



## **International Competitive Bidding**

**ICB No. 21/TCSP/GOODS/P8/2016/TR/TC (Package - 8)-Revised**

### **BIDDING DOCUMENT FOR**

**SUPPLY OF 16 LOTS OF MACHINES AND EQUIPMENT  
REQUIRED FOR PRODUCTION AT EXISTING  
TECHNOLOGY CENTERS**

**PROJECT NAME: TECHNOLOGY CENTRE SYSTEMS  
PROGRAMME (TCSP)**

#### **Purchaser:**

**The Development Commissioner (MSME),  
Ministry of Micro Small and Medium Enterprises, Government of India**

**Issued on: 22<sup>nd</sup> April, 2016**

## Invitation for Bids

**Country** : **India**

**Name of Project** : **Technology Centre Systems Programme (TCSP)**

**Loan No** : **8330-IN**

**Name of Goods** : **Supply of 16 lots of Machines and Equipment required for Production at existing Technology Centers**

**IFB No** : **21/TCSP/GOODS/P8/2016/TR/TC (Package - 8) -Revised**

1. This Invitation for Bids follows the General Procurement Notice for this Project that appeared in *Development Business*, vide Notice no. *OP00028237* of 7<sup>th</sup> July, 2014
2. The Government of India, (hereinafter called "Borrower") has received a loan from the International Bank for Reconstruction and Development towards the cost of Technology Centre Systems Programme (TCSP), and it is intended that part of the proceeds will be applied to eligible payments under the Contracts for which this Invitation For Bids is issued.
3. The Development Commissioner, Ministry of MSME, Government of India (hereinafter called "implementing agency") now invites sealed bids from eligible and qualified bidders for **Supply of 16 lots of Machines and Equipment required for Production at existing Technology Centers**. The list of Goods required including quantity, location, delivery period etc. are given in the Schedule of Requirements contained in the bidding document.
4. Bidding will be conducted through the International Competitive Bidding (ICB) procedures as specified in the World Bank's *Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers (Procurement Guidelines) – 2011* and is open to all eligible bidders as defined in *procurement Guidelines*. In addition, please refer to paragraphs 1.6 and 1.7 of the Guidelines setting forth the World Bank's policy on conflict of interest.
5. Interested eligible bidders may obtain further information from and inspect the bidding documents at the office of the Director (Tool Room) / Office of Development Commissioner, Micro, Small & Medium Enterprise (MSME), Government of India, 'A' Wing, 7<sup>th</sup> Floor, Nirman Bhawan, Maulana Azad Road, New Delhi – 110 008 between 1000 Hrs to 1700 Hrs (Indian Standard Time) till **6th May, 2016**.
6. A complete set of bidding documents in English language can be downloaded by the bidders from the website "[www.dcmsme.gov.in/tcsp.html](http://www.dcmsme.gov.in/tcsp.html)"
7. Margin of preference shall apply for the goods manufactured in India as indicated in BDS ITB 33.1.

8. Bids must be delivered to the address below on or before 1500 hrs. (IST) on 29<sup>th</sup> June 2016. Electronic bidding *will not* be permitted. Late bids will be rejected.

The Director (Tool Room), O/o DC MSME  
Room No 723 (A), A Wing,  
7th Floor, Nirman Bhawan,  
Maulana Azad Road, New Delhi – 110108  
Tel: +91 11 23062561;  
Fax: +91 11 23061068  
E mail: [tcsp@dcmsme.gov.in](mailto:tcsp@dcmsme.gov.in)

9. Bids will be publicly opened in the presence of the bidders' designated representatives, who choose to attend in person at the address below at 1530 Hrs (IST) on 29<sup>th</sup> June 2016. All bids must be accompanied by a “*Bid Security*” as per the form specified in the “Section IV – Bidding Forms” of the bidding document for *the amount in local currency (INR) or in USD. The requirement of bid security for each lot is specified in Annexure A of Section II Bid Data Sheet.*

Office of Development Commissioner,  
Micro Small and Medium Enterprises (MSME),  
Committee Room, A Wing, 7th Floor, Nirman Bhawan,  
Maulana Azad Road,  
New Delhi 110108

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## **PART 1 – Bidding Procedures**



# Section I. Instructions to Bidders

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## Section I. Instructions to Bidders

### A. General

- 1. Scope of Bid**

  - 1.1 In connection with the Invitation for Bids, **specified in the Bid Data Sheet (BDS)**, the Purchaser **as specified in the BDS**, issues these Bidding Documents for the supply of Goods and Related Services incidental thereto as specified in Section VII, Schedule of Requirements. The name, identification and number of lots (contracts) of this International Competitive Bidding (ICB) procurement are **specified in the BDS**.
  - 1.2 Throughout these Bidding Documents:

    - (a) the term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, telex) with proof of receipt;
    - (b) if the context so requires, “singular” means “plural” and vice versa; and
    - (c) “day” means calendar day.
- 2. Source of Funds**

  - 2.1 The Borrower or Recipient (hereinafter called “Borrower”) **specified in the BDS** has applied for or received financing (hereinafter called “funds”) from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called “the Bank”) in an amount **specified in BDS**, toward the project named **in BDS** The Borrower intends to apply a portion of the funds to eligible payments under the contract for which these Bidding Documents are issued.
  - 2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank in accordance with the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the Loan (or other financing) account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).
- 3. Corrupt and Fraudulent Practices**

  - 3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section VI.

- 3.2 In further pursuance of this policy, Bidders shall permit and shall cause its agents (where declared or not), sub-contractors, sub-consultants, service providers or suppliers and to permit the Bank to inspect all accounts, records and other documents relating to the submission of the application, bid submission (in case prequalified), and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

- 4. Eligible Bidders**
- 4.1 A Bidder may be a firm that is a private entity, a government-owned entity—subject to ITB 4.5—or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution. **Unless specified in the BDS**, there is no limit on the number of members in a JV.
- 4.2 A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder:
- (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
  - (b) receives or has received any direct or indirect subsidy from another Bidder; or
  - (c) has the same legal representative as another Bidder; or
  - (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Purchaser regarding this bidding process; or
  - (e) participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid; or
  - (f) any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the bid; or

- (g) any of its affiliates has been hired (or is proposed to be hired) by the Purchaser or Borrower for the Contract implementation; or
  - (h) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
  - (i) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the contract
- 4.3 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.7. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.
- 4.4 A Bidder that has been sanctioned by the Bank in accordance with the above ITB 3.1, including in accordance with the Bank's Guidelines on Preventing and Combating Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants ("Anti-Corruption Guidelines"), shall be ineligible to be prequalified for, bid for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address **specified in the BDS**.
- 4.5 Bidders that are Government-owned enterprises or institutions in the Purchaser's Country may participate only if they can establish that

they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not dependent agencies of the Purchaser. To be eligible, a government-owned enterprise or institution shall establish to the Bank's satisfaction, through all relevant documents, including its Charter and other information the Bank may request, that it: (i) is a legal entity separate from the government (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to the government, can acquire rights and liabilities, borrow funds and be liable for repayment of its debts, and can be declared bankrupt; and (iv) is not bidding for a contract to be awarded by the department or agency of the government which under their applicable laws or regulations is the reporting or supervisory authority of the enterprise or has the ability to exercise influence or control over the enterprise or institution.

4.6 A Bidder shall not be under suspension from bidding by the Purchaser as the result of the operation of a Bid-Securing Declaration.

4.7 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.

4.8 A Bidder shall provide such evidence of eligibility satisfactory to the Purchaser, as the Purchaser shall reasonably request.

**5. Eligible Goods and Related Services**

5.1 All the Goods and Related Services to be supplied under the Contract and financed by the Bank may have their origin in any country in accordance with Section V, Eligible Countries.

5.2 For purposes of this Clause, the term "goods" includes commodities, raw material, machinery, equipment, and industrial plants; and "related services" includes services such as insurance, installation, training, and initial maintenance.

5.3 The term "origin" means the country where the goods have been mined, grown, cultivated, produced, manufactured or processed; or, through manufacture, processing, or assembly, another

commercially recognized article results that differs substantially in its basic characteristics from its components.

## **B. Contents of Bidding Document**

### **6. Sections of Bidding Document**

6.1 The Bidding Documents consist of Parts 1, 2, and 3, which include all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8.

#### **PART 1 Bidding Procedures**

- Section I. Instructions to Bidders (ITB)
- Section II. Bidding Data Sheet (BDS)
- Section III. Evaluation and Qualification Criteria
- Section IV. Bidding Forms
- Section V. Eligible Countries
- Section VI. Bank Policy-Corrupt and Fraudulent Practices

#### **PART 2 Supply Requirements**

- Section VII. Schedule of Requirements

#### **PART 3 Contract**

- Section VIII. General Conditions of Contract (GCC)
- Section IX. Special Conditions of Contract (SCC)
- Section X. Contract Forms

6.2 The Invitation for Bids issued by the Purchaser is not part of the Bidding Document.

6.3 Unless obtained directly from the Purchaser, the Purchaser is not responsible for the completeness of the document, responses to requests for clarification, the Minutes of the pre-Bid meeting (if any), or Addenda to the Bidding Document in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Purchaser shall prevail.

6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents and to furnish with its Bid all information or documentation as is required by the Bidding Documents.

- 7. Clarification of Bidding Documents** 7.1 A Bidder requiring any clarification of the Bidding Document shall contact the Purchaser in writing at the Purchaser's address **specified in the BDS**. The Purchaser will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of bids within a period **specified in the BDS**. The Purchaser shall forward copies of its response to all Bidders who have acquired the Bidding Documents in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. If so **specified in the BDS**, the Purchaser shall also promptly publish its response at the web page **identified in the BDS**. Should the clarification result in changes to the essential elements of the Bidding Documents, the Purchaser shall amend the Bidding Documents following the procedure under ITB 8 and ITB 22.2.
- 8. Amendment of Bidding Document** 8.1 At any time prior to the deadline for submission of bids, the Purchaser may amend the Bidding Documents by issuing addenda.
- 8.2 Any addendum issued shall be part of the Bidding Documents and shall be communicated in writing to all who have obtained the Bidding Documents from the Purchaser in accordance with ITB 6.3. The Purchaser shall also promptly publish the addendum on the Purchaser's web page in accordance with ITB 7.1.
- 8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the Purchaser may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB 22.2.

