

Annexure-A

Techno-commercial Bid Format

Ref: HY/SC/TC/B9/16/RC_3DS_Guide_Blades/OT/Enq. Dt: 17/05/2016

Note: Sub-Contractors are requested to fill up below checklist , by answering all the points and submit along with price bid in a separate envelope with out fail.

Sl.	Criteria	Techo-Commercial Term	Sub-Contractor Acceptance shall be indicated against each clause and sub clause.
1	Manufacturing / Vendor Qualification	<p>a) The vendor must have supplied 3DS/F – type twisted profile blades to any unit of the BHEL. The copies of corresponding POs/ SCOs, Provisional inspection reports, GR/SRVs should be submitted along with the bid.</p>	
		<p>b) The vendors must have the following machining and inspection facilities in-house. (i). minimum one 4-axes machining center with rotary table attachment. (ii). Surface grinding machine. (iii). Vibro tumbling machine. (iv). 3D CMM (Programmable 3D CMM with best-fit option in the CMM software. Finish machining of Guide blades & Joint blades shall be done strictly on these machines only.</p>	
		<p>c) The manufacturing of 3DS Guide blades and Joint Guide blades shall be strictly as per BHEL drawings and technological instruction process only (Refer Annexure-M) and shall meet all close tolerances and profile accuracies. No deviations are allowed. 10% of the blades shall be manufactured with 1 mm allowance on the back side of the taper and marked those blades as red colour.</p>	
		<p>d) Vendor shall submit latest calibration report for the CNC 4-Axes blade milling machining centre at the time of placement of PO. (that will be used for above blades machining) indicating positional accuracies, repeatabilities etc. The laser calibration certificates shall not be more than two years old from the date of opening of technical bid.</p>	
		<p>e) Vendor shall submit latest calibration report for the 3D CMM at the time of placement of PO (that will be used for above blades inspection). The calibration certificates shall not be more than two year old from the date of opening the technical bid.</p>	
		<p>f) Year of manufacture of the CNC 4-Axes Machining Centre shall be 2005 or later.</p>	
		<p>g) All the finish machining activities shall be done by the vendor in house. Offloading of manufacturing activities, either in part or in full, shall not be done by the vendors. Any vendor found to be violating this condition shall be viewed very seriously.</p>	
		<p>h) Finish machining of the total blade shall be done in a single setup & Taper grinding is allowed on taper portion only.</p>	
		<p>g) Hand polishing/hand touching /emery belt polishing shall not be done on blade profiles.</p>	
2	Reverse Auction (RA)	<p>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.</p>	
		<p>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 bids' 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.</p>	
		<p>c) <u>Terms and Conditions of RA are contained in Annexure-XX</u></p>	
		<p>d) <u>Business rules for RA are contained in Annexure-YY.</u></p>	
3	Delivery	<p>a) Within 60 days from the date of collection of raw material from BHEL stores.</p>	
		<p>b) Also vendors must supply at least one row, corresponding to the priority of BHEL, along with the PIR cleared from BHEL/ BHEL approved QC within 30 days from the date of collection of raw material from BHEL store. If any of the vendors fail to do so, BHEL may shift the load to other better performing vendor. Any vendor who gets the order of only one row, on the whole in this enquiry, will mandatorily have to deliver it in 30 days. Hence his delivery period will be 30 days instead of 60 days.</p>	
		<p>c) These blades are required for this project where delivery is very critical and the delivery is the very essence of this contract. Any vendor failing to meet the delivery schedule, will run the risk of not being considered for next two enquiries corresponding to these type of blades, apart from imposing penalty on delayed portion. Further if any of the vendors is observed to be inactive/non-performing, during follow-ups, BHEL may shift the load to other better performing vendor irrespective of their price level (L1, L2, L3....).</p>	
		<p>d) POs may be placed on staggered basis based on the project/assembly requirement and material availability. Each PO may be placed including all the items put together. With a delivery of 60 days. If a particular vendor expected to be loaded for more than one enquiry items after reverse auction it is mandatory to accept the delivery of 60 days for the entire load expected in the tender.</p>	

