

ANNEX D TO  
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**SUPPLY AND INSTALLATION OF 5 AXIS CNC MACHINING CENTER QTY-1 (EA) IN FY 2022-23 AND FY 2023-24 FOR BANGLADESH AIR FORCE**

**Introduction**

1. Bangladesh Air Force is planning to procure and install a 5 Axis CNC Machining Center for its R&D works. This project will be materialized as 'Turn-key' project. The bidder will be responsible to install the machining center along with its ancillary equipment at a BAF designated place and hand over the machining center in ready to run condition. Bidder will also develop the site and carry out necessary civil works associated with the project.

2. For better understanding and to evaluate all the prospective bidders on same platform, the tender specification has been divided into three parts:

- a. Part-1: General Information and Bidder's Responsibility.
- b. Part-2: Operational and Technical Information (Essential and Optional features/items).
- c. Part-3: General Terms and Conditions.

3. In Part-2, there are essential and optional requirement. Bidders failing to comply with essential features will be considered disqualified. However, bidder has to quote all the optional features/items, but BAF may take some or all optional features/items as per requirement.

4. Prospective bidders are to comply with the requirements and terms & conditions mentioned in Part-1, Part-2 and Part-3 of the tender specification.

5. Prospective bidders are to submit their offer in two envelopes:

- a. Technical Offer
- b. Financial Offer

6. Bidders qualifying in technical offer will only be eligible for evaluation of financial offers. On completion of technical evaluation, final selection of bidder will be done based on financial competitiveness. BAF reserves the right to accept or reject any/all offers without assigning any reason what so ever.

7. Bidders shall quote all main equipment as mentioned in Part-2 in foreign/local currency on FOB basis.

**Eligibility of the Bidders**

8. A bidder is to participate in the tender through their local agent enlisted in the Directorate General of Defense Purchases (DGDP) in Bangladesh. A bidder is to be a reputed manufacturer of 5 Axis CNC Machining Center or authorized by the manufacturer. If a bidder is not a manufacturer, then the bidder is to mention the name and address of the manufacturer and must submit manufacturer's authorization certificate along with the offer to establish that they are authorized to participate in the tender process.

9. Each offer should contain only one type of 5 Axis CNC Machining Center along with its accessories. The bidder may submit one alternative offer. Each offer must be independent and complete in all respects.



10. The bidder must provide Manufacturers certificates of 5 Axis CNC Machining Center and all other items at the time of delivery (if any) and same is to be shown to the pre-shipment inspection (PSI) team.
11. It is the responsibility of the bidder to have valid Government Assurance Certificate that there is no restriction from the respective Government to export the offered machining center to Bangladesh and export permit will be issued to the bidder if contract is awarded.

**Bidder's Responsibility**

12. Bidders are to comply with all the clauses of this tender specification. Bidder is to submit full specification and relevant documents, latest brochures for the machining center along with the offer. The information in the brochure needs to be self-explanatory and must support and validate the information mentioned in the tender specification. Deviation or variation of information between the brochure and formally offered documents would be treated as non-compliance.

13. Bidders are to provide explanations in detail of the technical matters if deemed necessary and cross-reference to relevant pages of their offer/original supporting documents. Bidder is to provide performance/technical data, specific figures, and information as asked against each condition of tender specification. In addition, a bidder is to mention compliance/non-compliance against each condition. BAF reserves the right to reject those offers which merely mention 'Complied/Agreed' without producing required information/data/figures/graphs as asked against each condition.

14. Bidder may request for clarifications on any issue relating to the information contained in the tender specification from Air Headquarters (Directorate of Plans) in writing with an information copy to DGDP and apply for a pre-bid meeting at DGDP (if felt necessary) on pre-agreed schedule from Directorate of Plans and DGDP.

15. **Pre-bid Meeting.** A bidder may attend a pre-bid meeting at Directorate of Plans, Air Headquarters within 05 (five) weeks from the day of floating the tender by DGDP. To attend meeting, bidder is to submit necessary information and bio-data including photographs of the team to Air Headquarters (Directorate of Plans) at least 03 weeks before the presentation for arranging necessary security clearance. Bidder may also visit the site where the machining center will be installed for preparation of their offers/proposals with prior permission and on pre-agreed schedule from Directorate of Plans, Air Headquarters. The purpose of the meeting will be to clarify issues about the project of new machining center.

16. **Evaluation Procedure.** A bid proposal submitted by a bidder will be evaluated primarily based on, but not limited to the following elements (not in any priority order). In addition to hard copy, bidders are to submit the authenticated soft copy of the compliance sheet:

- a. Compliance to eligibility criteria for bidding.
- b. Responsiveness and compliance to the technical Specifications and General Terms & Conditions.
- c. Financial competitiveness.

