

<u>STEAM TURBINE MANUFACTURING</u>
<u>DETAIL MACHINE SHOP</u>
TENDER ENQUIRY NO: STM/WC/DMS/1920/LATHE, DATED: 22/01/2020
<u>ANNEXURE – II : SCOPE OF WORK</u>

1) SCOPE OF WORK:

WORKS CONTRACT FOR “OPERATION OF CENTRE LATHE, CAPSTAN LATHE AND TURRET LATHE MACHINES IN DETAIL MACHINE SHOP (DMS) OF STEAM TURBINE MANUFACTURING (STM) DIVISION, BHEL, BHOPAL FOR THE PERIOD UP TO 30 AUG 2020.”

Detail Machine shop is engaged on various machining activities related to Steam Turbine, Nuclear Turbine, Naval Turbine, Sub-assemblies detail components. Jobs need to be manufactured with high geometrical accuracy and tolerance in Detail Machine shop in line with Approved Drawings, Quality plans and customer hold points. In view of this, skilled and devoted manpower are required to be deployed for operation of machine through works contract on Tech-hour basis. The details are as follows:

Quantity :- 28068 Tech.-hour basis	Period of Contract : Valid up to 30-Aug-2020
Manpower Required : Turner (Skilled)	
Educational qualification and experience: ITI in Turner grade or Non-ITI workers having 3 years of work experience in BHEL of doing similar work on finish basis.	
Minimum Manpower to be deployed on daily basis : 8 Skilled operators	

The manpower to be deployed for carrying out operations of Lathe machines in Detail machine shop shall be well qualified and experienced for lathe machine operation on regular day-to-day basis. The experience man power should having knowledge of a component drawing, handling critical measuring instrument tools, cutting tool geometry and technical instructions/requirements of turbine's detail components manufacturing and stringent quality norms. In addition to above STM Detail machine shop has to execute the job/operation/activities on foreman requisitions. These foreman requisitions mostly includes for machining of small components suitness with assembly log dimensions, test pieces, small machine tools/components, tools and fixture. The Foreman requisition as executed and counter verified by the requisitioned section/department/QC-STM. If performance of any deployed worker is not found satisfactory, contractor shall provide alternate worker with immediate effect to the satisfaction of Section Engineer In-charge.

1.1) Following works are to be performed by the deployed manpower:

- 1.1.1) The main work involves carrying out various operations on following Lathe machines in Detail machine shop in three shifts i.e. 1st shift (7AM to 4PM), 2nd shift (4PM to 1AM) and 3rd Shift (11PM to 5AM) as per requirement. Drawing, Raw materials and Tools will be provided by BHEL.

Machine list in DMS

- 1.1.2) Centre Lathe Machines 20/A/106, 20/A/107, 20/A/110, 20/A/2003, 20/A/2055, 20/A/2067
 1.1.3) Capstan Lathe Machines 20/A/350, 20/A/349, 20/A/83,
 1.1.4) Turret Lathe Machines 20/A/88, 20/A/89, 20/A/90, 20/A/91, 20/A/92, 20/A/94, 20/A/95, 20/A/96, 20/A/124

Pre-Machining activities

- 1.1.5) Meeting on day to day basis for job machining work in detail machine shop between **Section Engineer in charge or its representative (SEICOR) & Contractor or its representative (COIR)**
 1.1.6) Prior to job loading on machine review for any clarification on Tech. Hrs mentioned in process card(if any), tooling issues, measuring tool issue, Drg's issue/technical instruction, AQP's
 1.1.7) Upon job machining completion as per process, for dimensional & geometrical check to be counter verified by (SEICOR) and QC-STM

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- 1.1.8) For correctness and accuracy of dimensional/geometrical check ensure proper Deburring/dressing work to be completed by COIR.
- 1.1.9) Weekly prepare sheet for total Tech Hrs machined as per process route card/FR/Job cards and verified it from SEICOR & QC-STM.
- 1.1.10) Deployment of supervision staff (as COIR) for carrying out above work is highly essential having sound educational qualification and experienced person, who had done above work earlier.
- 1.1.11) Cleaning of machines because of dust, coolant and chips on machine and its nearby areas. Chips to be kept in Chips Bin.
- 1.1.12) Refilling of coolant, lubrication oil, hydraulic oil etc.
- 1.1.13) Collection of document & material from WIP store as per job loading plan in line with Section Engineer In charge instruction by (COIR).
- 1.1.14) Planned follow up of early arrangement of measuring tools, cutting tools to be used during lathe Machining operation as per loading Plan
- 1.1.15) Follow up of job loading and ensuring completeness of machining operation & dimensional report to be counter verified with QST.
- 1.1.16) Job cards have to be arranged & booked by contractor for all the jobs done by contract workers under works contract. Contractor has to get the job cards verified and signed by Quality deptt. of STM (QTH).
- 1.1.17) Log sheet preparation of m/c dial run out geometrical check points as per AQPØS for customer witness check points on machine.
- 1.1.18) Follow up of rework on job Dimensional/ surface finish issues.
- 1.1.19) Document completion for lathe machine operations on dimensional reports as per drawing during Finished component offered for final docket closing to QC-STM dept.