### C. Preparation of Bids

- 9. Cost of Bidding** 9.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- 10. Language of Bid** 10.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in the language **specified in the BDS**. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into the language **specified in the BDS**, in which case, for purposes of interpretation of the Bid, such translation shall govern.

**11. Documents  
Comprising the  
Bid**

- 11.1 The Bid shall comprise the following:
- (a) Letter of Bid in accordance with ITB 12;
  - (b) completed Schedules, in accordance with ITB 12 and 14
  - (c) Bid Security or Bid-Securing Declaration, in accordance with ITB 19.1;
  - (d) Alternative bids, if permissible, in accordance with ITB 13;
  - (e) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2;
  - (f) documentary evidence in accordance with ITB 17 establishing the Bidder's qualifications to perform the contract if its bid is accepted;
  - (g) documentary evidence in accordance with ITB 17 establishing the Bidder's eligibility to bid;
  - (h) documentary evidence in accordance with ITB 16, that the Goods and Related Services to be supplied by the Bidder are of eligible origin;
  - (i) documentary evidence in accordance with ITB 16 and 30, that the Goods and Related Services conform to the Bidding Documents;
  - (j) any other document **required in the BDS**.
- 11.2 In addition to the requirements under ITB 11.1, bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all members and submitted with the bid, together with a copy of the proposed Agreement.
- 11.3 The Bidder shall furnish in the Letter of Bid information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.

**12. Letter of Bid  
and Price  
Schedules**

- 12.1. The Letter of Bid and Price Schedules shall be prepared using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 20.2. All blank spaces shall be filled in with the information requested.

**13. Alternative Bids**

- 13.1. Unless otherwise **specified in the BDS**, alternative bids shall not be considered.

**14. Bid Prices and Discounts**

- 14.1 The prices and discounts quoted by the Bidder in the Letter of Bid and in the Price Schedules shall conform to the requirements specified below.
- 14.2 All lots (contracts) and items must be listed and priced separately in the Price Schedules.
- 14.3 The price to be quoted in the Letter of Bid in accordance with ITB 12.1 shall be the total price of the bid, excluding any discounts offered.
- 14.4 The Bidder shall quote any discounts and indicate the methodology for their application in the Letter of Bid, in accordance with ITB 12.1.
- 14.5 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account, **unless otherwise specified in the BDSA** bid submitted with an adjustable price quotation shall be treated as nonresponsive and shall be rejected, pursuant to ITB 29. However, if in accordance with the BDS, prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract, a bid submitted with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.
- 14.6 If so specified in ITB 1.1, bids are being invited for individual lots (contracts) or for any combination of lots (packages). Unless otherwise **specified in the BDS**, prices quoted shall correspond to 100 % of the items specified for each lot and to 100% of the quantities specified for each item of a lot. Bidders wishing to offer discounts for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITB 14.4 provided the bids for all lots (contracts) are opened at the same time.
- 14.7 The terms EXW, CIP, and other similar terms shall be governed by the rules prescribed in the current edition of Incoterms, published by The International Chamber of Commerce, **as specified in the BDS.**
- 14.8 Prices shall be quoted as specified in each Price Schedule included in Section IV, Bidding Forms. The dis-aggregation of price components is required solely for the purpose of facilitating the comparison of bids by the Purchaser. This shall not in any way limit the Purchaser's right to contract on any of the terms offered. In quoting prices, the Bidder shall be free to use transportation through carriers registered in any eligible country, in accordance



with Section V, Eligible Countries. Similarly, the Bidder may obtain insurance services from any eligible country in accordance with Section V, Eligible Countries. Prices shall be entered in the following manner:

- (a) For Goods manufactured in the Purchaser's Country:
  - (i) the price of the Goods quoted EXW (ex-works, ex-factory, ex warehouse, ex showroom, or off-the-shelf, as applicable), including all customs duties and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the Goods;
  - (ii) any Purchaser's Country sales tax and other taxes which will be payable on the Goods if the contract is awarded to the Bidder; and
  - (iii) the price for inland transportation, insurance, and other local services required to convey the Goods to their final destination (Project Site) **specified in the BDS.**
- (b) For Goods manufactured outside the Purchaser's Country, to be imported:
  - (i) the price of the Goods, quoted CIP named place of destination, in the Purchaser's Country, as **specified in the BDS;**
  - (ii) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination (Project Site) **specified in the BDS;**
- (c) For Goods manufactured outside the Purchaser's Country, already imported:
  - (i) the price of the Goods, including the original import value of the Goods; plus any mark-up (or rebate); plus any other related local cost, and custom duties and other import taxes already paid or to be paid on the Goods already imported.
  - (ii) the custom duties and other import taxes already paid (need to be supported with documentary evidence) or to be paid on the Goods already imported;

- (iii) the price of the Goods, obtained as the difference between (i) and (ii) above;
  - (iv) any Purchaser's Country sales and other taxes which will be payable on the Goods if the contract is awarded to the Bidder; and
  - (v) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination (Project Site) **specified in the BDS**.
- (d) for Related Services, other than inland transportation and other services required to convey the Goods to their final destination, whenever such Related Services are specified in the Schedule of Requirements:
- (i) the price of each item comprising the Related Services (inclusive of any applicable taxes).

**15. Currencies of Bid and Payment**

- 15.1 The currency(ies) of the bid and the currency(ies) of payments shall be **as specified in the BDS**. The Bidder shall quote in the currency of the Purchaser's Country the portion of the bid price that corresponds to expenditures incurred in the currency of the Purchaser's country, unless otherwise **specified in the BDS**.
- 15.2 The Bidder may express the bid price in any currency. If the Bidder wishes to be paid in a combination of amounts in different currencies, it may quote its price accordingly but shall use no more than three foreign currencies in addition to the currency of the Purchaser's Country.

**16. Documents Establishing the Eligibility and Conformity of the Goods and Related Services**

- 16.1 To establish the eligibility of the Goods and Related Services in accordance with ITB 5, Bidders shall complete the country of origin declarations in the Price Schedule Forms, included in Section IV, Bidding Forms.
- 16.2 To establish the conformity of the Goods and Related Services to the Bidding Documents, the Bidder shall furnish as part of its Bid the documentary evidence that the Goods conform to the technical specifications and standards specified in Section VII, Schedule of Requirements.
- 16.3 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description of the essential technical and performance characteristics of the Goods and Related Services, demonstrating substantial responsiveness of the Goods and Related Services to the technical specification, and if applicable, a statement of

deviations and exceptions to the provisions of the Section VII, Schedule of Requirements.

16.4 The Bidder shall also furnish a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period **specified in the BDS** following commencement of the use of the goods by the Purchaser.

16.5 Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Purchaser in the Schedule of Requirements, are intended to be descriptive only and not restrictive. The Bidder may offer other standards of quality, brand names, and/or catalogue numbers, provided that it demonstrates, to the Purchaser's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in the Section VII, Schedule of Requirements.

**17. Documents  
Establishing the  
Eligibility and  
Qualifications  
of the Bidder**

17.1 To establish Bidder's their eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid, included in Section IV, Bidding Forms.

17.2 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Purchaser's satisfaction:

(a) that, if **required in the BDS**, a Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the form included in Section IV, Bidding Forms to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in the Purchaser's Country;

(b) that, if **required in the BDS**, in case of a Bidder not doing business within the Purchaser's Country, the Bidder is or will be (if awarded the contract) represented by an Agent in the country equipped and able to carry out the Supplier's maintenance, repair and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and

(c) that the Bidder meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria.

**18. Period of  
Validity of Bids**

18.1. Bids shall remain valid for the period **specified in the BDS** after the bid submission deadline date prescribed by the Purchaser in

accordance with ITB22.1. A bid valid for a shorter period shall be rejected by the Purchaser as nonresponsive.

- 18.2. In exceptional circumstances, prior to the expiration of the bid validity period, the Purchaser may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB Clause 19, it shall also be extended for a corresponding period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its bid, except as provided in ITB 18.3.
- 18.3. If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial bid validity, the Contract price shall be determined as follows:
  - (a) In the case of fixed price contracts, the Contract price shall be the bid price adjusted by the factor **specified in the BDS**.
  - (b) In the case of adjustable price contracts, no adjustment shall be made.
  - (c) In any case, bid evaluation shall be based on the bid price without taking into consideration the applicable correction from those indicated above.

## **19. Bid Security**

- 19.1. The Bidder shall furnish as part of its bid, either a Bid-Securing Declaration or a bid security, as **specified in the BDS**, in original form and, in the case of a bid security. In the amount and currency **specified in the BDS**.
- 19.2. A Bid Securing Declaration shall use the form included in Section IV, Bidding Forms.
- 19.3. If a bid security is specified pursuant to ITB 19.1, the bid security shall be a demand guarantee in any of the following forms at the Bidder's option :
  - (a) an unconditional guarantee issued by a bank or financial institution (such as an insurance, bonding or surety company);
  - (b) an irrevocable letter of credit;
  - (c) a cashier's or certified check; or
  - (d) another security **specified in the BDS**,

from a reputable source from an eligible country. If the unconditional guarantee is issued by a financial institution located outside the Purchaser's Country, the issuing financial institution shall have a correspondent financial institution located in the Purchaser's Country to make it enforceable. In the case of a bank guarantee, the bid security shall be submitted either using the Bid Security Form included in Section IV, Bidding Forms, or in another substantially similar format approved by the Purchaser prior to bid submission. The bid security shall be valid for twenty-eight (28) days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.

- 19.4. If a Bid Security is specified pursuant to ITB 19.1, any bid not accompanied by a substantially responsive Bid Security shall be rejected by the Purchaser as non-responsive.
- 19.5. If a Bid Security is specified pursuant to ITB 19.1, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the contract and furnishing the Performance Security pursuant to ITB 42.
- 19.6. The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the contract and furnished the required performance security.
- 19.7. The Bid Security may be forfeited or the Bid Securing Declaration executed:
  - (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid, or any extension thereto provided by the Bidder ; or
  - (b) if the successful Bidder fails to:
    - (i) sign the Contract in accordance with ITB41; or
    - (ii) furnish a performance security in accordance with ITB 42.
- 19.8. The bid security or Bid- Securing Declaration of a JV must be in the name of the JV that submits the bid. If the JV has not been legally constituted into a legally enforceable JV at the time of bidding, the bid security or Bid-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITB 4.1 and ITB 11.2.
- 19.9. If a bid security is **not required in the BDS**, pursuant to ITB 19.1, and

- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid, or
- (b) if the successful Bidder fails to: sign the Contract in accordance with ITB41; or furnish a performance security in accordance with ITB 42;

the Borrower may, **if provided for in the BDS**, declare the Bidder ineligible to be awarded a contract by the Purchaser for a period of time **as stated in the BDS**.