17. **Presentation by Bidders.** A bidder may be required to give a presentation at BAF Headquarters any time specified by BAF after submitting the offer at bidder's expense. In that case, bidder is to submit necessary information and bio-data including photographs of the team to Air Headquarters (Directorate of Plans) at least 03 weeks before the presentation. The presentation may cover all relevant aspects than those which have been covered in the bidder's proposal.

18. **Additional Features Offered by the Bidders.** Bidders may suggest and/or offer features for the system additional to what is described in this tender schedule. Bidder is to quote price for additional item separately. In this case, bidders must explain advantage in details of that/those features in detail of the system.

19. BAF reserves the right to accept or reject any offer or to annul the bidding process and reject all offers at any time prior to signing contract award (without thereby incurring any liability to the bidders).





**TECHNICAL SPECIFICATIONS SUPPLY AND INSTALLATION OF 5 AXIS CNC MACHINING CENTER QTY-1 (EA) IN FY 2022-23 AND FY 2023-24 FOR BANGLADESH AIR FORCE**

Ser	Description	Specification Specified	To be Filled up by the principal/ Manufacturer
20.	<b>Nomenclature</b>	5 Axis CNC Machining Center.	
21.	<b>Purpose /Utility</b>	For machining large monolithic aerospace component, engine component, mold/die making and manufacturing of different types special component, tools/eqpt. The machining center should be capable of <b>machining (milling, shaping, drilling, tapping, boring, reaming, polishing etc) of Iron, Aluminum, Titanium, Copper, and their alloys.</b>	
22.	<b>Country of Origin and Manufacture</b>	Japan/USA/UK/Germany/France/Italy/Switzerland/Spain/Netherlands.	
23.	<b>Brand</b>	To be mentioned by the bidder.	
24.	<b>Model</b>	To be mentioned by the bidder	
25.	<b>Essential Features</b>	<ul style="list-style-type: none"> <li>a. Simultaneous 5 axis contouring and machining.</li> <li>b. Collision avoidance system.</li> <li>c. Dynamic tool load control.</li> <li>d. 5 Axis auto tuning.</li> <li>e. Auto Temperature compensation/Dynamic thermal control, active thermal stability for the whole system.</li> <li>f. Auto Scale detection.</li> <li>g. Auto zeroing/centering/alignment.</li> <li>h. Chips disposal system.</li> <li>j. Enclosed splash guard.</li> <li>k. Simulation system (built in or by provided software).</li> </ul>	
26.	<b>Sizes of Machine (Length X Width X Height).</b>	To be mentioned by the bidder.	
27.	<b>Machine Type.</b>	Vertical Double column/ Gantry/ Bridge, details to be mentioned.	
28.	<b>Machine Wight.</b>	To be mentioned by the bidder.	
29.	<b>Machine Travel Length</b>	<ul style="list-style-type: none"> <li>a. x axis: 3200 mm or higher.</li> <li>b. y axis: 2000 mm or higher.</li> <li>c. z axis/ (w+z) axis: 850 mm or higher.</li> <li>d. B/A axis: <math>\pm 115^\circ</math> or higher.</li> <li>e. C axis: <math>\pm 360^\circ</math> continuous.</li> </ul>	

Ser	Description	Specification Specified	To be Filled up by the principal/Manufacturer
30.	<b>Workpiece Load.</b>	<p>6000 Kg or more. The type of aerospace/industrial parts machining may include but not limited to the following:</p> <p>a. Engine components; case, blisks, impellers, engine blade vane segments, turbine blade, compressor components etc</p> <p>b. Airframe structure components; wing leading edge, wing rib, bulkhead, landing gear etc</p> <p>c. Crankcase, crankshaft, connecting rod, inner race, eccentric collector etc</p> <p>d. Struts, reverser, nacelle</p>	
31.	<b>Ambient Condition.</b>	<p>a. Air Temperature: 5° to 50° C</p> <p>b. Relative Humidity: 80 to 95 %</p> <p>c. Active Thermal Stability for Spindle, Table, Construction</p>	
32.	<b>Spindle 1.</b>	<p>(1) Spindle Drive: Inline gear box drive.</p> <p>(2) Spindle Speed: 30-6000 rpm.</p> <p>(3) Power- continuous/30 min: 30 kW or higher.</p> <p>(4) Taper bore: To be mentioned.</p> <p>(5) Country of Origin: USA/UK/Germany/France/Switzerland/Italy / Japan/Spain/Netherlands</p>	
33.	<b>Spindle 2.</b>	<p>(1) Spindle Drive: To be mentioned.</p> <p>(2) Spindle Speed: 20,000 rpm or more.</p> <p>(3) Power- continuous/30 min: 55 kW or higher.</p> <p>(4) Taper bore: To be mentioned.</p> <p>(5) Country of Origin: USA/UK/Germany/France/Switzerland/Italy / Japan/Spain/Netherlands.</p>	
34.	<b>Auto Attachment Changer.</b>	Completely automate machining of multiple sides with a variety of attachment heads that mount automatically and accept at least 60 tool or more ATC.	
35.	<b>Machine Accuracy</b>	<p>a. <u>Positioning Accuracy (without scale/with scale).</u> 20 micron/ 12 micron.</p> <p>b. <u>Repeatability Accuracy (without scale/with scale).</u> 15 micron/ 8 micron.</p>	