2) DURATION OF CONTRACT:

Duration of contract is for a period upto 30 Aug 2020 from the date of start of work, which should be within two weeks from date of issue of LOI/WO. Duration of contract shall be strictly based on the performance which will be evaluated after every three months by BHEL authority. BHEL also reserves the right to short close the contract at its discretion. ÷

3) SPLITTING OF CONTRACT:

For ease of operation convenience, it is envisaged that the work shall be distributed amongst maximum three qualified bidders at L1 rate in the percentage ratio of 50:30:20. However the split shall be limited to amongst three qualified agencies.

Wherever the numbers of qualified responses (N) are three or more, the distribution shall be limited to (N-1) qualified responses as per BHEL Works Policy 2016.

If No. of qualified tenderers is 3, it will be distributed amongst two agencies in the order of ratios 70:30.

If No. of qualified tenderers is 2, it will be fully awarded to L1.

Please note that the allocation of machines among L1, L2 & L3 will be done by the department and can be re-allocated anytime during execution of the works contract.

4) WORKING HOURS:

- 4.1) Party has to work in 1st Shift (7AM to 4 PM) and 2nd Shift (4PM to 1AM) during all working days.

If required, manpower is to be deployed in 3rd Shift (11PM to 5AM), Sundays and Holidays, as Instructed by SEICOR. COIR should ensure prior permission, to be issued from HR and CISF, if required for above mentioned duty hours.

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5) PAYMENT TERMS:

- 5.1) Payment shall be made against the submitted bill as per BHEL specified format on monthly basis.
- 5.2) The contract is a fixed price contract & no ESCALATION of price will be permissible during any stage of contract.
- 5.3) Penalty, if any, shall be deducted from the running bill payments.
- 5.4) All the payments due to the Contractor will be made through Electronic Fund Transfer (EFT). For EFT facility the successful bidder is required to submit the details duly endorsed by their bank in the prescribed proforma as enclosed at Sheet-B
- 5.5) Contractor shall maintain the Attendance register for the entire staff shift wise, if the short deployment of staff then the deduction shall be as per penalty clause
- 5.6) Contractor will submit the bills on monthly basis, which will be duly verified, checked and forwarded by concerned engineer to HR (CLC) & Finance Department for further checking, passing of bill and releasing payment to the party.
- 5.7) The total amount payable will be rounded off to the nearest full rupee value. Income Tax shall be deducted at source under Income Tax Act.
- 5.9) Payment Shall be made within 60 days. GST shall be extra.
- 5.10) For MSME vendor payment will be released within 45 days from the cleared bill submission and for none MSME vendor it will be within 60 days, after submission of the bills (Measurement book), with meeting all companies in advance. All payments shall be released through electronic-pay mode only.

6) COST OF REWORK/REJECTION:

Cost of rework/rejection will be recovered from the contractor, if the same has found to be occurred due to negligence/ lack of skill of the operator. Contractor has to maintain the quality of work as well as try to complete the work on prescribed time. Calibration of measuring instrument should be ensured before checking the job dimension.

7) PENALTY:

In case, contractor fails to deploy required manpower as per agreed terms and conditions, the production work in DMS machine shop will suffer. Penalty is admissible after one month from WO date in view of statutory compliance required from concerned agencies and smoothening of work flow activities. The bidder has to ensure to deploy minimum number of skilled operators so that machines running under works contract are run for specified no. of shifts (except when machine is under breakdown). Non-compliance of the same will lead to penalty as follows:

Condition	Penalty amount
For nonórunning of machines due to nonódeployment of minimum number of skilled operators for 8 hours	8 Man-hour hours penalty will be imposed

NOTE: This penalty is over and above the deduction from running bill. GST as penalty shall be charged extra.

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Ref SI No. 5.4, SHEET B

1) FORMAT FOR (EFT) ELECTRONIC FUND TRANSFER

You are requested to submit the information as per details given below at the earliest to enable processing of e-payment:

- 1.1) Name of the Contractor / Firm (Max 60 Char)
- 1.2) Account No (Max 17 char)
- 1.3) Name of the bank, branch, city (Max 60, 40 and 20 characters respectively).
- 1.4) Branch code (Max 5 Char)
- 1.5) MICR Code (Max 30 Char)
- 1.6) IFSC Code (Max 30 Char) [Every NEFT enabled bank / branch has a unique IFSC Code (Indian Financial Security Code)] This code may differ from RTGS IFSC code.

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