## 20. Format and Signing of Bid

- 20.1 The Bidder shall prepare one original of the documents comprising the bid as described in ITB 11 and clearly mark it "ORIGINAL." Alternative bids, if permitted in accordance with ITB 13, shall be clearly marked "ALTERNATIVE." In addition, the Bidder shall submit copies of the bid, in the number **specified in the BDS** and clearly mark them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.
- 20.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation **as specified in the BDS** and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the bid where entries or amendments have been made shall be signed or initialed by the person signing the bid.
- 20.3 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.
- 20.4 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the bid.

### D. Submission and Opening of Bids

## 21. Sealing and Marking of Bids

- 21.1. The Bidder shall enclose the original and all copies of the bid, including alternative bids, if permitted in accordance with ITB 13, in separate sealed envelopes, duly marking the envelopes as "ORIGINAL", "ALTERNATIVE" and "COPY." These envelopes containing the original and the copies shall then be enclosed in one single envelope.
- 21.2. The inner and outer envelopes shall:
  - (a) bear the name and address of the Bidder;

- (b) be addressed to the Purchaser in accordance with ITB22.1;
  - (c) bear the specific identification of this bidding process indicated in ITB1.1; and
  - (d) bear a warning not to open before the time and date for bid opening.
- 21.3. If all envelopes are not sealed and marked as required, the Purchaser will assume no responsibility for the misplacement or premature opening of the bid.
- 22. Deadline for Submission of Bids**
- 22.1. Bids must be received by the Purchaser at the address and no later than the date and time **specified in the BDS**. When **sospecified in the BDS**, bidders shall have the option of submitting their bids electronically. Bidders submitting bids electronically shall follow the electronic bid submission procedures **specified in the BDS**.
- 22.2. The Purchaser may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents in accordance with ITB 8, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.
- 23. Late Bids**
- 23.1. The Purchaser shall not consider any bid that arrives after the deadline for submission of bids, in accordance with ITB 22. Any bid received by the Purchaser after the deadline for submission of bids shall be declared late, rejected, and returned unopened to the Bidder.
- 24. Withdrawal, Substitution, and Modification of Bids**
- 24.1. A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization (the power of attorney) in accordance with ITB 20.2, (except that withdrawal notices do not require copies ). The corresponding substitution or modification of the bid must accompany the respective written notice. All notices must be:
- (a) prepared and submitted in accordance with ITB 20 and 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” or “MODIFICATION;” and
  - (b) received by the Purchaser prior to the deadline prescribed for submission of bids, in accordance with ITB 22.
- 24.2. Bids requested to be withdrawn in accordance with ITB 24.1 shall be returned unopened to the Bidders.

- 24.3. No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Letter of Bid or any extension thereof.

## 25. Bid Opening

- 25.1. Except as in the cases specified in ITB 23 and 24, the Purchaser shall publicly open and read out in accordance with ITB25.3 all bids received by the deadline at the date, time and place **specified in the BDS** in the presence of Bidders' designated representatives and anyone who choose to attend. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB 22.1, shall be as **specified in the BDS**.
- 25.2. First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. If the withdrawal envelope does not contain a copy of the "power of attorney" confirming the signature as a person duly authorized to sign on behalf of the Bidder, the corresponding bid will be opened. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Bid being substituted, and the substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at bid opening. Envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening. Only bids that are opened and read out at Bid opening shall be considered further.
- 25.3. All other envelopes shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the total Bid Prices, per lot (contract) if applicable, including any discounts and alternative bids; the presence or absence of a Bid Security, if required; and any other details as the Purchaser may consider appropriate. Only discounts and alternative bids read out at Bid opening shall be considered for evaluation. The Letter of Bid and the Price Schedules are to be initialed by representatives of the Purchaser attending bid opening in the manner **specified in the BDS**. The Purchaser shall neither discuss the merits of any bid nor reject any bid (except for late bids, in accordance with ITB 25.1).
- 25.4. The Purchaser shall prepare a record of the bid opening that shall include, as a minimum: the name of the Bidder and whether there



is a withdrawal, substitution, or modification; the Bid Price, per lot (contract) if applicable, including any discounts, and alternative bids; and the presence or absence of a Bid Security, if one was required. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.

### **E. Evaluation and Comparison of Bids**

- 26. Confidentiality**
- 26.1 Information relating to the evaluation of bids and recommendation of contract award, shall not be disclosed to bidders or any other persons not officially concerned with the bidding process until information on Contract Award is communication to all Bidders in accordance with ITB 40.
- 26.2 Any effort by a Bidder to influence the Purchaser in the evaluation or contract award decisions may result in the rejection of its Bid.
- 26.3 Notwithstanding ITB 26.2, from the time of bid opening to the time of Contract Award, if any Bidder wishes to contact the Purchaser on any matter related to the bidding process, it should do so in writing.
- 27. Clarification of Bids**
- 27.1 To assist in the examination, evaluation, comparison of the bids, and qualification of the Bidders, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder in respect to its Bid and that is not in response to a request by the Purchaser shall not be considered. The Purchaser's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Purchaser in the Evaluation of the bids, in accordance with ITB 31.
- 27.2 If a Bidder does not provide clarifications of its bid by the date and time set in the Purchaser's request for clarification, its bid may be rejected.

- 28. Deviations, Reservations, and Omissions**
- 28.1 During the evaluation of bids, the following definitions apply:
- (a) “Deviation” is a departure from the requirements specified in the Bidding Documents;
  - (b) “Reservation” is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Documents; and
  - (c) “Omission” is the failure to submit part or all of the information or documentation required in the Bidding Documents
- 29. Determination of Responsiveness**
- 29.1 The Purchaser’s determination of a bid’s responsiveness is to be based on the contents of the bid itself, as defined in ITB 11.
- 29.2 A substantially responsive Bid is one that meets the requirements of the Bidding Documents without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:
- (a) if accepted, would
    - (i) affect in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
    - (ii) limit in any substantial way, inconsistent with the Bidding Documents, the Purchaser’s rights or the Bidder’s obligations under the Contract; or
  - (b) if rectified, would unfairly affect the competitive position of other bidders presenting substantially responsive bids.
- 29.3 The Purchaser shall examine the technical aspects of the bid submitted in accordance with ITB 16 and ITB 17, in particular, to confirm that all requirements of Section VII, Schedule of Requirements have been met without any material deviation or reservation, or omission.
- 29.4 If a bid is not substantially responsive to the requirements of Bidding Documents, it shall be rejected by the Purchaser and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
- 30. Nonconformities, Errors and Omissions**
- 30.1 Provided that a Bid is substantially responsive, the Purchaser may waive any nonconformities in the Bid.
- 30.2 Provided that a bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or

documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

30.3 Provided that a bid is substantially responsive, the Purchaser shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component.

**31. Correction of  
Arithmetical  
Errors**

31.1 Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:

- (a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;
- (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

31.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 31.1, shall result in the rejection of the Bid.

**32. Conversion to  
Single Currency**

32.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted in a single currency as **specified in the BDS.**

**33. Margin of  
Preference**

33.1 **Unless otherwise specified in the BDS,** a margin of preference shall not apply.

**34. Evaluation of  
Bids**

34.1 The Purchaser shall use the criteria and methodologies listed in this Clause. No other evaluation criteria or methodologies shall be permitted.

34.2 To evaluate a Bid, the Purchaser shall consider the following:

- (a) evaluation will be done for Items or Lots (contracts), as **specified in the BDS**; and the Bid Price as quoted in accordance with clause 14;
  - (b) price adjustment for correction of arithmetic errors in accordance with ITB 31.1;
  - (c) price adjustment due to discounts offered in accordance with ITB 14.3;
  - (d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 32;
  - (e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 30.3;
  - (f) the additional evaluation factors are specified in Section III, Evaluation and Qualification Criteria;
- 34.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.
- 34.4 If these Bidding Documents allows Bidders to quote separate prices for different lots (contracts), the methodology to determine the lowest evaluated price of the lot (contract) combinations, including any discounts offered in the Letter of Bid Form, is specified in Section III, Evaluation and Qualification Criteria
- 34.5 The Purchaser's evaluation of a bid will exclude and not take into account:
- (a) in the case of Goods manufactured in the Purchaser's Country, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the Bidder;
  - (b) in the case of Goods manufactured outside the Purchaser's Country, already imported or to be imported, customs duties and other import taxes levied on the imported Good, sales and other similar taxes, which will be payable on the Goods if the contract is awarded to the Bidder;
  - (c) any allowance for price adjustment during the period of execution of the contract, if provided in the bid.
- 34.6 The Purchaser's evaluation of a bid may require the consideration of other factors, in addition to the Bid Price quoted in accordance with ITB 14. These factors may be related to the characteristics, performance, and terms and conditions of purchase of the Goods

and Related Services. The effect of the factors selected, if any, shall be expressed in monetary terms to facilitate comparison of bids, unless otherwise **specified in the BDS** from amongst those set out in Section III, Evaluation and Qualification Criteria. The criteria and methodologies to be used shall be as specified in ITB 34.2 (f).

- 35. Comparison of Bids** 35.1 The Purchaser shall compare the evaluated prices of all substantially responsive bids established in accordance with ITB 34.2 to determine the lowest evaluated bid. The comparison shall be on the basis of CIP (place of final destination) prices for imported goods and EXW prices, plus cost of inland transportation and insurance to place of destination, for goods manufactured within the Borrower's country, together with prices for any required installation, training, commissioning and other services. The evaluation of prices shall not take into account custom duties and other taxes levied on imported goods quoted CIP and sales and similar taxes levied in connection with the sale or delivery of goods.
- 36. Qualification of the Bidder** 36.1 The Purchaser shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated and substantially responsive bid meets the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.
- 36.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17.
- 36.3 An affirmative determination shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the bid, in which event the Purchaser shall proceed to the next lowest evaluated bid to make a similar determination of that Bidder's qualifications to perform satisfactorily.
- 37. Purchaser's Right to Accept Any Bid, and to Reject Any or All Bids** 37.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.