Ser	Description	Specification Specified	To be Filled up by the principal/Manufacturer
36.	<b>CNC Controller.</b>	<b>FANUC 30i MF CNC System</b> or equivalent made in USA/UK/Germany/France/Switzerland/Italy/Japan.	
37.	<b>Lubrication System.</b>	To be mentioned by the bidder.	
38.	<b>Machine lamp.</b>	To be mentioned by the bidder.	
39.	<b>Cooling System.</b>	Details to be mentioned by bidder.	
40.	<b><u>Standard Addons.</u></b>	<p>The <b>system must include</b> the following:</p> <ul style="list-style-type: none"> <li>a. Chips Conveyor, chips flusher and chips bucket for easy disposal of chips.</li> <li>b. Complete handling of chips and coolant with full enclosure shielding.</li> <li>c. Auto attachment changer (AAC) with at least 60 tools or more.</li> <li>d. Auto tool length compensation &amp; breakage detection with laser and touch sensor.</li> <li>e. Auto Attachment Head Compensation system and Automatic compensation for deviation between adjacent tool paths.</li> <li>f. Collision avoidance system.</li> <li>g. Machining Navi or equivalent.</li> <li>h. Servo Navi or equivalent.</li> <li>j. Large capacity coolant tank 100 liter or more.</li> </ul>	
41.	<b>Software.</b>	<p>Included software / software pack must have the following capabilities:</p> <ul style="list-style-type: none"> <li>a 5-axis machining software with program management, editing, multitasking, scheduled program, fixed cycle, G-/M-code macros, arithmetic, logic statements, math functions, variables, branch commands, coordinate calculate, area calculate, coordinate convert, programming help.</li> <li>b. Full range absolute position feedback, automatic centering, automatic alignment.</li> <li>c. Automatic tools length measurement and breakage detection.</li> <li>d. Load monitoring, Adaptive control.</li> <li>e. Tools position compensation.</li> <li>f. Drawing conversion: Programmable mirror image, enlarge/reduce.</li> </ul>	

Ser	Description	Specification Specified	To be Filled up by the principal/ Manufacturer
		g. Advanced One-Touch IGF-M (Real 3D simulation included) or equivalent. h. Automatic diagnostics and display of program, operation, machine, and NC system problems. j. Collision Avoidance. k. Dynamic control system for die mold machining.	
42.	<b>Software Updates.</b>	All types of software updates, patches, bug fixes for all the provided software are to be provided free of cost for entire service life of the machining center.	
43.	<b>Software Backup.</b>	All the backup for the software are to be provided in SSD Hard Disk, should those be required in case of software recovery.	
44.	<b>Service Life</b>	Service of the machining center must not be less than 10 years.	
45.	<b>Voltage Stabilizer and UPS.</b>	The bidder must provide compatible voltage stabilizer and UPS with minimum 10 minutes backup with the system.	
46.	Technical Order (TO), Manual, Publication.	A bidder is to provide 02 (two) sets of hard copy of TO, Manual, Publication, Parts Catalogue etc with the machining center to be provided free of cost (FOC). The manufacturer is to inform BAF about any upgradation of the items, changes of components used in the machining center in the shortest possible time. In this regard, BAF is required to know the exact system that is followed by the manufacturer through the automatic publication distribution. Delivery of TO/ Bulletin etc are to be provided free of cost during the entire life cycle of the machining center. The TO, Manuals and publications are to be in English language and updated for the supplied machining center & other items. 2 x sets of hard copies of all the manuals must be provided with the system in addition to 1 set of soft copy in CD/DVD. The TO, Manual, Publication, Parts Catalogue etc that are to be provided free of cost with the machining center are as follows but not limited to: <ul style="list-style-type: none"> <li>a. Operation Manual.</li> <li>b. Illustrated parts catalogue.</li> <li>c. Maintenance manual of the machining center.</li> </ul>	



