	<p style="text-align: center;">EXPRESSION OF INTEREST (EOI) - TRACKER WITH ASSOCIATED MODULE MOUNTING SYSTEMS FOR SPV PLANTS.</p>	EOI:439:002 dtd 12.12.2016
		Rev No: 00
		PAGE : 1 OF 4

1.0 PREAMBLE

Solar Tracker with associated PV Module mounting Structures (MMS) for Solar Photovoltaic (SPV) Plants

BHEL-EDN is looking for business association with reputed firms who have the capability and experience in Design, engineering, supply, installation and commissioning of Solar Tracker Systems for Photovoltaic Power Plants at MW level. The firms possessing requisite stand-alone capacity to execute such projects are invited to register with BHEL as vendors for Tracker based MMS for taking up design, supply and installation of Tracker Module mounting Structures through BHEL tenders from time to time. Further, interested vendors may also indicate their willingness to participate in joint bidding process together with BHEL in anticipated Competitive tenders on a case to case basis.

2.0 PRE QUALIFICATION CRITERIA


- A. The vendor must be an established Designer of MMS tracker / Manufacturer/ Tracker system integrator of solar tracking system solutions by way of manufacturing and/or supply and integration of Tracker based Solar MMS for MW scale projects.
- B. The vendor must have supplied Tracker MMS for a total capacity of 20 MWp in the last 5 years (prior to 01.12.2016). At least 5 MW of the Tracker based MMS should have been erected and in operation for a minimum period of 6 months on or before date of techno-commercial bid opening of BHEL tender.
- C. Out of the above, the vendor must have supplied Tracker MMS for a capacity of Minimum 1 MW in a single location in the last 3 years in India (prior to 01.12.2016)

NOTE:

Vendor shall submit Credentials from the Customers/End users/Developers of the Solar Projects where the Tracker MMS are stated to be supplied and installed and in operation. The credentials shall contain Letters of certification detailing the Name of the project, Quantity of Tracker MMS, Rating of MMS installed, Year of supply and commissioning. Copies of unpriced Purchase or Work Orders may also be provided along with Certificates. Contact details of the Customer/end user are required to be clearly made available. Vendor shall obtain necessary permission from the end-user for BHEL team to visit the site and witness the working of the plant in INDIA.

2.1 TECHNICAL CRITERIA

The vendor shall be able to supply complete Tracker Systems for MW scale SPV Systems on engineering, supply and erection & commissioning basis.

	<p style="text-align: center;">EXPRESSION OF INTEREST (EOI) - TRACKER WITH ASSOCIATED MODULE MOUNTING SYSTEMS FOR SPV PLANTS.</p>	EOI:439:002 dtd 12.12.206
		Rev No: 00
		PAGE : 2 OF 4

A. The Tracker Systems Offered should fulfill the following requirements:-

Structure shall feature proven design which also offers ease of alignment, adjustment and replacement of the Tracker MMS at Solar Power projects being executed by BHEL for various customers.


1. The Tracker mechanism and MMS shall have capability to withstand wind speed ranging from 120 kmph to 170 kmph.
2. The arrangement of tracker along with its associated structures should facilitate mounting of Solar array on undulating land with slopes as steep as 1:30 in north south and east –west directions. There should be provision in the bearing mounting plate and MMS leg Columns to cater to this requirement. The height of the MMS leg columns should be capable of being adjusted at location so as to avoid ground levelling or earth work to install the foundations of MMS.
3. The Offered Tracker with MMS shall be suitable for installing Solar PV Crystalline Silicon modules having Solar Cells in 60 or 72 configuration. The Solar Modules are expected to be fitted to the MMS by employing Standard threaded Hex headed Bolts and hex nuts along with washers.

B. Tracker Controller and drive mechanism

- a. The actuator and the drive mechanism should be able to provide trouble operation for a period of 25 years in humid and dusty environment. Seals provided in the assembly of tracker equipment to prevent dust and moisture ingress should be of EPDM or superior weather resistant material for long life.
- b. The sensing for stowing to a safe angle should be from overload on the drive rather than signal from anemometer.
- c. The tracker should consume least power for its operation – vendor shall define the power consumption. It shall use solar power itself to operate and not depend on external power source.
- d. Tracker shall be equipped with mechanism (and/or algorithm in controls) for backtracking to prevent inter row shading and to address reduced inter row gaps adopted due to site constraints.
- e. The vendor shall provide details regarding number of actuators employed per block of solar array, say per 1 MW.

