

Date: 09.11.2023

MPR 20230770

PRE QUALIFYING CONDITIONS

01.00		REQUIRED	OFFERED	DEVIATION
01.01	Only OEM or OEM authorised vendors can quote who are supplying multi point HSS PM 30 Tools for previous three years or more (from the date of opening of the tender). In case of OEM authorised vendors, authorisation certificate from OEM should be submitted along with offer.	Vendor to accept/agree		
01.02	Name of customer / company where these multipoint HSS PM 30 Tools as mentioned above have been supplied along with their Purchase Order copies. Offer without this document shall be rejected. However in the submitted PO copy, offered price may be concealed by suitable means.	Vendor to submit details		
01.03	Proven and application specific tools are required for seal strip milling of steam turbine blades of critical nature from high alloy steels in CNC milling machines. Hence, following document is required from participating vendor as qualifying requirement:- Quality Acceptance documents/SRV/Successful performance certificate/ Invoice copy of payment of two POs or report of same or similar type of tools from BHEL or from other reputed manufacturers. Offer without this document will be rejected.	Vendor to submit details		
01.04	The OEM should be ISO 9001:2015 certified or equivalent for manufacturing HSS multi point cutting tools. Copy of valid certificate should be submitted along with the offer at the time of opening the tender. Offer without this certificate shall be rejected.	Vendor to submit details		
01.05	BHEL reserves the right to verify the information provided by vendor. In case the information provided by vendor is found to be false/ incorrect, the offer shall be rejected.	Vendor to submit details		
02.00	REQUIREMENTS OF BHEL:-			
02.01	Purpose & Item Description:- Set of Profile Relieved Cutters(as per drawing sketch, refer Annexure I) are required for seal strip milling operation on shroud side of freestanding LP blades in Vertical Milling Machine. Sketch I as provided in Annexure I is for reference only. Vendor may design thier cutter and offer accordingly. Vendor shall submit technical drawings of their offered cutter alongwith their complete offer for technical scrutiny of the offers.	Vendor to accept and submit		

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03.00 TECHNICAL CONDITIONS FOR TRIAL MACHINING:

03.01	Vendors shall supply One set of cutter same as offered against BHEL requirement as a sample on FOC basis on returnable basis within 60 days from the date of first intimation for submission of sample tools from BHEL, for trial machining operations as per clause 03.02 and 03.03.	Vendor to accept	
03.02	Sample Tools as supplied by vendor shall be tried for machining of seal strips on existing Jobs Sachman make Vertical milling machine as per input material & cutting parameters (clause no 03.03).	Vendor to accept	
03.03	<p>Input Material, Cutting Parameters, operations & Machine Details:-</p> <p>(a) Feed-30-40 mm/min, RPM-200, DOC- 1 mm or more.</p> <p>(b) For above parameters Cutting Speed $V_c=50m/min$ (Considering Dia 80mm Cutter), however vendor may suggest their own cutting speed.</p> <p>(c) Material Grade (X20Cr13) Hot rolled material (material property details as per Annexure II)</p> <p>(d) Input Job:- Rectangular Cross section of blanks- as per availability in BHEL Shop.</p> <p>(e) Machine:- CNC Jobs Sachman make machine.</p> <p>(f) Adaptor to be used :- SK50(DIN69871) tapered adaptor of bore diameter 40mm.</p> <p>(g) Operation to be carried out in trial:- Seal Strip milling on rectangular cross sectional bar blanks on length of minimum 100 mm using BHEL provided Program on existing Jobs Sachman make CNC Vertical Milling machines. Annexure-III depicts the required fin dimensions to be maintained after the operation with the trial cutter.</p>	Vendor to accept	
03.04	<p>Technical Acceptance Criteria:-</p> <p>(a) The dimensions(width, height, and angle) and the gap of the seals manufactured on the trial blank piece shall be within tolerances mentioned in sketch 2 of Annexure-III. If the dimensions is found satisfactory, the cutter will further be used to manufacture the fins of same dimensions in minimum 05 nos of blanks pieces. The dimensions of the fins in all the 05 blanks must be within tolerance.</p> <p>(b) The milled strips across the length of the blank shall not be found broken or bend after the operation.</p> <p>(c) The teeth of all the segments of the milling cutter must remain intact after conducting trials on 5 blanks.</p>	Vendor to accept	
03.05	Offers of only those vendors will be considered as technically acceptable whose tools performs satisfactorily as per technical acceptance criteria (clause no 3.04) . A failed trial will result in rejection of the offer.	Vendor to accept/agree	