## F. Award of Contract

- 38. Award Criteria** 38.1 Subject to ITB 37.1, the Purchaser shall award the Contract to the Bidder whose bid has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Documents,

provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

**39. Purchaser's  
Right to Vary  
Quantities at  
Time of Award**

39.1 At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods and Related Services originally specified in Section VII, Schedule of Requirements, provided this does not exceed the percentages **specified in the BDS**, and without any change in the unit prices or other terms and conditions of the bid and the Bidding Documents.

**40. Notification of  
Award**

40.1 Prior to the expiration of the period of bid validity, the Purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification letter (hereinafter and in the Conditions of Contract and Contract Forms called the "Letter of Acceptance") shall specify the sum that the Purchaser will pay the Supplier in consideration of the supply of Goods (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price"). At the same time, the Purchaser shall also notify all other Bidders of the results of the bidding and shall publish in *UNDB online* the results identifying the bid and lot (contract) numbers and the following information:

- (i) name of each Bidder who submitted a Bid;
- (ii) bid prices as read out at Bid Opening;
- (iii) name and evaluated prices of each Bid that was evaluated;
- (iv) name of bidders whose bids were rejected and the reasons for their rejection; and
- (v) name of the successful Bidder, and the Price it offered, as well as the duration and summary scope of the contract awarded.

40.2 Until a formal Contract is prepared and executed, the notification of award shall constitute a binding Contract.

40.3 The Purchaser shall promptly respond in writing to any unsuccessful Bidder who, after notification of award in accordance with ITB 40.1, requests in writing the grounds on which its bid was not selected.

**41. Signing of  
Contract**

41.1 Promptly after notification, the Purchaser shall send the successful Bidder the Contract Agreement.

- 41.2 Within twenty-eight (28) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Purchaser.
- 41.3 Notwithstanding ITB 41.2 above, in case signing of the Contract Agreement is prevented by any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, where such export restrictions arise from trade regulations from a country supplying those products/goods, systems or services, the Bidder shall not be bound by its bid, always provided however, that the Bidder can demonstrate to the satisfaction of the Purchaser and of the Bank that signing of the Contract Agreement has not been prevented by any lack of diligence on the part of the Bidder in completing any formalities, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract.

**42. Performance  
Security**

- 42.1 Within twenty eight (28) days of the receipt of notification of award from the Purchaser, the successful Bidder, if required, shall furnish the Performance Security in accordance with the GCC, subject to ITB 34.5, using for that purpose the Performance Security Form included in Section X, Contract Forms, or another Form acceptable to the Purchaser. If the Performance Security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Purchaser. A foreign institution providing a bond shall have a correspondent financial institution located in the Purchaser's Country.
- 42.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Purchaser may award the Contract to the next lowest evaluated Bidder, whose bid is substantially responsive and is determined by the Purchaser to be qualified to perform the Contract satisfactorily.





## Section II. Bid Data Sheet (BDS)

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

ITB Clause Reference	A. General
ITB 1.1	The reference number of the Invitation for Bids is <b><i>:21/TCSP/GOODS/P8/2016/TR /TC (Package - 8)-Revised</i></b>
ITB 1.1	The Purchaser is: <b>“The Development Commissioner (MSME), Ministry of Micro Small and Medium Enterprises, Government of India”</b>
ITB 1.1	The name of the ICB is: <b>Supply of 16 Lots of Machines and Equipment required for Production at existing Technology Centers</b> The identification number of the ICB is: <b><i>21/TCSP/GOODS/P8/2016/TR/TC (Package -8 )-Revised</i></b> The number and identification of lots (contracts)comprising this ICB is: <b>Lot 1, Lot 2, .....Lot 16</b>
ITB 2.1	The Borrower is, <b>Government of India</b>
ITB 2.1	<b>Loan Agreement Amount: US\$ 200 million.</b>
ITB 2.1	The name of the Project is: <b>TECHNOLOGY CENTRE SYSTEMS PROGRAMME (TCSP) Project ID is “P145502”</b>
ITB 4.1	Maximum number of members in the JV shall be: <b><i>Joint Venture not permitted</i></b>
IITB 4.4	A list of debarred firms and individuals is available on the Bank’s external website: <a href="http://www.worldbank.org/debarr">http://www.worldbank.org/debarr</a> .
	<b>B. Contents of Bidding Documents</b>
ITB 7.1	For <b><u>Clarification of bid purposes</u></b> only, the Purchaser’s address is: The contact information for requesting clarifications is: Attention: The Director (Tool Room), O/o DC MSME Address: Room No 723 (A), A Wing, 7th Floor, Nirman Bhawan, Maulana Azad Road, New Delhi – 110108 Tel: +91 11 23062561; Fax: +91 11 23061068

	<p>E mail: <a href="mailto:tcsp@dcmsme.gov.in">tcsp@dcmsme.gov.in</a></p> <p>All requests for clarification(s) in writing/e-mail should be received by the purchaser no later than: <b>1700 hrs of 8<sup>th</sup> May 2016</b> (a day earlier than the date on which Pre-bid meeting shall be held)</p>
<b>ITB 7.1</b>	<p>Web Page: <a href="http://www.dcmsme.gov.in/tcsp.html">www.dcmsme.gov.in/tcsp.html</a></p> <p>The prospective Bidders are advised to remain in touch with the website for any updates in respect of this ICB.</p>
<b>ITB 7.2</b>	<p>Add the following as clause 7.2:</p> <p>Pre Bid meeting: - The bidder or bidder's authorized representative is invited to attend a pre bid meeting which will take place as per details given below: -</p> <p><b>Date: 9<sup>th</sup> May, 2016</b> <b>Time: 1600 hrs (IST)</b></p> <p><b>Venue:</b> Office of Development Commissioner, Micro, Small &amp; Medium Enterprise (MSME), Committee Room , A Wing, 7th Floor, Nirman Bhawan, Maulana Azad Road, New Delhi – 110108 Tel: +91 11 23062561; Fax: +91 11 23061068</p> <p>Non-attendance at the pre bid meeting will not be a cause for disqualification of a bidder. The person attending the pre bid conference should have valid authorization from the authorized signatory of the prospective bidder.</p> <p>The prospective Bidders shall intimate the name of representative(s) (not more than two from one organization) to the above e-mail ID latest by 10.00 Hrs. on 9<sup>th</sup> May, 2016 for facilitating entry passes in Nirman Bhawan.</p>
	<b>C. Preparation of Bids</b>
<b>ITB 10.1</b>	<p>The language of all correspondence and documents related to the bid is <b>English</b>. Moreover, the key passages of all accompanying printed literature in any other language must be translated into the above language.</p>
<b>ITB 11.1 (j)</b>	<p>All the documents as stated in Paragraphs ITB 11.1 (a) through (j) need to be submitted.</p>
<b>ITB 13.1</b>	<p>Alternative Bids shall not be considered. The bidder should not submit more than one bid for any lot.</p>

<b>ITB 14.2(a)</b>	Add the following as clause 14.2 (a):  Bidders shall quote for the complete requirements of goods and services specified under Schedule of requirement on a single responsibility basis for each lot(s) bidder proposes to supply, failing which such bids will not be taken in to account for evaluation and will not be considered for award.														
<b>ITB 14.4</b>	Conditional Discounts shall not be taken into account for the purpose of evaluation of Bids. However, any unconditional discount offered shall be taken for the purpose of evaluation. Conditional discounts shall be used for the purpose of award of contract in case Bidder is otherwise qualifying during the evaluation.														
<b>ITB 14.5</b>	The prices quoted by the Bidder <i>shall not</i> be subject to adjustment during the performance of the Contract.														
<b>ITB 14.6</b>	Prices quoted for each lot (contract) shall correspond to 100% of the items specified for each lot (contract).  Bids are being invited for individual lots and any discounts offered for more than one Lot shall not be taken into account for evaluation of bids.														
<b>ITB 14.7</b>	The Incoterms edition is: <i>“Incoterms 2010” or latest.</i>														
<b>ITB 14.8 (a) (i)</b>	Insert the words “excise and other” in between the words “customs” and “duties” in Line 3 of this sub-clause.														
<b>ITB 14.8 (a) (iii), 14.8 (b) (ii) and 14.8 (c)(v)</b>	<table border="0"> <thead> <tr> <th>Sr. No.</th> <th>Final destination (Project Site)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td><b>MSME TOOL ROOM Jamshedpur (Indo-Danish Tool Room)</b> Ministry of MSME, Govt. of India Society, M-4 (Part), Phase VI, Tata Kandra Road, Gamharia, Jamshedpur 832 108</td> </tr> <tr> <td>2</td> <td><b>Central Institute of Hand Tools</b> G.T. Road, Bye Pass, Opp. Shaheed Bhagat Singh Colony, Jalandhar City - 144 008, Punjab, India</td> </tr> <tr> <td>3</td> <td><b>CENTRAL TOOL ROOM</b> A-5, Focal Point, Ludhiana - 141 010, Punjab, India</td> </tr> <tr> <td>4</td> <td><b>CENTRAL INSTITUTE OF TOOL DESIGN</b> Balnagar, HYDERABAD - 500 037, India</td> </tr> <tr> <td>5</td> <td><b>MSME - TOOL ROOM KOLKATA</b> (Central Tool Room &amp; Training Centre), Government of India Society, Ministry of Micro, Small &amp; Medium Enterprises, Bon Hooghly Industrial Area, Kolkata – 700 108</td> </tr> <tr> <td>6</td> <td><b>MSME TOOL ROOM, INDORE (Indo-German Tool Room, Indore)</b> 291/B-302/A, Sector E, Industrial Area, Sanwer Road, INDORE - 452 015 (M.P.)</td> </tr> </tbody> </table>	Sr. No.	Final destination (Project Site)	1	<b>MSME TOOL ROOM Jamshedpur (Indo-Danish Tool Room)</b> Ministry of MSME, Govt. of India Society, M-4 (Part), Phase VI, Tata Kandra Road, Gamharia, Jamshedpur 832 108	2	<b>Central Institute of Hand Tools</b> G.T. Road, Bye Pass, Opp. Shaheed Bhagat Singh Colony, Jalandhar City - 144 008, Punjab, India	3	<b>CENTRAL TOOL ROOM</b> A-5, Focal Point, Ludhiana - 141 010, Punjab, India	4	<b>CENTRAL INSTITUTE OF TOOL DESIGN</b> Balnagar, HYDERABAD - 500 037, India	5	<b>MSME - TOOL ROOM KOLKATA</b> (Central Tool Room & Training Centre), Government of India Society, Ministry of Micro, Small & Medium Enterprises, Bon Hooghly Industrial Area, Kolkata – 700 108	6	<b>MSME TOOL ROOM, INDORE (Indo-German Tool Room, Indore)</b> 291/B-302/A, Sector E, Industrial Area, Sanwer Road, INDORE - 452 015 (M.P.)
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<b>ITB 14.8 (b) (i)</b>	CIP: Kolkata/Mumbai/Vizag or any other air/sea port in India as applicable.  The terms “CIP” shall have the meanings as defined in INCOTERMS 2010 except that the representative of the <b>supplier shall arrange custom clearance of the goods at the port of destination and the transportation and unloading of the goods at Final Destination (Project Site).</b>														