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4	Distribution of Load	<p>For Item No.1: Total Qty.: 6094, No. of Rows: 47 Rows It is estimated that a total of 16 machines are required for completing this load. L1 Vendor will be given a minimum of 7% of total item qty. per machine dedicated to BHEL. After assigning the load to L1 vendor as said above, the rest of the load (qty.) will be distributed from L2 onwards, in the order of lower price level, in the proportion of no. of 4-axes machines till the 16th dedicated machine, including L1 machines. The above distribution is subject to meeting the delivery.</p> <p>For Item No.2: Total Qty: 7450, No. of Rows: 47 Rows It is estimated that a total of 20 machines are required for completing this load. L1 Vendor will be given a minimum of 5.5% of total item qty. per machine dedicated to BHEL. After assigning the load to L1 vendor as said above, the rest of the load (qty.) will be distributed from L2 onwards, in the order of lower price level, in the proportion of no. of 4-axes machines till the 20th dedicated machine, including L1 machines. The above distribution is subject to meeting the delivery.</p> <p>For Item No.3: Total Qty: 2728, No. of Rows: 17 Rows It is estimated that a total of 8 machines are required for completing this load. L1 Vendor will be given a minimum of 14% of total item qty. per machine dedicated to BHEL. After assigning the load to L1 vendor as said above, the rest of the load (qty.) will be distributed from L2 onwards, in the order of lower price level, in the proportion of no. of 4-axes machines till the 8th dedicated machine, including L1 machines. In case if L1 has 7 or more machines dedicated to BHEL, 100% load will go to L1. The above distribution is subject to meeting the delivery.</p> <p>For Item No.4: Total Qty: 1659, No. of Rows: 10 Rows It is estimated that a total of 6 machines are required for completing this load in. L1 Vendor will be given a minimum of 20% of total item qty. per machine dedicated to BHEL. After assigning the load to L1 vendor as said above, the rest of the load (qty.) will be distributed from L2 onwards, in the order of lower price level, in the proportion of no. of 4-axes machines till the 6th dedicated machine, including L1 machines. In case if L1 has 5 or more machines dedicated to BHEL, 100% load will go to L1 The above distribution is subject to meeting the delivery.</p> <p>Note: any vendor dedicating more than 10 machines to BHEL, it would be considered as 10 machines only for the purpose of loading</p> <p>Example: vendor 'X' is L1 fro item No. 1, and has dedicated three 4-axes CNC milling machines to BHEL, L2- 7 machines, L3-5 machines, L4-4 machines, L5- 3 machines. Then the load distribution will be done only upto L4 Then L1 will be given a minimum of 1280 (0.07*3*6094) blades of item no. 1. From L2 onwards in lower price level, after the acceptance of counter offer, 13 (16-3) machines dedicated to BHEL will be considered for loading. after giving L1 1280 blades, balance 4814 blades will be divided 13 machines i.e., around 370 blades per machines. L2 will get 7*370= around 2590 L3 will get 5*370= around 1850 L4 will get 1*370= around 370.</p>	
		<p>b) Since the no. of blades per row vary widely for each item and since a single row cannot be split between vendors, the percentages/ Quantities cannot be achieved exactly While loading as per above distribution. Hence vendor of lower price level may be given higher priority for quantity while loading.</p>	
		<p>c) BHEL will reserve the right to distribute the load among L2 and others in any proportion deemed fit by BHEL, not exceeding the per machine L1 percentage (shown above) to avoid crowding or over loading of vendor with other loads. On non-acceptance of counter offer by L1 and others, for any item, the decision of giving full load to L1 or to go for alternative will be taken by BHEL based on the capacity of vendor to meet the deliveries requirements.</p>	
5	Destination Cost	Delivery Conditions to F.O.R. BHEL Stores -R.C.Puram, Hyderabad.Without any additional Transportation / Packing / Forwarding Charges.	
6	Preservation and Packing.	Finish and inspected blades are to be preserved with oil,wrapped in bubble paper and kept in pigeon hole boxes and deliver to BHEL. The cost of preservation and packing shall be included in price per blade quoted.	
7	Tools/Cutters /Templates/Measuring Instruments	All Tools/Cutters/Machine fixtures/Templates/ Measuring Instruments are in Vendor Scope. All the fixtures/ templates/drawings are to be approved by BHEL before mfg.	
8	Validity	The prices are valid for three months from the date of opening of tender. However, as the orders will be released on staggered basis, the finalized rates shall be valid till 31/03/2017 from the date of finalization of rates.	
9	Penalty	A penalty of 0.5% per week or part thereof, subject to a maximum of 10% of total order value,will be imposed for delayed supplies.	
10	Payment	Payment will be made within 90 days from the date of receipt and will be against GR. However BHEL will make the payment within 45 days to SSI units. Payments shall be subject to the deduction of any amount for which sub contractor is liable under this contract, or any contract in respect of which BHEL is the contractee.	
11	Process Control	a) First 3 blades of any order row to be machined and 100% inspection to be done on them in 3D CMM to ascertain whether the process / programming of the machine is within the specified dimensions of the drawing.	
		b) During machining of blades in a particular row, every 10th blade for a particular machine has to be checked in 3D CMM to confirm that the process is under control and dimensions are as per drawing. If any deviations are found, process is to be checked and corrected. Machine wise row lot identification of the blades is to be maintained and marking on the blades is to be done as per indication available in the drawing.	

