

NIT



MAHARASHTRA STATE POWER GENERATION COMPANY LIMITED

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Notice Inviting Tender

Competitive Bidding for selection of EPC Contract for Design, Engineering, Supply, Erection, Testing and Commissioning of 62MW_{AC} Cumulative Capacity Crystalline Solar PV Technology Grid Interactive Solar PV Power Plant with associated HT overhead transmission line / underground cable up to the point of interconnection including 5 years' Operation & Maintenance on EPC basis at Village: Paras, Taluka: Balapur, Dist.- Akola, Maharashtra, India under Local Competitive Bidding from prospective Bidders.

1.	Start date of acceptance of tender fee by MAHAGENCO & download of tender document	17.04.2023 at 12.00 Hrs. IST
2.	Last date of online sale of Bid Document	14.07.2023 at 12.00 Hrs. IST
3.	Last date for Submission of Online Bid (Techno- commercial and Price Bids)	14.07.2023 at 15.00 Hrs. IST
4.	Last date of submission of physical support documents	14.07.2023 at 17.00 Hrs. IST
5.	Due date for opening of techno-commercial bids	17.07.2023 at 12.00 Hrs. IST
6.	Due date for opening of Price bid	Will be intimated later

The NIT can be downloaded for the above work from the website <https://eprocurement.mahagenco.in>

Chief Engineer(RE-P&P)

Annexure-II

Response to Pre-Bid Queries on the RfP for 62MW Solar Power Project at Paras, Dist. Akola

Sl. No.	Docu ment	Clause No.	Existing Clause	Query	MAHAGENCO's response
1	RFP	1.8	<p>Cl. 1.8 of Section-III: In case of contractor fails to achieve milestone no.2 (Supply milestone) by the due date indicated in "Time of Completion" then the Owner shall levy the Liquidated Damages on the Contractor at the rate of 5% of total supply price (Milestone no.2) inclusive of taxes</p>	<p>Query 1 -The bidder understands that beyond D+270 days, even a delay of 1-day shall attract full 5% LD on total supply price. Bidder feels that this should be on pro-rata basis of undelivered portion if applicable, please clarify.</p> <p>Query 2 -Also, please inform whether LD on supply will be applicable or not when already 5% LD on total contract price has been levied on milestone 1,3,4 & 5. As above clauses indicate double penalty on supply portion a per current tender conditions, hence we request MSPGCL to levy LD only on delay in supply of undelivered portion as per milestone No. 2.</p> <p>Query 3 -Penalty levied on delay in Milestone No. 2 may be returned to contractor if Commissioning is achieved a per approved L-2 schedule. In any of the cases, maximum LD should be limited to 5% of the contract price which is as per industry practice. Please confirm.</p>	<p>Query 1 - Tender Condition Prevails.</p> <p>Query 2 - Revised Clause as under: SECTION III: GENERAL TERMS & CONDITIONS, 1.8. LIQUIDATED DAMAGES, Clause: 1.8.1. In case of contractor fails to achieve milestone no.2 (Supply milestone) by the due date indicated in "Time of Completion" then the Owner shall levy the Liquidated Damages on the Contractor at the rate of 5% of total supply price (Milestone no.2) inclusive of taxes. 1.8.2. In case the Contractor fails to achieve Milestone no.1, 3, 4 & 5 by the due date indicated in "Time of Completion" then the Owner shall levy the Liquidated Damages on the Contractor at the rate of 1.0% (one percent) per week of delay or part thereof, subject to a maximum of 5.0% (five percent) of total contract price excluding supply Price (milestone no.2) inclusive of taxes (exclusive of O&M cost). Also Goods & Service Tax (GST) if applicable on Liquidated Damages (LD) as per GST Law, shall be recovered from any due claim OR payment to the EPC Contractor.</p> <p>Query 3 - Tender condition prevails</p>

2	RFP	1.8.2	<p>Cl. 1.1.8.2 of Section-II(B)- Technical specifications: The manufacturer shall warrant the output of Solar Module(s) for at least 90% of its rated power at the end of 12 years and 80% of its rated power at the end of 27 years from the date of receipt of modules on Site. The manufacturer shall warrant for the linear output of Solar Module(s) and degradation of the PV modules will be linear over 27 years from the date of receipt of modules at site</p>	<p>Module is warranted for wattage output as per STC conditions which cannot be connected to energy generation measured at ABT meter hence Energy Guarantee of the plant cannot be linked to Module Warranty. Please confirm.</p>	Tender Condition Prevails
3	RFP	1.26.6	<p>Cl. 1.26.6 of section-IV-special Term and conditions: In case of statutory variation in GST during the period of contract, any increase in the rate needs to be absorbed and born by the EPC Contractor, whereas any decrease in the rate shall be passed on to MAHAGENCO.</p>	<p>BHEL requests parity for changes in rate of GST and any positive change in rate of GST should also be payable to contractor as per actuals. Please confirm.</p>	Tender Condition Prevails
4	RFP		<p>General</p>	<p>Since, at present the due date of bid submission is 01.06.2023, hence it is kindly requested to extend the due date of bid submission by at least four (4) weeks from the date of receipt of clarifications.</p>	<p>In case, if any extension is proposed, due date of bid submission will be intimated by MSPGCL.</p>