	The necessary documents required for custom clearance shall be provided by the O/o DC MSME.
<b>ITB 14.8</b>	<p>Add the following at the end of existing Clause :</p> <p>(e) Bidders may like to ascertain availability of Deemed Export or other Benefits. They are solely responsible for obtaining such benefits, which they have considered in their bid and in case of failure to receive such benefits for reasons whatsoever, the Purchaser will not compensate the bidder.</p> <p>Where the bidder has quoted taking into account such benefits, he must give all information required along with his bid in the format as per Form “10. Declaration Regarding Deemed Export Benefits” provided in Section IV for issue of Project Authority/ Payment/Other Certificates in terms of the Import Export Policy or central excise notifications. The Project Authority / Payment/Other Certificates will be issued by O/o DC MSME on this basis only and no subsequent change will be permitted. Where such certificates are issued by the Purchaser, Excise Duty if any will not be reimbursed separately.</p> <p>Bids which do not conform to this provision or any condition by the bidder which makes the bid subject to availability of deemed export benefits or compensation on withdrawal of or any variations to the deemed export benefits scheme, will be treated as non – responsive and rejected.</p>
<b>ITB 15.1</b>	If the bidder is not from Purchaser’s country, the Bidder is required to quote in Indian Rupees the portion of the bid price that corresponds to expenditures incurred in India.
<b>ITB 16.2</b>	To establish the conformity of the Goods and Related Services to the Bidding Documents, the Bidder shall furnish clause by clause compliance statement to the technical specifications.
<b>ITB 16.3</b>	Literature, Drawings, Data and Deviation statement if any is to be furnished by the Bidder.
<b>ITB 16.4</b>	The bidder shall ensure the availability of spare parts and availability of after sales service for a period of <b>five years</b> after completion of one year standard Warranty period.
<b>ITB 17.2 (a)</b>	Manufacturer’s authorization is: <i>required as per Form in Section IV</i>

	Authorization obtained from dealers/distributor is not acceptable and such bid will be considered non-responsive.
<b>ITB 17.2 (b)</b>	<p>After Sales service is required.</p> <p><b>Details of Representative/ Agent who will be responsible for carrying out supplier's maintenance, repair and spare parts stocking obligations shall be furnished in Letter of Bid.</b> Alternatively, the bidder (if awarded the contract) shall have to <b>furnish details of Representative/Agent before signing the contract</b> which shall be included in the contract.</p>
<b>ITB 18.1</b>	The bid validity period shall be <b>120</b> days from the date of bid closing.
<b>ITB 18.3 (a)</b>	<b>Not applicable</b>
<b>ITB 19.1</b>	<p>A <b>Bid Security</b> is required. The bid security will be in Indian rupees (INR) or in US Dollars. The amount and currency of bid security required for each Lot is specified in Annexure A attached to the Bid Data Sheet.</p> <p><b>Bidders have the option of submitting one bid security for the combined total amount of the lots for which bids have been submitted. However, if the amount of bid security is less than the total required amount, the Purchaser will determine for which lot or lots the bid security amount shall be applied.</b></p> <p>Bank guarantee shall remain valid for a period of <b>45</b> days beyond the validity period of Bids (i.e.165 days from bid opening date or extended bid opening date), as extended, if applicable.</p> <p>IFSC code of Purchaser's Bank is SBIN0000583.</p>
<b>ITB 19.2</b>	Deleted
<b>ITB 19.3</b>	<p>Add the following after existing entries:-</p> <p>The bid security shall, be in the form of a Bank Guarantee and the named beneficiary shall be The Development Commissioner, MSME, Ministry of MSME, <i>Government of India, New Delhi</i></p> <p>The bank guarantee shall be in the format provided in Section IV of the Bidding documents. The Bank Guarantee shall be issued by a bank located in the Purchaser's country (Nationalized or Scheduled commercial Bank in India) or issued by a reputed foreign Bank and routed through a correspondent Bank (Nationalized or Scheduled commercial Bank in India),</p> <p>Bid security in any other form will not be accepted and bid will be treated as non-responsive and rejected.</p>

<b>ITB 19.9</b>	<b>Deleted</b>
<b>ITB 20.1</b>	In addition to the <b>One original</b> of the bid, <b>Two hard copies</b> and <b>1 soft copy in CD</b>
<b>ITB 20.2</b>	<p>The written confirmation of authorization ( in the form of a Letter on Bidder's Letter head) to sign on behalf of the Bidder confirming the signature as a person duly authorized to sign should be attached with the bid. The name and position held by each person signing authorization must be typed below the signature.</p> <p><b>Each and every page of the entire bid should be numbered serially and need to be signed and stamped by the authorized signatory.</b></p>
<b>D. Submission and Opening of Bids</b>	
<b>ITB 21.2</b>	<p>The <b>inner envelopes containing separately the ORIGINAL BID and COPIES of the BID</b> should be <b>inserted in outer envelope</b>. All envelopes shall bear the following identification marks:</p> <p>i. <b>Not to open before: 1530 Hrs. of 29<sup>th</sup> June, 2016</b></p> <p>ii. ICB No. <i>21/TCSP/GOODS/P8/2016/TR /TC (Package - 8)-Revised For supply 16 Lots of Machines and Equipment required for Production at existing Technology Centers</i></p> <p>Lot 1, Lot 2.....Lot 16 as applicable</p> <p>iii. <b>Purchaser's address for submission of bid:</b>  The Director (Tool Room),  Office of Development Commissioner,  Micro, Small &amp; Medium Enterprise (MSME),  Address: Room No 723 (A), A Wing, 7th Floor, Nirman Bhawan,  Maulana Azad Road, New Delhi – 110108  Tel: +91 11 23062561; Fax: +91 11 23061068</p> <p>iv. <b>Name and address of the Bidder: .....</b></p>
<b>ITB 22.1</b>	<p>For bid submission purposes, the Purchaser's address is:</p> <p>The Director (Tool Room),  Office of Development Commissioner,  Micro, Small &amp; Medium Enterprise (MSME) Address: Room No 723 (A), A Wing,  7th Floor, Nirman Bhawan,  Maulana Azad Road, New Delhi – 110108  Tel: +91 11 23062561;  Fax: +91 11 23061068  E mail: <a href="mailto:tcsp@dcmsme.gov.in">tcsp@dcmsme.gov.in</a></p>

	<p><b>The deadline for bid submission is:</b></p> <p><b>Date: 29<sup>th</sup> June, 2016</b></p> <p><b>Time: 1500 Hrs (IST)</b></p>
<b>ITB 22.1</b>	Bidders shall <b>not</b> have the option of submitting their bids electronically.
<b>ITB 25.1</b>	<p>The bid opening shall take place at:</p> <p>Office of Development Commissioner, Micro, Small &amp; Medium Enterprise (MSME), Committee Room , A Wing, 7th Floor, Nirman Bhawan, Maulana Azad Road, New Delhi – 110108 Tel: +91 11 23062561; Fax: +91 11 23061068</p> <p>The opening of bids shall be as per below specified date and time:</p> <p><b>Date: 29<sup>th</sup> June, 2016</b></p> <p><b>Time: 1530 Hrs (IST)</b></p> <p>The person attending the bid opening should have valid authorization from the authorized signatory of the bidder.</p> <p>The Bidders shall intimate the name of representative(s) (not more than 2 from one organization) to the above e-mail ID latest by <b>10.00 hrs on 29<sup>th</sup> June, 2016</b> for facilitating entry passes in Nirman Bhawan.</p>
<b>ITB 25.3</b>	<p>The Letter of Bid and Price schedule(s) shall be initialed by at least 2 representatives of the Purchaser conducting Bid opening and any modifications to the unit or total price in the bids shall be initialed.</p> <p>Each Bid shall be numbered, and following shall be read out</p> <ol style="list-style-type: none"> <li>1. Name of the bidder</li> <li>2. Whether there is any modification to the Bid.</li> <li>3. Bid Price for each lot offered and discount if any.</li> <li>4. Presence or absence of bid security and its amount</li> </ol>
<b>E. Evaluation and Comparison of Bids</b>	
<b>ITB 32.1</b>	<p>The currency that shall be used for bid evaluation and comparison purposes to convert all bid prices expressed in various currencies into a single currency is: <b>INR</b></p> <p>The source of exchange rate shall be: <b>B. C. Selling rate of exchange published by the State Bank of India, New Delhi</b></p> <p>The date for the exchange rate shall be <i>the deadline date for submission of the bids.</i></p>

