore is setting up 75 MWp at Dhuvaran for GSECL. This document describes the technical specification for Super Structure of Module Mounting Structures (MMS) that constitute the solar array of the plant. MMS are steel structures over which solar PV modules are mounted. The total approx. Steel supply for this tender is 720 MT.

2.0 Vendor scope of supply


#	Item description	Qty	Fabrication Details
1	Supply of Super Structure for Module mounting structure as per Bill of Material & BHEL GA Drawing.	720 MT	As per BHEL BOM & Drg.
2	Warranty: 18 months from the date of supply		


3.0 Enclosures to this tender


1. Bill of Material.
2. Drawing of mms Super structure.
3. 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 GSECL/BHEL


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	Purchase specification Module Mounting Structures For 75 MWp Dhuvaran for GSECL	PS-439-1303
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5.0 Fabrication

Fabrication of Super Structure for MMS to be as per the drawing furnished by BHEL-EDN along with the tender.

A drawing of GA-MMS is attached in the tender document. Vendors are advised to study the GA Drawing circulated with the tender documents in detail to understand the tolerances. No claim related to fabrication issues shall be entertained after placement of purchase order.

6.0 Galvanization

In case of galvanization of structures specific requirement for thickness of galvanization

Should be at least minimum 80 microns at any point of the galvanized structure. Galvanization shall conform to IS-2629, 4759 & 4736 as applicable

Galvanization shall be measured with elcometer or the material can be sent for testing at NABL laboratory as and when required. No averaging is allowed for measuring the thickness of Galvanization.

7.0 Manufacturing Quality Plan (MQP)

MQP for the MMS-Super Structure is enclosed. Inspection reports to be made with respect to the same. Mass fabrication of MMS-super structure to commence from the date of Purchase order only.


8.0 Prototype Inspection


In order to avoid any mistakes in Mass Manufacturing, Vendor has to send pictures/images of first piece to BHEL for reference.


9.0 Test reports

Every PSI Call should accompany the following reports.

1. MTC.
2. Internal inspection report (Dimensional + galvanization thickness) as per instruction specified in BHEL MQP and BHEL Drawing.
3. Photographs of the offered lot.
4. BHEL- EDN will go through the reports and depute personnel for PSI.
5. PSI to be by BHEL/TPI


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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 no.s/100 no.s for easy handling and accounting.

11.0 Marking Instructions:

All MMS-Super structure members shall be marked for part identification on 100% basis. As super structure members are being supplied by multiple vendors hence each vendor has to mark his vendor initial on each piece.

Vendor to indicate the initial which he will mark along with the Technical specification to BHEL


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GENERAL TOLERANCES

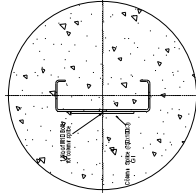
1	End Security:	+/- 2 mm
2	CD of Slot	+/- 2 mm
3	CD of Hole	+/- 2 mm
4	Hole Dia	<10 mm +/- 0.4 mm
5	Slot Dimensions	>=10 mm +/- 0.5 mm
		<10 mm +/- 0.5 mm
		>=10 mm <30 mm +/- 0.8 mm
		>=30 mm +/- 1.0 mm

No positive tolerance is permitted in PV module mounting slots on purlins.

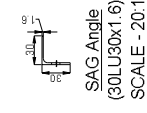
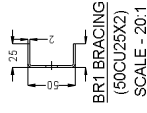
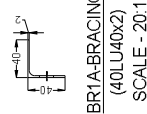
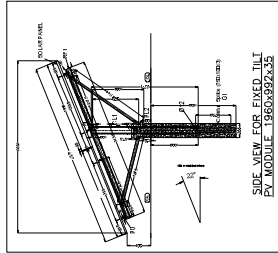
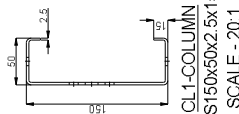
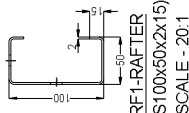
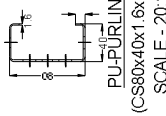
6	Length	+/- 1 mm/m	
7	Section Geometry	As per IS 811	
8	Straightness	>1/600 of length both axis (As per IS 811)	
9	Angular Tolerance	+/-1 degree	
10	Thickness	-0.05 mm to 1 mm	

GENERAL NOTES

- NOTES: (This note has to be read alongside the Bill of material).
1. DIMENSIONS FOR COLD ROLLED STEEL ANGLE/CHANNEL SECTIONS SHALL BE IN ACCORDANCE WITH IS 808.
 2. DIMENSIONS OF PLATES, FLAT BARS SHALL CONFORM TO IS 1720.
 3. FABRICATION AND ERECTION SHALL BE CARRIED OUT IN ACCORDANCE WITH IS 800 AND IS 801.
 4. DIMENSIONS OF RIVETS TO BE HOT DIP GALVANIZED IN ACCORDANCE WITH IS 1929-1985 AND IS 4759. HOWEVER THE MINIMUM GALVANIZATION THICKNESS TO BE 80 MICRONS AT ANY POINT.
 5. SPECIFICATION OF THE COLUMN SPICE (EXTENSION OF 750x100x3) IS Q1 WITH MINIMUM OF DIMENSIONS.
 6. NO WELDING ON ANY MEMBER.
 7. GENERAL ASSEMBLY TOLERANCE LINEAR +/- 2MM.
 8. DIMENSIONS OF BOLTS SHALL BE IN ACCORDANCE WITH IS 1902.
 9. HOLE SIZES ARE SHOWN AFTER GALVANIZATION /TOLERANCE.
 10. REMOVE ALL SHARP AND BLUNT EDGES.



CROSS SECTION OF PILE FOUNDATION



PROJECT TITLE : 75 MWp SOLAR POWER PROJECTS
AT GSECL(DHUVARAN)

CLIENT : GSECL

CONSULTANT:

BHARAT HEAVY ELECTRICALS LIMITED.
ELECTRONICS DIVISION, BANGALORE

TITLE: MODULE MOUNTING STRUCTURE (MMS)- GA AND FOUNDATION DETAILS-ECONESS

No. OF SHEETS	25
SHEET No.	01
REV	04

BHEL DRG. No.

BHEL-GSECL-75MW-015

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