Ser	Description	Specification Specified	To be Filled up by the principal/ Manufacturer
		<p>d. Operation and maintenance manual of all equipment fitted on the system like generator, UPS, computers etc.</p> <p>e. Soft copy of all manual are to be provided.</p>	
47.	<b>Tools and Attachments.</b>	<p>A full set of compatible tools set with required attachment which are used with the system are to be included in the delivery that must include the following (but not limited to):</p> <p>a. 3 x Sets of Aluminum/ Aluminum alloy machining tools that can perform the job from cutting/ shaping up to polished finishing.</p> <p>b. 3 x Sets of iron/ steel alloy machining tools that can perform the job from cutting/ shaping up to polished finishing.</p> <p>c. 1 x Sets of titanium/ alloy machining tools that can perform the job from cutting/ shaping up to polished finishing.</p> <p>d. Any other tool set required by the machining center but not listed above.</p> <p>e. Any other tool attachment that are required by the machining center to operate the tools listed above.</p> <p>f. Any other tools/attachment recommended by the manufacturer to perform the purpose/ utility of the machining center.</p>	
48.	<b><u>Training.</u></b>	<p>A comprehensive package of training is to be included in the offer.</p> <p>a. <b><u>Training Package.</u></b> The package must include following modules for 10 (5+3+2) BAF personnel.</p> <p>(1) <b><u>Beginner Training.</u></b> CAD and CAM training in order to develop manpower to work with the machining center. Minimum duration of the training must not be less than 3 weeks. Bidder may offer longer duration if deemed necessary.</p> <p>(2) <b><u>Basic Training on Machining Center.</u></b> This module will include extensive theoretical and practical lesson to develop proficient manpower to work with the machining center. Minimum duration of the training must not be less than 3 weeks. Bidder may offer longer duration if deemed necessary.</p>	

Ser	Description	Specification Specified	To be Filled up by the principal/Manufacturer
		<p>(3) <b>Advanced Training.</b> This module will include extensive theoretical and practical lesson to develop expert machinist to manufacture different molds, aerospace components. Minimum duration of the training must not be less than 3 weeks. As an outcome of the training, the bidder must demonstrate production of an aircraft part (minimum dimension of 30mmx30mmx12mm) by the trainees of BAF, made of Aluminum or Titanium alloy. Bidder may offer longer duration if deemed necessary. ✓</p> <p>(4) <b>Maintenance Training.</b> This module will routine maintenance and troubleshooting of the machining center. Duration of this module must not be less than 2 weeks. Bidder may offer longer duration if deemed necessary. ✓</p> <p>b. <b>Training Place.</b> Training will be organized preferable at manufacturer's premises or at manufacturer designated Training Center. Bidder may opt to conduct a portion of theory training online but practical training must be at manufacturer's premises or at manufacturer designated training center. Bidder is to intimate BAF at least 45/60 days in advance about the training schedule. ✓</p> <p>c. <b>Cost.</b> Cost of the training (mentioning detailed breakdown of training cost, accommodation, air fare and food for BAF team) is to be quoted by the bidder which will be included in the financial part of the contract. ✓</p>	
49.	<b>Work Plan.</b>	<p>The bidder shall conduct detail Site Survey at selected site for assembly of machining center immediately after signing the contract. The bidder shall work and coordinate with BAF to determine any site restrictions and constraints and identify the best solution for the assembly/installation of the machining center. The Bidder shall provide a detail work plan. The work plan shall contain detail information of preparation activities to be accomplished by the bidder prior to system assembly/installation. The work plan report shall be delivered to BAF within 30 days of contract award. ✓</p>	