<b>ITB 33.1</b>	A margin of domestic preference <i>shall apply</i> . <b>The methodology for calculating the margin of preference and the criteria for its application shall be as specified in Section III – Evaluation and Qualification Criteria.</b>
<b>ITB 34.2(a)</b>	Evaluation will be done for each lot separately.  Note:  <i>Bids will be evaluated lot by lot. Bidder should quote for the complete requirement of goods including essential accessories and services specified in technical specification of each lot as specified in ITB clause 14.6, failing which such bids will be treated as non-responsive.</i>
<b>ITB 34.4</b>	Bidders shall submit separate Price Schedule for each offered lot in the relevant Price Schedules.
<b>ITB 34.5 (a)</b>	Insert the words “excise” in between the words “Country” and “sales” in Line 2 of this sub-clause.
<b>ITB 34.6</b>	The adjustments shall be determined using the following criteria, from amongst those set out in Section III, Evaluation and Qualification Criteria: (a) Deviation in Delivery schedule: <b>Yes</b> Adjustment as referred to in paragraph 2.1(a) of Section III will be applied to the bid price for bids offering delivery beyond the delivery period (specified in Section VII - Schedule of Requirements) @ 0.5% per week or part of week. No credit will be given for the deliveries before the delivery period and bids offering delivery beyond 6 weeks over and above the delivery period mentioned in List of Goods and Delivery Schedule will be treated as non-responsive.  (b) Deviation in payment schedule: <b>Not Applicable</b> (c) the cost of major replacement components, mandatory spare parts, and service: <b>Not Applicable</b> (d). Availability in the Purchaser’s Country of spare parts and after sales services for equipment offered in the bid. <b>Yes</b> <b>If the bidder quotes separately for setting up of the above services, then this cost will be added for the evaluation purpose.</b> (e) The projected operating and maintenance costs during the life of the equipment. <b>Not Applicable</b> (f) The performance and productivity of the equipment offered. <b>Not Applicable</b> (g) <b>The Cost of Annual Maintenance Services for one year beyond warranty period. Yes</b>
	<b>F. Award of Contract</b>



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<b>ITB 39.1</b>	<b>Not Applicable</b>
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## Annexure A

### Refer to the ITB 19.1

Lot No.	Machine	Bid Security Amount
1	CNC Lathe Machine	INR 266200 or USD 4100
2	CNC Turn Mill Centre with C & Y Axis	INR 580800 or USD 9000
3	CNC 3 Axis Milling Machine - High Speed	INR 290400 or USD 4500
4	CNC 3 Axis Milling Machine	INR 484000 or USD 7500
5	CNC Vertical Machining Centre -Large Bed	INR 363000 or USD 5600
6	CNC Vertical Machining Centre	INR 363000 or USD 5600
7	4 Axis CNC Horizontal Milling Machine With Vertical Attachment	INR 363000 or USD 5600
8	5 Axis CNC Milling Machine - Large Bed	INR 847000 or USD 14000
9	5 Axis CNC Milling Machine	INR 1815000 or USD 28000
10	5 Axis CNC Milling Machine with Extra Tool	INR 665500 or USD 11000
11	CNC Vertical Double Column Milling Machine	INR 847000 or USD 14000
12	High Precision CNC EDM Die Sinking Machine	INR 1996500 or USD 31000
13	CNC Wire Cut EDM Machine	INR 1452000 or USD 23000
14	NC Cylindrical Grinding Machine	INR 871200 or USD 14000
15	Metal Laser Sintering Machine	INR 1474000 or USD 22700
16	3D Polymer Additive Manufacturing Machine based on SLS	INR 836000 or USD 13000

## **Section III. Evaluation and Qualification Criteria**

### **Contents**

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### 1. Margin of Preference (ITB 33)

The Purchaser will grant a margin of preference to goods manufactured in the Purchaser's country for the purpose of bid comparison, in accordance with the procedures outlined in subsequent paragraphs.

Bids will be classified in one of three groups, as follows:

- (a) **Group A:** Bids offering goods manufactured in the Purchaser's Country, for which (i) labor, raw materials, and components from within the Purchaser's Country account for more than thirty (30) percent of the EXW price; and (ii) the production facility in which they will be manufactured or assembled has been engaged in manufacturing or assembling such goods at least since the date of bid submission.
- (b) **Group B:** All other bids offering Goods manufactured in the Purchaser's Country.
- (c) **Group C:** Bids offering Goods manufactured outside the Purchaser's Country that have been already imported or that will be imported.

To facilitate this classification by the Purchaser, the Bidder shall complete whichever version of the Price Schedule furnished in the Bidding Documents is appropriate provided, however, that the completion of an incorrect version of the Price Schedule by the Bidder shall not result in rejection of its bid, but merely in the Purchaser's reclassification of the bid into its appropriate bid group.

The Purchaser will first review the bids to confirm the appropriateness of, and to modify as necessary, the bid group classification to which bidders assigned their bids in preparing their Bid Forms and Price Schedules.

All evaluated bids in each group will then be compared to determine the lowest evaluated bid of each group. Such lowest evaluated bids shall be compared with each other and if as a result of this comparison a bid from Group A or Group B is the lowest, it shall be selected for the award.

If as a result of the preceding comparison, the lowest evaluated bid is a bid from Group C, all bids from Group C shall be further compared with the lowest evaluated bid from Group A after adding to the evaluated price of goods offered in each bid from Group C, for the purpose of this further comparison only, an amount equal to 15% (fifteen percent) of the respective CIP bid price for goods to be imported and already imported goods. Both prices shall include unconditional discounts and be corrected for arithmetical errors. If the bid from Group A is the lowest, it shall be selected for award. If not, the lowest evaluated bid from Group C shall be selected as paragraph above."

## 2. Evaluation (ITB 34)

### 2.1. Evaluation Criteria (ITB 34.6)

The Purchaser's evaluation of a bid may take into account, in addition to the Bid Price quoted in accordance with ITB Clause 14.8, one or more of the following factors as specified in ITB Sub-Clause 34.2 (f) and in BDS referring to ITB 34.6, using the following criteria and methodologies.

- (a) Delivery schedule. (as per Incoterms specified in the BDS): **Yes**

*The Goods specified in the List of Goods are required to be delivered within the delivery period specified in Section VII, Schedule of requirements. No credit will be given for earlier deliveries within the delivery period specified, and bids offering delivery beyond 6 weeks over and above the delivery period specified in List of Goods and Delivery Schedule shall be treated as non-responsive. Within this acceptable period, an adjustment, as specified in BDS Sub-Clause 34.6, will be added, for evaluation purposes only, to the bid price of bids offering deliveries later than the delivery period specified in Section VII, Schedule of requirements.*

- (b) Deviation in payment schedule.

**Deviation in the payment schedule indicated in SCC 16.1 clause is not acceptable.**

- (c) Cost of major replacement components, mandatory spare parts, and service.

***Not applicable***

- (d) Availability in the Purchaser's Country of spare parts and after sales services for equipment offered in the bid. **Yes**

If the bidder quotes separately for setting up of the above services, then this cost will be added for the evaluation purpose.

- (e) The projected operating and maintenance costs during the life of the equipment. ***Not Applicable***

- (f) The performance and productivity of the equipment offered. ***Not Applicable***

- (g) The cost of one year Annual Maintenance Services beyond warranty period. ***Applicable***

### 2.2. Multiple Contracts (ITB 34.4)

The Purchaser shall award contracts to the Bidder that offers the lowest evaluated bid for the lot(s) the bidder proposes to supply and meets the post-qualification criteria (this Section III, Sub-Section ITB 36.1 Post-Qualification Requirements)

The Purchaser shall evaluate only lots or contracts that include full quantity of items per lot and quantities per item as specified in ITB sub-clause 14.6

The Purchaser shall take into account the lowest-evaluated bid for each lot.

Conditional Discounts as well as any discounts offered for lot combinations shall not be taken into account for the purpose of evaluation of Bids but shall be availed for the purpose of award of contract in case the bidder is otherwise qualifying during the evaluation.

However, any unconditional discount offered shall be taken for the purpose of evaluation. Conditional discounts shall be used for the purpose of placement of contract in case Bidder is otherwise qualifying during the evaluation.

### **2.3. Alternative Bids (ITB 13.1)**

Alternate bids shall not be considered.

## **3. Qualification (ITB 36)**

### **3.1 Post qualification Requirements (ITB 36.1)**

After determining the lowest-evaluated bid in accordance with ITB 35.1, the Purchaser shall carry out the post qualification of the Bidder in accordance with ITB 36, using only the requirements specified. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications.

#### **(A) If Bidder is a Manufacturer:**

##### **i. Experience and Technical Capacity:**

The bidder shall be a manufacturer, who has designed, manufactured, supplied, erected, commissioned the equipment globally of the same or similar type & capacity of at least two (2) times the quantity indicated against the lot in the Schedule of Requirements (which the bidder proposes to supply), during the last three years out of which a quantity of at least one (1) times the quantity of the product offered for supply should be in successful operation at least for one (1) year on the date of bid opening. **To demonstrate the above, the Bidder shall furnish details of experience and past performance for the equipment offered and for those of similar nature and submit Performance statement as per Performa for Performance Statement given under Section IV – Form 9A.**

##### **ii. Documentary Evidence:**

The bidder has to **enclose copy/copies of the contract(s) executed** (included in Performance statement as per **Form 9A**) for supply of the item being offered.

#### **(B) If Bidder is not manufacturer:**

- i. If a **Bidder is not a Manufacturer**, but is offering the Goods on behalf of the Manufacturer under Manufacturer's Authorization Form (Section IV, Bidding

Forms), the **Manufacturer shall demonstrate the above qualifications (A) (i) & (ii)** and submit all necessary documents for manufacturer.