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	There shall not be any liability on BHEL for failed trial. Price bid shall be opened only for those vendors who have been found successful as per specified criteria (clause no 3.0). Subsequently, ordering shall be done on L-1 vendor as per GEM policy. There should not be any financial implication of the trial machining on BHEL.	Vendor to accept/agree		
03.07	After trial, tools brought by vendor can be taken back by them. Sample of tools after its use during trial may or may not be in good condition. Vendor must be ready to take the sample in damage/consumed condition. For this, vendor must confirm explicitly to take material, brought in for trials, back themselves irrespective of the condition and quantity of the materials.	Vendor to confirm		
03.08	In case of PO placement, vendor shall supply the cutters having same design, material, geometry and coating, same as that of the sample tool which was technically accepted at the time of trial at BHEL. If the quality of tools supplied in PO after sample acceptance is found inadequate or any deviation, the total supply will be rejected as per BHEL practice.	Vendor to accept/agree		

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Annexure-II

Material Property Details

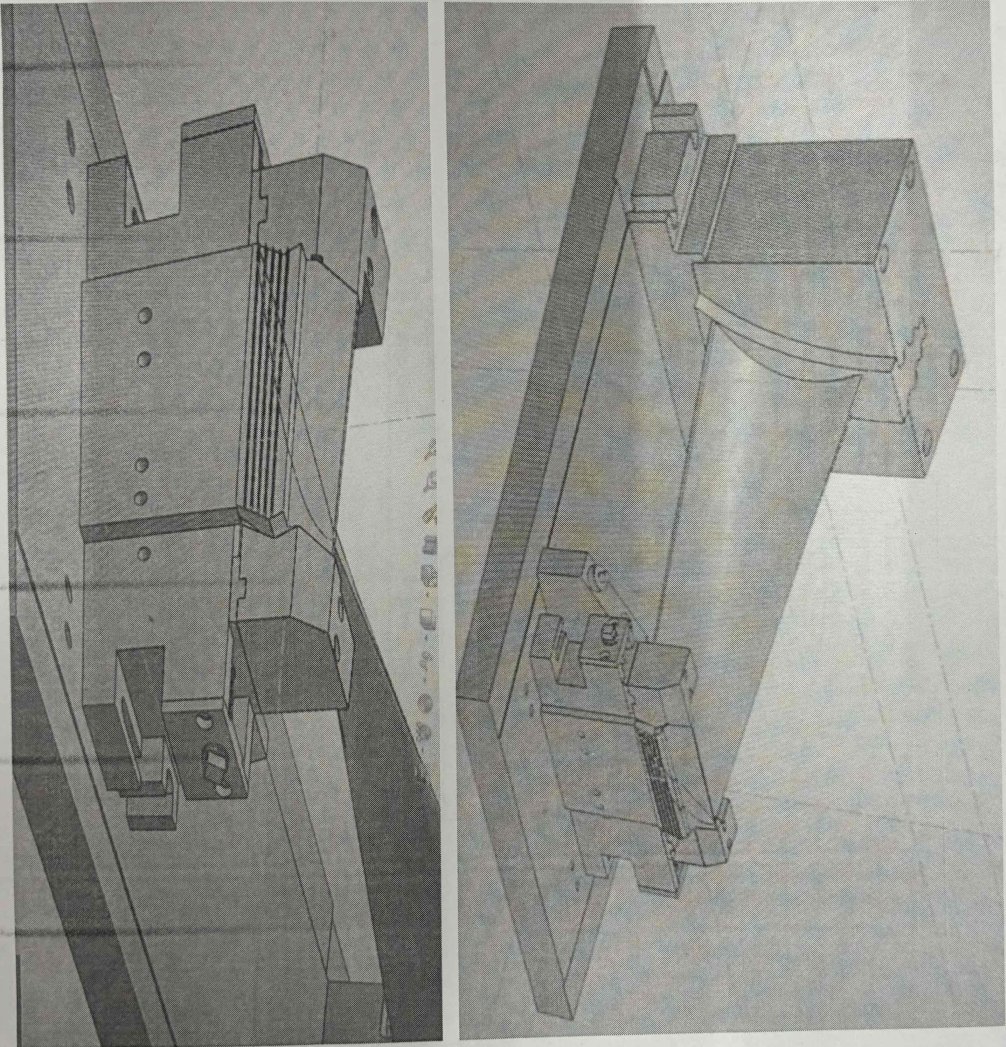
Elements	Material wise composition (in % weight)
Symbol	Name
C	Carbon
Si	Silicon
Mn	Manganese
P	Phosphorous
S	Sulphur
Cr	Chromium
Mo	Molybdenum
Ni	Nickel

Mechanical Properties:

Property	Value
0.2% Yield Strength	> 600
Tensile Strength	800 - 950
% Elongation (l=5d)	> 15
RA (%)	> 50
Impact Energy (J)	> 20
Hardness (HB)	< 280

Handwritten signature

Picture of blade holding fixture



CHAK