Ser	Description	Specification Specified	To be Filled up by the principal/Manufacturer
50.	Civil Works.	<p>Bidder will construct a 'machining center complex' at BAF designated site. Bidders are highly encouraged to conduct a site survey before bidding. Construction work along with site development will be the responsibility of the bidder. BAF will provide the power and water supply lines near to site. Power supply (required number of air conditioner, transformer, generator, dehumidifier, rectifier, inverter, stabilizer, UPS connection etc) and water supply inside the complex are to be provided by the bidder. All necessary civil works must be completed before the arrival of machining center at Bangladesh. Bidder is to quote the price in local currency of construction work while submitting the offer. Civil works must include the following:</p> <p>a. <b><u>Machining Room.</u></b> A large enclosed space with environmental control and waste disposal system to install the machining center. The room should have enough space for loading and unloading workpieces.</p> <p>b. <b><u>Control room.</u></b> A space to control and monitor the workflow.</p> <p>c. <b><u>CAD/CAM Room.</u></b> With computer/workstation and software.</p> <p>d. <b><u>2 x Office Room.</u></b> General purpose office room.</p> <p>e. <b><u>Storage Room.</u></b> For storing the raw materials and finished products.</p> <p>f. <b><u>Tools/Attachment Room.</u></b> A dedicated room used by machining center to store the additional tools/attachments which are not currently attached with the machine.</p> <p>g. <b><u>Class room/Meeting Room.</u></b> A general-purpose class room/ meeting room with multimedia facility.</p> <p>h. <b><u>Crew Room.</u></b> For the technicians to rest and change up.</p> <p>j. <b><u>Power/ Generator / Transformer Room.</u></b> A dedicated room for power supply, control and monitoring. Bidder is also required to install necessary power transformer/stabilizing/regulating equipment in the power supply system if manufacture of the machining center requires so.</p>	

		<p>k. <b><u>Furniture/ Racks/ Storage Facilities.</u></b> Appropriate racks/storage facilities for the tools, raw materials, finished products, spares etc are to be provided in the machining complex. All other rooms like office rooms, design room, class room, crew room etc are to be appropriately furnished as per manufacturers standard.</p> <p>l. <b><u>Water/ Electricity/Gas Supplies.</u></b> Required electricity/gas/water from nearest BAF delivery point to the machining complex and internal distribution network for the machining complex will be the responsibility of the bidder.</p> <p>m. <b><u>Floor.</u></b> Entire machining area floor will be appropriately constructed and finished with epoxy/Industrial paint. All other room floors will be made of appropriate tiles.</p> <p>n. <b><u>Lighting/Fans.</u></b> All the rooms and work places must be adequately illuminated for optimal working efficiency.</p> <p>p. <b><u>Ventilation/ Environmental Control.</u></b> All required/recommended ventilation system and dust/waste disposal system for the machining center are to be installed by bidder.</p> <p>q. <b><u>Washrooms.</u></b> Required washroom for officers and technicians.</p> <p>r. <b><u>Backup Generator.</u></b> A backup generator for the machining complex along with its necessary wiring, switch gear and protection devices are to be installed by the bidder.</p> <p>s. <b><u>Environmental Control/ Air Conditioning.</u></b> Required air conditioning system along with dehumidifiers (if required) for the machining complex are to be installed by bidder.</p> <p>t. <b><u>UPS.</u></b> A UPS with at least 10 minutes backup time for the machining center is to be installed with the power supply system.</p> <p>u. <b><u>Firefighting.</u></b> Bidder is to install appropriate firefighting equipment in the machining complex as per the standard of machining center manufacturer.</p>	
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Ser	Description	Specification Specified	To be Filled up by the principal/Manufacturer
		<p>v. <b>Earthing and Lightning Protection.</b> Bidder is to install appropriate earthing/grounding of all equipment with dedicated earthing pit (resistance less than 1 ohm). In addition to that that bidder is also required to install appropriate lightning protection equipment and surge protection equipment to protect the entire machining complex.</p>	
51.	<p><b>Logistic Requirements Support</b></p>	<p>Logistic requirement of the machining center that are to be provided by the bidder along with the offer are mentioned below:</p> <p>a. List and addresses of the manufacturers and authorized dealers (copy of the certificates as authorized dealer is to be produced) in the country of origin and outside, for the followings:</p> <p>(1) 5 axis CNC machining center.  (2) All support equipment.  (3) Other spare/component.</p> <p>b. Price catalogue for all ranges of components and spares.</p> <p>c. Certificate, log book and warranty for machining center, components and spares (where applicable).</p> <p>d. List of Tester/Test equipment with individual price of each equipment.</p>	

### PART-3 GENERAL TERMS AND CONDITIONS

#### 52. Delivery and Pre-Shipment Inspection (PSI).

a. **Delivery.** Full system of 5 axis CNC machining center along with its support equipment are to be delivered within 6 (six) months from signing the contract.

b. **Pre-Shipment Inspection (PSI).** A 04 (four) member PSI team shall carry out the Pre-Shipment inspection at the factory site before the shipment. They shall also inspect the tools, spares and other equipment in the machining center manufacturing plant for duration of 05 (five) working days. The team must be given full access to all the relevant shops and documents. The bidder will also ensure that BAF team is allowed to check logbooks, certificates, compliance of bulletins, genuineness of installed components and any other associated documents/items during their stay at the manufacturer's facility. All expenses of the pre-shipment inspection team shall be borne by the supplier. PSI team will depart Bangladesh as per schedule submitted by the Bidder. Bidder is to intimate BAF at least 60 days in advance about the PSI schedule.