C. The vendor shall furnish the following details:


1. Type of Technology of Tracking employed. Vendor should furnish details about the tracker items which he manufactures in-house and the items which are outsourced.
2. Technical and operational staff details in India for ensuring timely erection and commissioning and to provide immediate site support for operational problems, breakdowns and routine maintenance as the case may be.
3. Shading file (.shd file) of the offered trackers. For considering in tenders, vendors shall furnish shading files which are duly vetted by reputed third party (International/National accredited Certifying body, Lab).

	<p align="center">EXPRESSION OF INTEREST (EOI) - TRACKER WITH ASSOCIATED MODULE MOUNTING SYSTEMS FOR SPV PLANTS.</p>	EOI:439:002 dtd 12.12.206
		Rev No: 00
		PAGE : 3 OF 4

4. The vendor should arrange necessary permissions for visit of BHEL personnel to one of the sites in India and witness its operation.
5. Vendor shall provide relevant details about the MMS design in the form of General Technical Particulars of the proposed Tracker with MMS.

3.0 COMMERCIAL CRITERIA

1. The Vendor should have experience in the supply and installation of Tracker Systems of minimum cumulative plant capacity of 1 MWp at one location in India. Refer PQC Vide Clause 2.0.
2. The vendor must furnish details about their company particulars regarding the operation, facilities, manpower, number of projects executed since inception and other experiences with necessary credentials as elaborated above under PQC vide Clause 2.0.
3. The vendor shall submit the financial information particulars for the previous 3 years or from the date of commencement operation whichever is later (Format of information shall be as per accounting standards applicable).
Vendor should have achieved annual average financial turnover of INR 2,00,00,000 (Twenty million) per annum during the above period as evidenced by the audited financial results.
4. BHEL will be executing the projects based on customer specifications, tender terms and conditions. The same will be applicable to the vendor.
5. Vendor shall furnish required details covering the following minimum details.
 - a) Company profile & organizational information
 - b) Particulars of technology tie up – whether own/ collaborator based
 - c) Ownership information
 - d) Registration particulars
 - e) Manpower
 - f) Quality Systems
 - g) Financial Information for the previous 3 years.
 - h) Bank details of the Company for financial transactions with BHEL
6. The Vendor shall compile all details as per above requirements and send to BHEL in Hard copy mentioning EOI reference number. The response to this EOI to be addressed to Manager (PV Contracts Engg.), SC&PV, NEB 5th floor, BHEL-Electronics Division, Mysore Road, Bangalore-560026. EMAIL: punammishra@bheledn.co.in phone: 080-26998991. The last date for receipt of applications in sealed cover is 31-Dec-2016, 15:30Hrs. Soft copies of the presented documents in PDF format shall be submitted to the above mentioned email id as back up.

	<p align="center">EXPRESSION OF INTEREST (EOI) - TRACKER WITH ASSOCIATED MODULE MOUNTING SYSTEMS FOR SPV PLANTS.</p>	EOI:439:002 dtd 12.12.206
		Rev No: 00
		PAGE : 4 OF 4

4.0 EVALUATION

Based on this EOI, BHEL shall after examining the qualification criteria of the vendors participating in the EOI, shortlist the eligible vendors and empanel them.

PQC, Technical compatibility to the above mentioned requirements of Tracker and components shall form the basis for evaluating and empanelling.

Further,

1. BHEL shall intimate the shortlisted vendors inviting them for further discussions, presentations. BHEL decision on this will be final. BHEL at their discretion shall inspect the vendor works/premises/installation sites for evaluation.
2. Further procurement and tendering process shall be as per BHEL policy and guidelines and technically conforming to the tender specifications of the end customer/end user of the Solar Project.
3. BHEL reserves the rights to disqualify a vendor at any stage in case of adverse performance report.
4. This expression of Interest is not an agreement and is not an offer or invitation to enter into an agreement of any kind with any party by BHEL.
5. The vendor may be advised to provide further information for clarifications during discussion time, and details asked in this EOI is not limiting.