- ii. The **Bidder (Authorized representative of the manufacturer) shall demonstrate** that bidder has been in the business of supplying various types of Machinery and Equipment during past three years and have supplied and serviced Machinery and Equipment during the period. To demonstrate this, the bidder shall furnish **Performance statement for last three years as per Performa for Performance Statement given under Section IV – Form 9B and enclose copies of the contract.**





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## Section IV. Bidding Forms

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## 1. Letter of Bid

*The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.*

*Note: All italicized text is for use in preparing these form and shall be deleted from the final products.*

Date: **[insert date (as day, month and year) of Bid Submission]**

ICB No.: **[insert number of bidding process]**

Invitation for Bid No.: **[insert identification]**

Alternative No.: ***[insert identification No if this is a Bid for an alternative]***

To: ***[insert complete name of Purchaser]***

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued (if any) in accordance with Instructions to Bidders (ITB 8). In case, there is any condition in our Bid which is not in line with the conditions of Bidding Document, then the conditions of Bidding Document will prevail.
- (b) We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
- (c) We have not been suspended nor declared ineligible by the Purchaser based on execution of a Bid Securing Declaration in the Purchaser's country in accordance with ITB 4.6
- (d) We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedule specified in the Schedule of Requirements the following Goods and related services: **[insert a brief description of the Goods and Related Services]**;
- (e) The total price of our Bid, excluding any discounts offered in item (f) below is:

In case of only one lot, total price of the Bid for which the bid is being submitted **[insert the total price of the bid in words and figures, indicating the various amounts and the respective currencies]**;

In case of multiple lots, total price of each lot for which the bid is being submitted **[insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies]**;

In case of multiple lots, total price of all lots for which the bid is being submitted (sum of all lots) **[insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies]**;

- (f) The discounts offered and the methodology for their application are:

- (i) The discounts offered are: **[Specify in detail each discount offered.]**
- (ii) The exact method of calculations to determine the net price after application of discounts is shown below:**[Specify in detail the method that shall be used to apply the discounts];**
- (g) Our bid shall be valid for a period of [*specify the number of calendar days*] days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (h) If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;
- (i) We are not participating, as a Bidder or as a subcontractor, in more than one bid in this bidding process in accordance with ITB 4.2(e), other than alternative bids submitted in accordance with ITB 13;
- (j) We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by a member of the World Bank Group or a debarment imposed by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Employer's country laws or official regulations or pursuant to a decision of the United Nations Security Council;
- (k) We are not a government owned entity/ We are a government owned entity but meet the requirements of ITB 4.5;<sup>1</sup>
- (l) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract: **[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid or will pay and the amount and currency of each such commission or gratuity]**

Name of Recipient/ Agent* if any	Full address, Phone no. and e-mail	Details of the services provided/to be provided	Amount of remuneration included in the Bid price

\*In case of Indian Agent, PAN No. is required to be given.

<sup>1</sup>Bidder to use as appropriate

**(If none has been paid or is to be paid, indicate “none.”)**

- (m) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and
- (n) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.
- (o) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption.
- (p) We undertake that in competing for (and, if the award is made to us , in executing) the above contract , we will strictly observe the laws against fraud and corruption in force in India namely, “Prevention of Corruption Act 1988”
- (q) We undertake that the spare parts and after sales services for the offered equipment shall be available in India for a period of five (5) years after completion of the contract.

Name of the Bidder\* **[insert legal name of Bidder’s Entity]**

Name of the person duly authorized to sign the Bid on behalf of the Bidder\*\* **[insert complete name of person duly authorized to sign the Bid]**

Title of the person signing the Bid **[insert complete title of the person signing the Bid]**

Signature of the person named above **[insert signature of person whose name and capacity are shown above]**

Date signed **[insert date of signing]** day of **[insert month]**, **[insert year]**

\*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

\*\* : Person signing the Bid shall have written confirmation of authorization given by the Bidder as indicated in BDS ITB 20.2.

## 2. Bidder Information Form

*[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]*

Date: *[insert date (as day, month and year) of Bid Submission]*

ICB No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

Page \_\_\_\_\_ of \_\_\_\_\_ pages

1. Bidder's Name <i>[insert Bidder's legal name]</i>
2. In case of JV, legal name of each member : <i>Not Applicable</i>
3. Bidder's actual or intended country of registration: <i>[insert actual or intended country of registration]</i>
4. Bidder's year of registration: <i>[insert Bidder's year of registration and enclose copy of Certificate of incorporation.]</i>
5. Bidder's Address in country of registration: <i>[insert Bidder's legal address in country of registration]</i>
6. Bidder's Authorized Representative Information Name: <i>[insert Authorized Representative's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax number2s: <i>[insert Authorized Representative's telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation or Registration of firm named in Sl. No.1 above (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.3. <input type="checkbox"/> In case of Government-owned entity, enterprise or institution from India , in accordance with ITB 4.5 documents establishing: <ul style="list-style-type: none"> <li>• Legal and financial autonomy</li> <li>• Operation under commercial law</li> <li>• Establishing that the Bidder is not dependent agency of Borrower, Sub-Borrower or Purchaser in accordance with ITB sub clause 4.5</li> </ul>
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.
8. The details for returning of bid security to be furnished here. Name: <i>[insert name]</i> Address: <i>[insert Address]</i> Telephone/Mobile number: <i>[insert telephone/Mobile number]</i> Email Address: <i>[insert email address]</i>

## Price Schedule Forms

*[The Bidder shall fill in these Price Schedule Forms in accordance with the instructions indicated. The list of line items in column 1 of the **Price Schedules** shall coincide with the List of Goods and Related Services specified by the Purchaser in the Schedule of Requirements.]*

### 3. Price Schedule: Goods Manufactured Outside the Purchaser’s Country, to be Imported

Lot No.: _____		(Group C bids, goods to be imported)				Date: _____		
						ICB No: _____		
		Currencies in accordance with ITB 15				Alternative No: _____		
						Page No _____ of _____		
1	2	3	4	5	6	7	8	9
Lot No.	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP [insert place of destination] in accordance with ITB 14.8(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transportation and other services required in the Purchaser’s country to convey the Goods to their final destination specified in BDS*	Total Price per Line item (Col. 7+8)
<i>[insert number of the item]</i>	<i>[insert name of good]</i>	<i>[insert country of origin of the Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price CIP per unit]</i>	<i>[insert total CIP price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[insert total price of the line item]</i>

Name of Bidder *[insert complete name of Bidder]*

Signature of Bidder *[signature of person signing the Bid]*

Date *[Insert Date]*

*Note: Bidder shall fill separate price schedule for each Lot as indicated in the List of Goods and Delivery Schedule given in Section VII*

*\*One consolidated price for the Inland transportation to all destinations should be indicated for the total quantity of the Lot irrespective of the number of consignees/destinations specified in the List of Goods and Delivery Schedule given in Section VII. The equalized freight for each unit of the total quantity shall be taken into account for placement of the contract on successful bidder for different consignees/destination.*

## 4. Price Schedule: Goods Manufactured Outside the Purchaser's Country, already imported\*

(Group C bids, Goods already imported)										Date: _____	
Currencies in accordance with ITB 15										ICB No: _____	
										Alternative No: _____	
										Page No _____ of _____	
1	2	3	4	5	6	7	8	9	10	11	12
Lot No.	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price including Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i)	Custom Duties and Import Taxes paid per unit in accordance with ITB 14.8(c)(ii) , [to be supported by documents]	Unit Price net of custom duties and import taxes, in accordance with ITB 148 (c) (iii) (Col. 6 minus Col.7)	Price per line item net of Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i) (Col. 5×8)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the goods to their final destination, as specified in BDS in accordance with ITB 14.8 (c)(v)**	Sales and other taxes paid or payable per item if Contract is awarded (in accordance with ITB 14.8(c)(iv)	Total Price per line item (Col. 9+10)
<i>[insert number of the item]</i>	<i>[insert name of Goods]</i>	<i>[insert country of origin of the Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price per unit]</i>	<i>[insert custom duties and taxes paid per unit]</i>	<i>[insert unit price net of custom duties and import taxes]</i>	<i>[insert price per line item net of custom duties and import taxes]</i>	<i>[insert price per line item for inland transportation and other services required in the Purchaser's country]</i>	<i>[insert sales and other taxes payable per item if Contract is awarded]</i>	<i>[insert total price per line item]</i>

Name of Bidder *[insert complete name of Bidder]*Signature of Bidder *[signature of person signing the Bid]*Date *[insert date]*

\* *[For previously imported Goods, the quoted price shall be distinguishable from the original import value of these Goods declared to customs and shall include any rebate or mark-up of the local agent or representative and all local costs except import duties and taxes, which have been and/or have to be paid by the Purchaser. For clarity the bidders are asked to quote the price including import duties, and additionally to provide the import duties and the price net of import duties which is the difference of those values.]*

**\*\*One consolidated price for the Inland transportation to all destinations should be indicated for the total quantity of the Lot irrespective of the number of consignees/destinations specified in the List of Goods and Delivery Schedule given in Section VII. The equalized freight for each unit of the total quantity shall be taken into account for placement of the contract on successful bidder for different consignees**



### 5. Price Schedule: Goods Manufactured in the Purchaser's Country

Lot No.: _____ Purchaser's Country _____				(Group A and B bids)  Currencies in accordance with ITB 15				Date: _____ ICB No: _____ Alternative No: _____ Page No _____ of _____	
1	2	3	4	5	6	7	8	9	10
Lot No.	Description of Goods	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price EXW Exclusive of Excise Duty	Total EXW price per line item (Col. 4x5)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination*	Cost of local labor, raw materials and components from with origin in the Purchaser's Country % of Col. 5	Sales and other taxes payable per line item if Contract is awarded (in accordance with ITB 14.8(a)(ii))	Total Price per line item (Col. 6+7)
<i>[insert number of the item]</i>	<i>[insert name of Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert EXW unit price]</i>	<i>[insert total EXW price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[Insert cost of local labor, raw material and components from within the Purchase's country as a % of the EXW price per line item]</i>	<i>[insert sales and other taxes payable per line item if Contract is awarded]</i>	<i>[insert total price per item]</i>

Name of Bidder *[insert complete name of Bidder]*

Signature of Bidder *[signature of person signing the Bid]*

Date *[insert date]*

*(a) Bidder shall fill separate price schedule for each Lot as indicated in the List of Goods and Delivery Schedule given in Section VII*

*(b) Excise exemption certificate shall be issued by the Project Authority as per BDS clause ITB 14.8.*

*\*One consolidated price for the Inland transportation to all destinations should be indicated for the total quantity of the Lot irrespective of the number of consignees/destinations specified in the List of Goods and Delivery Schedule given in Section VII. The equalized freight for each unit of the total quantity shall be taken into account for placement of the contract on successful bidder for different consignee's*