53. **Transportation.** The machining center can be transported through ship/air/ from the assemble place/factory. The bidder is to quote for all options separately.

a. **Shipment by Sea/Air.**

(1) A bidder is to mention the time needed to manufacture/ make/ assemble the items/equipment for the machining center. After signing the contract, the bidder/bidder is to take minimum time. The bidder is to mention this time in the offer and accordingly contract is to be signed. The bidder is to ship the machining centers/items within the time specified in the contract. Before shipment the bidder is to get a written clearance from DGD/BAF for shipment of the machining center /items/equipment.

(2) The contracted machining center and its associated equipment/items are to be delivered to BAF site at Chattogram in case of shipment by sea, and at 201 MU, Dhaka in case of shipment by air freight for assembly. All removable segments must have appropriate safe packaging for transportation. The bidder is also to bear the expenditure for internal transportation from the port of entry to BAF site.

(3) Insurance expenditure related to shipment will be borne by BAF.

54. **Warranty.** The bidder is to provide guarantee for machining center and all the equipment/items supplied as follows:

a. **Duration of warranty.** One year from the date of acceptance by BAF.

d. **Replace/repair of Items During Warranty Period.** If any item(s) becomes unserviceable during warranty period, the bidder shall replace or repair the item(s) at their own expense including both ways freight and insurance charges at the shortest possible time but not later than sixty (60) days from the date of reporting of the defect to the bidder.

55. **Assembly/Installation and Commissioning of machining center.**

a. The Bidder will send an assembly/installation team to Bangladesh for the assembly and installation of machining center. BAF will not be responsible for the engineering works at assembly sites. BAF technicians are to be trained while installing the machining center.

b. After completion of assembly/installation of the machining center, the bidder shall carry out a Test of the machining center by producing sample product. Turn-around time for completion of assembly/installation and acceptance will be maximum 90 (ninety) days from the date of arrival of all equipment at port of disembarkation in Bangladesh.

c. All cost for assembly/installation including food, internal transportation, medical care etc of bidder's installation team is to be borne by the Bidder. However, on request of bidder, BAF may arrange food and accommodation (subject to availability of such facilities). In that case, the bidder is to pay the necessary bills to BAF.

56. **Acceptance Check.** Acceptance check of the machining center will be carried out at BAF site. During the acceptance, if the system is found unsatisfactory, acceptance check will be held up till the same is corrected. Acceptance will be completed after satisfactory Functional Check of the system.

57. **Packing.** The machining center and its equipment should be packed in such a way that those can be transportable by air, land or sea (as applicable). Package is to provide protection for machining center (and its components) from the external mechanical and environmental factors exposure during its transportation and storage. The manufacturer shall pack the equipment in accordance with the packaging instruction. In case total or partial preservation is required, the manufacturer shall apply a temporary anti-corrosive protection (preservation) to the equipment in accordance with the correspondent instructions.



**Technical Support Team (TST)**

58. The bidder is to send 02 (two) members TST to Bangladesh comprising specialists to render technical support on the under mentioned aspects.

59. The TST is to be comprised of required number of interpreters (if they are not English spoken). The team is to be sent to Bangladesh after handing/taking over of the machining center in Bangladesh. They shall stay in Bangladesh for at least **3 (three) months period from the date of acceptance of machining center** and ensure the followings:

- a. Routine maintenance and care of the machining center in respect of the new/modified equipment(s).
- b. Diagnosis, trouble shooting and repair of the system.
- c. Support for operation.
- d. Train BAF technicians on all types of scheduled inspections of new equipment, maintenance and rectification of new equipment operation, maintenance, inspection and rectification. TST is to ensure transfer of knowledge on operation and maintenance to BAF personnel as far as possible.
- e. The TST is to raise warranty for unserviceable items and expedite for quick arrival of items. They will be responsible for making machining center or equipment serviceable as quick as possible.

60. The bidder shall bear all related cost of air tickets, food, medical, accommodation and transportation etc for the members of TST and interpreter (if any). BAF shall provide the local transport for the team within BAF area only.

61. **Major Inspection.** The TST will assist BAF in carrying out the major schedule inspections of the machining center equipment, in addition to imparting training to BAF technicians. Necessary spares, consumable items are to be provided by the bidder within the warranty period.

62. **Expenses of the Bidder's Specialist at Bangladesh.** In Bangladesh, accommodation, food, transportation, medical care and all other expenses of the specialist team, installation team, TST and interpreter will be borne by the bidder. However, on request of the bidder, BAF may arrange food and accommodation for the bidder's specialists, installation team, TST and interpreter on availability basis. In that case, the bidder is to pay the necessary charges to BAF as applicable.