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		<p>i) The vendor shall give an inspection call with following reports a) inspection records for first 3 sample blades b) in-process inspection (every 10th blade) , and c) Dimensional inspection records for all the finished blades as per the format given by BHEL (containing dimensional range report, mentioning the minimum and maximum values for all the blades) and shall submit the above reports to BHEL/TPI for review.</p> <p>ii) During final inspection, BHEL / TPI will select at random 10% of the blades from machine wise lot and inspect on 3D CMM in BHEL/TPI presence. The BHEL/TPI inspected 3D CMM report shall meet all requirements of drawing. If any deviations are found on the blades, then all the blades which are not inspected on 3D CMM from the machine wise lot will be inspected on 3D CMM. Blades having deviations will be segregated and shall be rejected. No extra cost will be paid for 100% inspection by BHEL/TPI and no delay amendment will be allowed for increased inspection. Material cost will be recovered for the rejected blades from the vendor, and no conversion charges will be paid for the rejected blades.</p> <p>iii) 100% Dimensional Report shall be prepared & submitted for selection of 10% blades by BHEL at vendor works.</p>	
		d) <u>Special remarks:</u>	
		<p>i) The total blade shall be finish machined on 4-Axis machine in a single set up, but only grinding is allowed at root transition and shroud transition areas and taper portion. Vendors shall take special care during grinding of taper, since while inspecting blades in 3D CMM, these planes will be taken as reference.</p> <p>ii) Surface finishing shall be executed by vibro tumbling. No manual polishing on any area is allowed.</p>	
12	Inspection by BHEL QC / TPI	The following are the criteria for final inspection and giving clearance for dispatch to BHEL.	
		a) BHEL reserves the right to visit the vendor works (with or without notice) to monitor the manufacturing process for the BHEL blades.	
		b) All the dimensions for all the finished blades shall be inspected by the vendor and recorded in format QA/IDT/262. These dimensional inspection records shall be submitted during final inspection by BHEL/TPI.	
		c) CMM inspection reports for all these blades (complete blades) shall be submitted to BHEL. CMM inspection for 3DS Guide blades shall be done as per procedure for CMM inspection of 3DS Guide blades Ref: HY/QC/CMM/INSPN/3DSGB.	
		d) All the half pitches of the blade shall be checked on 3D CMM.	
		e) CMM inspection of the total blade shall be done in a single set up.	
		f) Final inspection will be done by BHEL Q.C / its authorized agency at your works on receipt of information with dimensional reports certified by Q.C. On final inspection and acceptance by BHEL, PIR will be issued.	
		g) BHEL will recheck randomly by selecting some blades from the any dispatched row in BHEL 3D CMM at BHEL description , if found deviations then the entire row will be rejected.	
		h) During final inspection clause 12 and all sub clauses of 12 are applicable.	
13	Rejection	Rejection rate allowed is 2% only, and rejected blades should be returned to BHEL along with accepted blades and no conversion charges will be paid for rejected blades, in case of more than 2% the useful material cost shall be recovered as per latest BHEL norms.	
14	Raw Material	<p>a The required Raw Material will be supplied by BHEL as free issue and the same shall be collected by the vendor from BHEL Hyderabad store. Normally the optimum sizes of the Raw Material will be supplied. On unavailability of the specified flat material, for any row, BHEL may issue the next available higher sized flat.</p> <p>b The vendor will be intimated through mail, once the material is ready at BHEL store. And the vendor has to collect the same in seven days from date of intimation, failing which the delivery counting will start from the date which comes after one week from the date of intimation instead of date of collection.</p>	
15	Off-loading	The Sub - Contractor shall not off load either in part or in full , the orders placed on them. If it becomes necessary to off load due to any exigencies, the same shall be done to BHEL approved vendors only subject to prior written permission from BHEL . Sub – Contractor shall be responsible for the execution of the order placed on them. Sub-Contractor found to be violating this condition will be treated very strictly and may even lead to blacklisting. Further vendor shall give an undertaking on their letter head stating that vendor shall not off load and shall execute machining of these blades on their facilities only.	
16	Defects , after receipt of finished blades	On receipt of finished items at BHEL, if any mfg. defects are noticed, the same shall be attended to by the vendor at his own cost , without any delay.	
17	Bank Guarantee	<p>a) Vendors shall execute required Bank Guarantee before placement of order as per prevailing norms of BHEL.</p> <p>b) Any vendor expecting the order from BHEL after the reverse auction should submit/enhance/ensure the availability of Bank Guarantee, for expected value of order, within 10 days from the date of reverse auction, failing which the vendor runs the risk of not being considered for ordering in this enquiry.</p>	
18	Excise Duty/VAT/ other taxes	No taxes are applicable, as it is job work.	
19	BHEL-Drawings	Vendors are not permitted to use of BHEL drawings for, purposes other than BHEL's requirements.	
20	Rates	Rates to be quoted as per price bid format Annexure-B enclosed, considering the value of scrap generated , as no process scrap will be collected by BHEL and also considering preservation and packing charges.	
21	Other Conditions	In addition to the above conditions the Sub-Contractor shall accept the following conditions.	
		a) If Sub-Contractor fails to supply the contracted jobs as per the delivery schedule, BHEL may be constrained to cancel the order and resort to alternatives at the vendor's cost and risk.	
		b) Vendors shall not claim any right for placement of orders.	
		c) Properly laid out & identified raw material storage area shall be available with the vendor.	
		d) Separate racks for different material shall be maintained by the vendor.	
		e)The Sub-Contractor shall take care to avoid mix-up of different material at all stages of manufacturing.	