5	RFP	Clause 1.14 Qualifying Requirements 1.14.1 Experience	Technical Experience: Ground mounted solar PV Plant having cumulative installed capacity of 25 MW or higher capacity out of which single solar project of 12 MW or higher capacity is running successfully for at least six(6) months prior to the date of techno-commercial bid opening AND O & M experience of solar power plant of 6 Months prior to the date of techno-commercial bid opening.	Our understanding that the 'same technology' as mentioned above refers to solar photovoltaic technology. As also ground mounted projects required for qualification would include EPC projects with solar PV module supplied by developer/owner as free issue item to EPC contractor shall also be considered as eligible. WE request your kind confirmation.	Bidders understanding is correct, ground mounted projects installed by bidder where solar PV Modules provided by developer can be considered as eligible.
6	RFP	Laboratory Tests	<ol style="list-style-type: none"> 1. Sample of 200 modules shall be tested 2. Test shall be repeated on the same modules, after light soaking of modules to test LID. 3. Low insolation tests - sample of 20 modules to be tested 4. EL testing and normative- actual value comparison - sample of 100 modules to be tested 5. EVA cross-linking degree - 25 modules to be tested 6. Wet leakage test - Sample of 25 modules 7. Mechanical load test - A sample of 20 modules to be tested 8. Dynamic load test - A sample of 25 modules to be tested 9. Peel test. - A sample of 	Request MAHAGENCO to reduce sample size of modules to be tested.	This is standard condition and used in prevailing and past contract of MAHAGENCO. Tender condition prevails.

			10 modules to be tested		
7	RFP	EMD BG: Assignment Clause	"The Guarantor Bank acknowledges that this BANK GUARANTEE is not personal to MAHAGENCO and may be assigned, in whole or in part, (whether absolutely or by way of security) by MAHAGENCO to any entity to whom it is entitled to assign its rights and obligations under the RFP Documents."	As per standard policy, we cannot offer open assignment to any outside entity. Therefore, request MAHAGENCO to waiver this clause.	Tender condition prevails
8	RFP	Clause 1.2 GUARANTEED ELECTRICAL ENERGY GENERATION DURING THE CONTRACT PERIOD	The quoted guaranteed generation will be applicable for entire contract period. The module degradation will not be allowed from second year of operation. It is the EPC contractor's responsibility to envisage & install the extra DC capacity to accommodate any degradation during contract with other factors e.g. solar radiations, climate data etc.	GHI & temperature correction to be provided.	Tender condition prevails
9	RFP	Clause 1.2. Design and Material Requirement	The frames assemblies (i.e. I channel, C channels, rafter, purlins, rails & bracings etc.) of the array structures shall be made of hot dip Galvanized steel per ASTM A123/ IS2062 grade E350 or higher) and IS 4759:1996.	TPSSL to provide HDG for column posts, and galvalume for rafter and purlins.	Please refer clause no. 1.2.3 Design and Material Requirement for supply of Module Mounting Structures.

			Minimum thickness of galvanization shall be at least 80 microns		
10	RFP	Clause 1.2 GUARANTEED ELECTRICAL ENERGY GENERATION DURING THE CONTRACT PERIOD	The module degradation will not be allowed from second year of operation. It is the EPC contractor's responsibility to envisage & install the extra DC capacity to accommodate any degradation during contract with other factors e.g. solar radiations, climate data etc.	Request MAHAGENCO to allow year on year degradation of modules as per industry standards	Tender condition prevails
11	RFP	Clause 1.1 STEPS FOR APPROVAL OF DRAWINGS	STEPS FOR APPROVAL OF DRAWINGS	Presently, there is no time limit for approval of drawings by MAHAGENCO on submission by Contractor. Request MAHAGENCO to approve all drawings within 10 working days of submission of drawings by Contractor.	The drawings will be reviewed within 10 days subjected to the drawings, design and calculations should be as per RFP specifications.
12	RFP	Clause 1.6 TIME OF COMPLETION	Completion of supply of equipment's like: SPV Modules (including structures for the above), Power Conditioning Units, Power Evacuation equipment's, etc.	Modules for this size of project will be required to be delivered at site by D +300 days. Request MAHAGENCO to consider the same.	Tender condition prevails
13	RFP	Clause 1.2 GUARANTEED ELECTRICAL ENERGY GENERATION DURING THE CONTRACT PERIOD	Generation Linked Bank Guarantee	Request MAHAGENCO to provide format of the same.	Format for Performance Guarantee provided in RFP shall be applicable