63. **Security Clearance.** BAF will arrange security clearance for the visit of bidder's specialists including TST for assembly and technical support of the machining center. The list of the team members along with necessary information is to reach Air HQ (Directorate of Plans) at least 30 days before their date of arrival.

**Schedules**

64. A bidder is to provide the following schedule along with the offer:

- a. Training.
- b. Pre-shipment inspection.
- c. Shipment.
- d. Delivery and assembly.
- e. Testing and acceptance.

**MISCELLANEOUS TERMS & CONDITIONS FOR SUPPLY AND INSTALLATION OF 5 AXIS CNC MACHINING CENTER QTY-1 (EA) IN FY 2022-23 AND FY 2023-24 FOR BANGLADESH AIR FORCE**

65. The following miscellaneous terms and conditions are to be followed:
- a. A bidder must mention the name and full address of the local agent (if any) in the offer.
  - b. Due to the fault of the bidder, if any change/amendment is required in the contract/LC, all such expenses/charges shall be borne by the bidder.
  - c. The cost of machining center and additional equipment /FOB including all charges is to be 'Firm and Fixed'. No increase of price at any stage after signing the contract will be accepted. If any item other than those already contracted is required during assembly of machining center, those are to be provided by the bidder within the contracted price.
  - d. Freight charges will be paid at actual, but not more than the contracted freight charge. As such, freight charge is to be mentioned in appropriate column of AWB/BL. Otherwise, FOB value of the machining center and supplied items will be paid.
  - e. Cost of freight/transportation charge and insurance for any surplus spares/accessories, which will be taken back after completion of assembly of machining center, is to be borne by the bidder.
  - f. Bidders must quote charges for sea/air freight up to Chottagram/Dhaka, Bangladesh. The transportation of the machining center and associated equipment in Bangladesh (from port to arrival to BAF site) is to be arranged and paid by the bidder.
  - g. Bidders must mention the prices in USD which is to be firm and fixed. No increase of price at any stage will be accepted by BAF after submission of offer.
  - h. Bidders is to mention the port /country of shipment of the offer.
  - j. The transshipment is not allowed but if the bidder needs transshipment, then they are to mention it in their offer about their requirement. In case of such requirement, transshipment will only be allowed under single AWB/BL.
  - k. Part shipment is allowed but not more than 03 times. The payment will be made as per 'Payment Terms'.
66. **Vendors' List and Vendor Items.** Full address of the Vendors including Fax number and e-mail address are to be provided for all vendor items, used in machining center and its associated equipment. The lists of vendor items are also to be provided.
67. **After Sales Services.** A bidder is to furnish the Company's after sales services program, if any, with the offer.
68. **Maintenance Support after Warranty.** A bidder is to submit a detailed proposal for maintenance support, which would be needed after the expiry of warranty period.
69. **Guarantee for Spares and Repair Support.** A bidder is to provide following with the offer:
- a. A Guarantee Certificate for providing spares support to BAF for the entire service life.
  - b. A Guarantee Certificate for providing repair support/ overhaul facilities to BAF.
  - c. Guarantee to provide repair/overhaul facilities of major assembly, component, spares and tester where the manufacturer are those is other than the machining center manufacturer.





70. **Offer Validity.** Offer must remain valid for minimum 30 June 2024 or as per tender terms and conditions from the date of opening the tender. Within the validity of the offer, withdrawal of offer of unwillingness to sign the contract by the bidder is not to be accepted and, in such cases, actions would be taken against the principal bidder and local agent as per DGDP rules. DGDP/BAF also preserves the right to get the offer validity extended with the consent of the bidder, in case of carry forward procurement.

71. Bidder must also provide with the offer the detailed technical specifications and features of the proposed machining center and ancillary equipment separately in the form of brochure/catalog written in English.

72. Bidder may provide/furnish with their offer any other information deemed necessary.

73. Bidder is to submit the compliance/non-compliance state against each of the tender terms and conditions in the sequence maintained in the tender specifications.