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		f) The Sub-Contractor has to verify the incoming raw material before storage/use, and Shall maintain printed format of identification tag with the blade lot at all stages.Detail record of incoming material including identification details like GR no, Melt no. etc. to be maintained in register.	
		g) The Sub-Contractor shall Etch the row number, blade no & subcontractor Identification on blade all through the manufacturing	
		h) Maintenance of Blade-wise in-process dimension report for linear critical dimensions during operation.	
		j) Maintenance of machine tools, fixtures in proper conditions.	
		j) Maintenance of measuring instruments in proper calibrated conditions.	
		k) Taking care of safety aspects during manufacturing of blades at all stages.	
		l) Maintenance of record for rework/rectification as given by BHEL QC inspector.	
		m) Maintenance of proper house keeping in the work shop.	
		n)Maintenance of Pigeon hole boxes at manufacturing stages, and during dispatch of finished blades to BHEL stores.	
22	Amendments	All amendments/ revisions wil be updated through BHEL website and not through paper advertizement.	
23	Other conditions	Acceptance to all other tender terms and conditions in the tender document(Enquiry/NIT).	
24	No of machines	Please indicate the no of 4-axes machines available with you and no.of machines you would decate to BHEL through the perioad for which the tender prevails.	No of 4-axes machines available in house _____ No of machines that you wold dedicate to BHEL
Sub-contractor			