14	RFP	Clause 1.2 Warranty / Guarantee	Solar PV Modules: Material/product Warranty should be at least 12 years and Performance / power output warranty of Solar Module(s) shall be for at least 90% of its rated power at the end of 12 years and 80% of its rated power at the end of 27 years from the date of receipt of modules on Site. The manufacturer should warrant for the linear output of Solar Module(s) and degradation of the PV modules will be linear over 27 years from the date of receipt of modules at site. The Manufacturer Detailed Warranty / Guarantee clause shall be furnished	As per ALMM modules available in India, modules are warranted for 90% of rated power at the end of 10 years, and 80% at the end of 25 years. Request MAHAGENCO to please consider the same.	Tender condition prevails
15	RFP	Clause 1.12 SITE INSPECTION & BASIS OF OFFER		Request MAHAGENCO to provide wind rose study for this site to understand the impact of ash from thermal plant	This is to be obtained by bidder as location of the project is already provided.
16	RFP	Clause 1.22.8 Generation Linked Bank Guarantee	If in any case the net actual units (kWh) generated for a year is below the quoted Guaranteed Electrical Energy Generation and up to 2% below quoted Guaranteed Electrical Energy Generation, the Contractor shall be liable to a penalty to the extent of 50% of the loss in revenue	Request MAHAGENCO to revise shortfall penalty to 0% of the loss in revenue for shortfall of net actual units (kWh) generated for a year below the quoted Guaranteed Electrical Energy Generation upto 2%, and 100% of the loss in revenue for shortfall of net actual units (kWh) generated for a year below the quoted Guaranteed Electrical Energy Generation beyond	Tender condition prevails

			from the 62MW AC solar power plant to MAHAGENCO Further if net actual units (kWh) generated is beyond 2% below quoted Guaranteed Electrical Energy Generation, the Contractor shall be liable to a penalty to the extent of 100% of the loss in revenue from the 62MWAC solar power plant to MAHAGENCO	2%.	
17	RFP	Clause 1.1 PERFORMANCE MONITORING	The EPC Contractor shall follow the Maharashtra Electricity Regulatory Commission guidelines for Forecasting, Scheduling and Deviation settlement process for Solar Generation. The regulations in this regard by the CERC/MERC as per the Indian Electricity Grid Code (IEGC) is abided to EPC Contractor	During O&M period, request MAHAGENCO to bear QCA appointment charges, forecasting and scheduling charges, process fees, settlement charges, as well as payment of DSM charges etc.	Under bidders scope
18	RFP	Clause 1.1 INSURANCE	During the Contract period, all Insurance related expenses shall be borne by Contractor. At the beginning of each year of O&M, the Contractor shall show adequate insurance coverage of the entire project up to the contract period. In case the insurance coverage is not up to the expectation of	Asset insurance during O&M period to be taken up by MAHAGENCO.	All insurances is under scope of bidder during the contract period.

			MAHAGENCO, MAHAGENCO shall take up the Insurance and all the charges related to Insurance shall be deducted from the payments due to the Contractors		
19	RFP	Clause 1.2 SCOPE OF WORK	All statutory approval should be done by Contractor at their own cost like electrical, fire safety and CEIG etc.	Request MAHAGENCO to also take responsibility of statutory approvals during O&M period including CEIG approval, etc.	Tender condition prevails
20	RFP	Clause 1.1.6 Experience and Performance	Solar module manufacturer must have supplied modules at least cumulative installed capacity of 500 MW or above per year consecutively during the last five years.	We suggest that the clause be amended to: Solar module manufacturer on an average per year must have supplied modules of capacity of 150 MW or above over last five years.	We suggest that the clause be amended to: Solar module manufacturer on an average per year must have supplied modules of capacity of 200 MW or above over last five years.
21	RFP	Clause 1.1.8.2 Performance Warranty	The manufacturer shall warrant the output of Solar Module(s) for at least 90% of its rated power at the end of 12 years and 80% of its rated power at the end of 27 years from the date of receipt of modules on Site. The manufacturer shall warrant for the linear output of Solar Module(s) and degradation of	As per ALMM modules available in India, modules are warranted for 90% of rated power at the end of 10 years, and 80% at the end of 25 years. We request MAHAGENCO to consider the same.	Tender condition prevails