### **Payment Terms**

74. 100% Payment will be made through irrevocable LC (except payment in local currency for the purpose of construction of machining center complex). The LC will be opened with any scheduled bank in Bangladesh under following terms and conditions:

a. 75% of the LC value (minus the cost of TST, Training and Civil Engineering Constructions/Works/Services) will be released on production of:

- (1) Bill of Lading
- (2) Bidder's Signed Invoice
- (3) Packing List
- (4) Certificate of Origin certificate
- (5) Warranty/ Guaranty Certificate
- (6) Joint PSI certificate by the buyer and seller's side
- (7) Shipment clearance letter of DGDP.

b. 15% of LC value (minus the cost of TST, Training and Civil Engineering Constructions/Works/Services) will be released on production of acceptance certificate of the machining center by BAF after carrying out satisfactory functional test of the machining center in Bangladesh.

c. Remaining 10% of the LC value (minus the cost of TST, Training and Civil Engineering Constructions/Works/Services) will be released after expiry of the warranty period of the machining center, all other major components, spares, tools etc.

d. 100% cost of training will be released by BAF on production of training completion certificate.

e. 100% cost of TST will be released by BAF on production of TST completion certificate.



f. The payment of Civil Engineering Constructions/Works/Services of Machining center Complex will be paid in local currency as under:

- (1) 25% payment of the total cost will be released after completion of construction of foundation of machining center complex and after production of satisfactory job completion certificate by competent BAF authority.
- (2) 25% payment of the total cost will be released after completion of 70% of the building of machining center complex and after production of satisfactory job completion certificate by competent BAF authority.
- (3) 25% payment of the total cost will be released after completion of 100% of the building of machining center complex, after supply of all furniture for the complex and after production of satisfactory job completion certificate by competent BAF authority.
- (4) 15% payment of the total cost will be released after completion of entire construction (including fittings, wiring etc) and after production of satisfactory job completion certificate by competent BAF authority.
- (5) Remaining 10% payment of the total cost will be released on expiry of the warranty period of the Civil Engineering Constructions/Works/Services of machining center complex after production of clearance certificate by competent BAF authority and written clearance from DGDP. The period of validity of the warranty shall be 01(one) year.

**Note: Bidder must comply with the payment terms mentioned above; otherwise, his offer may not be accepted.**

**FINANCIAL OFFER FOR SUPPLY AND INSTALLATION OF 5 AXIS CNC MACHINING CENTER QTY-1 (EA) IN FY 2022-23 AND FY 2023-24 FOR BANGLADESH AIR FORCE**

75. All costs are to be mentioned in US dollars (USD) or local currency in FOB basis (except cost in local currency for the purpose of construction of machining center complex).

76. Quoting price of the followings is essential:

- a. Cost of machining center along with all associated equipment/items which is required to meet the essential operational characteristics mentioned in this tender specification.
- b. Cost of support equipment like computers, server, software, UPS, voltage stabilizer etc.
- c. Cost of attachments, tools etc.
- d. Price of construction of machining center complex along with all equipment and facilities and price is to be quoted in local currency.
- e. Price of total Training package.
- f. Cost of shipment by Sea and Cost of Shipment by Air Freight.
- g. Cost of Technical Support Team (TST).

**Note: BAF reserves the right to accept or reject any items/tools /accessories/ tester, civil/construction works for machining center complex and ground equipment from the offer. In addition, BAF will also reserve the right to ask the bidder to supply any provisioning/ equipment whose costs are asked to quote in the financial offer.**



77. **Factor for Determining the Lowest Bidder.** Bidder shall quote the price of the items as mentioned below, which will be considered for determining the lowest bidder:

- a. Cost of basic machining center and all associated equipment/items which is required to meet the essential operational characteristics mentioned in this tender specification.
- b. Cost of support equipment like computer, server, software, UPS, voltage stabilizer etc.
- c. Cost of attachments, tools etc.
- d. Price of construction of machining center complex along with all equipment and facilities and price to be quoted in local currency.
- e. Price of total Training package.
- f. Cost of shipment by Sea and Cost of Shipment by Air Freight (whichever is lowest).
- g. Cost of Technical Support Team (TST).

78. **Evaluation Visit.** During technical evaluation process, BAF may plan for demonstration and performance evaluation of the machining center at bidder's place. The evaluation team will comprise of 03 BAF members. Bidder will bear the expenses of both-ways air ticket, food and accommodation for the team. The cost of the Evaluation visit is to be quoted separately. BAF will take cognizance of the evaluation report made by the evaluation team to consider the suitability of the machining center. Evaluation will take place before the final acceptance of the offer.

79. Bidder is to mention compliance/non-compliance against each condition. In addition, a bidder is to provide performance/technical data/specific figures/information as asked in each condition of this tender specification. BAF preserve the right to reject those offers which merely mentioned "complied/agreed" without highlighting required information/data/figures/graphs as asked against each condition.

80. Any other terms and conditions not covered above will be as per the standing rules of BAF/DGDP.

81. BAF/DGDP has all the rights to select any bidder or cancel the whole tender process at any time without assigning any reason.