			the PV modules will be linear over 27 years from the date of receipt of modules at site.		
22	RFP	Clause 1.22 GUARANTEE D ELECTRICAL ENERGY GENERATION DURING THE CONTRACT PERIOD	Bids with yearly quoted generation below 122.25 MUs for cumulative capacity of 62MWAC as per respective sites GEEG in MUs will be rejected. The quoted guaranteed generation will be applicable for entire contract period. The module degradation will not be allowed from second year of operation. It is the EPC contractor's responsibility to envisage & install the extra DC capacity to accommodate any degradation during contract with other factors e.g. solar radiations, climate data etc.	We request MAHAGENCO to link Annual Guaranteed Electrical Energy Generation (GEEG) with global horizontal irradiance (GHI) as per site conditions and correction factor considering module degradation of 2.5% for 1 st year and 0.5% from 2 nd year onwards.	Tender condition prevails
23	RFP	Clause 1.22.8 Generation Link ed Bank Guarantee, Shortfall	If in any case the net actual units (kWh) generated for a year is below the quoted Guaranteed Electrical Energy Generation and up to 2% below quoted	We suggest MAHAGENCO to revise shortfall penalty to 0% of the loss in revenue for shortfall of net actual units (kWh) generated for a year below the quoted	Tender condition prevails

			Guaranteed Electrical Energy		
24	RFP	Generation	<p>Generation, the Contractor shall be liable to a penalty to the extent of 50% of the loss in revenue from the 62MWAC solar power plant to MAHAGENCO. Further if net actual units (kWh) generated is beyond 2% below quoted Guaranteed Electrical Energy Generation, the Contractor shall be liable to a penalty to the extent of 100% of the loss in revenue from the 62MWAC solar power plant to MAHAGENCO and the same shall be realized by either Contractor making an upfront payment for the penalty or by MAHAGENCO adjusting the penalty against any payment due to the Contractor as per Clause 1.33 of Section III or by MAHAGENCO invoking the bank guarantees.</p>	<p>Guaranteed Electrical Energy Generation up to 2%, And 50% of the loss in revenue for shortfall of net actual units (kWh) generated for a year below the quoted Guaranteed Electrical Energy Generation beyond 2%, but below 5%, and 100% of the loss in revenue for shortfall of net actual units (kWh) generated for a year below the quoted Guaranteed Electrical Energy Generation beyond 5%. The total penalty under this clause shall be capped at 5% of total contract value.</p>	Tender condition prevails

25	RFP	Clause 1.8 BID SECURITY (EMD)	Assignment Clause: "The Guarantor Bank acknowledges that this BANK GUARANTEE is not personal to MAHAGENCO and may be assigned, in whole or in part, (whether absolutely or by way of security) by MAHAGENCO to any entity to whom it is entitled to assign its rights and obligations under the RFP Documents."	We request that this Clause be amended to the following: "This Guarantee shall not be assignable, transferable by the beneficiary (i.e. MAHAGENCO). Notice or invocation by any person such as assignee, transferee or agent of beneficiary shall not be entertained by the Bank Guarantee can be made only by the beneficiary directly"	Tender condition prevails
26	RFP	Clause 1.6.2 TIME OF COMPLETION	Completion of supply of equipment's like: SPV Modules (including structures for the above), Power Conditioning Units, Power Evacuation equipment's, etc.: D + 270	We request MAHAGENCO to allow for supply of modules to be completed within 300 days of Zero Date i.e. D+300.	Tender condition prevails
27	RFP	Clause 1.6.2 TIME OF COMPLETION	Handing over of project land	We request MAHAGENCO to confirm that land will be handed over with complete fencing. We also request MAHAGENCO to confirm whether COD of 12 months would be initiated from the date of handing over of (fenced) land.	We confirm that the fenced land will be handed over to bidder and same will be considered as zero date.
28	RFP	Clause 1.29.3 Power Transformer	Rated Capacity (HV & LV) : 100	As per our calculations 75 MVA power transformer shall be sufficient for the	Tender condition prevails

				<p>project. We request MAHAGENCO to please check and clarify. Since the power is bundled with Thermal station PPA and we have to connect to plant substation at 220 KV level, we require clarification on whether the reactive power correction required shall be combined with Thermal generation or Thermal generator will take care of reactive power requirement of grid for the PPA commitment as per CEA guidelines. Since the power is bundled with Thermal station PPA and we have to connect to plant substation at 220 KV level, we require clarification on whether the reactive power correction required shall be combined with Thermal generation or Thermal generator will take care of reactive power requirement of grid for the PPA commitment as per CEA guidelines.</p>	
29	RFP		SLDC communication for the Solar Plant	<p>We request MAHAGENCO to clarify whether communication to SLDC Kalwa is to be done separately for the plant or shall be done through the Thermal plant generation channel.</p>	SLDC communication is under bidders scope