## 6. Price and Completion Schedule - Related Services

Lot No. _____		Currencies in accordance with ITB 15			Date: _____ ICB No: _____ Alternative No: _____ Page N° _____ of _____	
1	2	3	4	5	6	7
Service No.	Description of Services (excludes inland transportation and other services required in India to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price (inclusive of applicable taxes)	Total Price per Service (Col. 5*6 or estimate)
1	On-site assembly/installation & commissioning and/or start-up of the supplied Goods					
2	The cost of one year Annual Maintenance Services beyond warranty period. *					
Total Price for the above services (inclusive of applicable taxes)						

Name of Bidder *[insert complete name of Bidder]*

Signature of Bidder *[signature of person signing the Bid]*

Date *[insert date]*

**Note: Bidder shall fill separate Price and Completion Schedule – Related Services for each Lot as indicated in the List of Goods and Delivery Schedule given in Section VII Schedule of Requirement.**

**\*Purchaser reserves the right to extend the Annual Maintenance Services for another one year at the same terms & conditions and price.**

## 7. Form of Bid Security

### (Bank Guarantee)

*[The bank shall fill in this Bank Guarantee Form in accordance with the instructions indicated.]*

*[Guarantor letterhead or SWIFT identifier code]*

**Beneficiary:**

*The Development Commissioner, MSME, Ministry of MSME, Government of India, New Delhi*

**IFB No.:** *[Purchaser to insert reference number for the Invitation for Bids]*

**Alternative No.:** *[Insert identification No if this is a Bid for an alternative]*

**Date:***[Insert date of issue]*

**BID GUARANTEE No.:***[Insert guarantee reference number]*

**Guarantor:** *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that \_\_\_\_\_ *[insert name of the Bidder, which in the case of a joint venture shall be the name of the joint venture (whether legally constituted or prospective) or the names of all members thereof]* (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its bid (hereinafter called "the Bid") for the execution of \_\_\_\_\_ under Invitation for Bids No. \_\_\_\_\_ ("the IFB").

Furthermore, we understand that, according to the Beneficiary's conditions, bids must be supported by a bid guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of \_\_\_\_\_ (\_\_\_\_\_) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

- (a) has withdrawn its Bid during the period of bid validity set forth in the Applicant's Letter of Bid ("the Bid Validity Period"), or any extension thereto provided by the Applicant;  
or

- (b) having been notified of the acceptance of its Bid by the Beneficiary during the Bid Validity Period or any extension thereto provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the performance security, in accordance with the Instructions to Bidders (“ITB”) of the Beneficiary’s bidding document.

This guarantee will expire: (a) if the Applicant is the successful bidder, upon our receipt of copies of the contract agreement signed by the Applicant and the performance security issued to the Beneficiary in relation to such contract agreement; or (b) if the Applicant is not the successful bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary’s notification to the Applicant of the results of the bidding process; or (ii) twenty-eight days after the end of the Bid Validity Period.

Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

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*[Signature(s)]*

Contact details of the issuing Bank

Contact Person:

Phone number:

Fax no.:

Email address:

***Note: All italicized text is for use in preparing this form and shall be deleted from the final product.***

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## 8. Manufacturer's Authorization

*[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The Bidder shall include it in its bid, if so indicated in the BDS.]*

Date: *[insert date (as day, month and year) of Bid Submission]*

ICB No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

We *[insert complete name of Manufacturer]*, who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of Bidder]* to submit a bid and conclude the contract, the purpose of which is to provide the following Goods, manufactured by us *[insert name and or brief description of the Goods]*, and to subsequently sign the Contract and **the contract may be awarded to us\* / the contract may be awarded to them.\***

**\*Strike out whichever is not applicable**

We hereby extend our full guarantee and warranty in accordance with Clause 28 of the General Conditions of Contract, with respect to the Goods offered by the above firm.

No company or firm or individual other than M/S ..... are authorized to bid and conclude the contract for the above goods manufactured by us against the specific IFB.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title: *[insert title]*

Dated on \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ *[insert date of signing]*

## 9A. PROFORMA FOR PERFORMANCE STATEMENT (FOR MANUFACTURER)

[Please see ITB Clause 36.2 and Section III-  
Evaluation and Qualification Criteria]

### Performance Statement for a period of last three years i.e. 2013, 2014 and 2015 year wise for each Lot separately

ICB No. \_\_\_\_\_

Date of opening .....

Lot No.: \_\_\_\_\_

Name of the Firm \_\_\_\_\_

<u>Order placed by</u> <u>(full address of</u> <u>Purchaser) and</u> <u>contact details</u> <u>(e-mail and</u> <u>phone no.)</u>	<u>Order</u> <u>No. and</u> <u>date</u>	<u>Description</u> <u>and quantity</u> <u>of ordered</u> <u>equipment</u>	<u>Value</u> <u>of</u> <u>order</u>	<u>Date of</u> <u>completion</u> <u>of delivery</u>	<u>Remarks</u> <u>indicating</u> <u>reasons for late</u> <u>delivery, if any</u>	<u>Has the equipment</u> <u>been satisfactorily</u> <u>functioning to the</u> <u>satisfaction of</u> <u>purchaser?</u>
1	2	3	4	5	6	7
<b>Year2013:</b>						
<b>Year2014:</b>						
<b>Year2015:</b>						

Signature and seal of the Bidder \_\_\_\_\_

**Note: The above statement is required to be submitted separately for each Lot of the schedule of requirement which is being offered by the bidder.**

## 9B. PROFORMA FOR PERFORMANCE STATEMENT (FOR BIDDER AS AUTHORIZED REPRESENTATIVE)

[Please see ITB Clause 36.2 and Section III-  
Evaluation and Qualification Criteria]

### Performance Statement for a period of last three years 2013, 2014 and 2015

ICB No. \_\_\_\_\_

Date of opening

.....

Name of the Firm \_\_\_\_\_

<u>Order placed by (full address of Purchaser) and contact details (e- mail and phone no.)</u>	<u>Order No. and date</u>	<u>Description and quantity of ordered equipment</u>	<u>Value of order</u>	<u>Date of completion of delivery</u>	<u>Remarks indicating reasons for late delivery, if any</u>	<u>Has the equipment been satisfactorily functioning to the satisfaction of purchaser?</u>
1	2	3	4	5	6	7
<b>Year2013:</b>						
<b>Year2014:</b>						
<b>Year2015:</b>						

Signature and seal of the Bidder \_\_\_\_\_

# 10. Declaration regarding Deemed Export Benefits

(To be submitted for each Lot separately wherever applicable)

ICB No.:.....

Lot no. with Description of the items:

(Bidder's Name and Address):

To:.....  
(Name of the Purchaser)

Dear Sir:

1. We confirm that we are solely responsible for obtaining deemed export benefits which we have considered in our bid and in case of failure to receive such benefits for reasons whatsoever, Purchaser will not compensate us.

2. We are furnishing below the information required by the Purchaser for issue of Project Authority/ Payment/Other certificate in terms of the current Export and Import Policy of the Government of India:

(A) (i) Value of import content of supply to be made by the Bidder: \*INR. \_\_\_\_\_  
(exchange rate one US\$ = INR\_\_\_)

(B) (i) Name of the sub-contractor, if any, and whose name is to be included in the main contract \_\_\_\_\_  
\_\_\_\_\_

(ii) Description, quantity and value of the goods to be supplied by the above sub-contractor

Description	Quantity	Value (INR.)
-------------	----------	--------------

(iii) Value of import content of supply to be made by the sub-contractor

INR.
------

(exchange rate on US\$ = INR.)

*(The requirements listed above are as per current Export and Import Policy of Government of India. These may be modified, if necessary, in terms of the Export and Import Policy in force.)*

Date: \_\_\_\_\_ (Signature) \_\_\_\_\_

(Printed Name) \_\_\_\_\_

Place: \_\_\_\_\_ (Designation) \_\_\_\_\_

(Common Seal) \_\_\_\_\_

\* Please attach details items-wise with cost. if there are more than one items. The figures indicated should tally with what is given in the price schedule.



## 11. CHECKLIST

**Checklist has to be the first page of the bid document.**

S.No.	Activity	Yes/No/ NA	Page No. in the Bid
1	All the pages of the bid should be Serial Numbered & signed/initialled		
2	Authorization letter for signing the bid		
3	Letter of Bid		
4	Bidder information form		
5	Certificate of Incorporation		
6	Relevant Price Schedule Form (Form 3 or Form 4 or Form 5 as applicable) for each lot separately for supply as per Schedule of Requirements		
7	Form 6. Price and Completion Schedule – Related Services for each lot separately.		
8	Bid Security in the form of Bank Guarantee as per format provided in Bidding forms (Section IV)		
9	Manufacturer Authorization for Non-manufacturing bidder's as per form specified in section IV		
10	Performance Statement (For Manufacturer) as per Form 9A included in Section IV of Bidding document to be submitted separately for each Lot offered along with copies of purchase orders/contracts.		
11	Performance Statement (For Non Manufacturer Bidder as Authorized representative of Manufacturer) as per Form 9B included in Section IV to be submitted if applicable along with copies of purchase orders/contracts.		
12	Declaration for Deemed Export (Form 10)		
13	Filled in technical specification for the offered Lot(s) as specified in Section VII – 3. Technical Specification		

## **Section V. Eligible Countries**

### **Eligibility for the Provision of Goods, Works and Non Consulting Services in Bank-Financed Procurement**

In reference to ITB 4.7 and 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this bidding process:

Under ITB 4.7(a) and 5.1: None

Under ITB 4.7(b) and 5.1: None

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## Section VI. Bank Policy - Corrupt and Fraudulent Practices

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011.

### “Fraud and Corruption:

1.16 It is the Bank’s policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.<sup>2</sup> In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
  - (i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;<sup>3</sup>
  - (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;<sup>4</sup>
  - (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;<sup>5</sup>
  - (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;<sup>6</sup>

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<sup>2</sup> In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

<sup>3</sup> For the purpose of this sub-paragraph, “*another party*” refers to a public official acting in relation to the procurement process or contract execution. In this context, “*public official*” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

<sup>4</sup> For the purpose of this sub-paragraph, “party” refers to a public official; the terms “benefit” and “obligation” relate to the procurement process or contract execution; and the “act or omission” is intended to influence the procurement process or contract execution.

<sup>5</sup> For the purpose of this sub-paragraph, “parties” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other’s bid prices or other conditions.

<sup>6</sup> For the purpose of this sub-paragraph, “party” refers to a participant in the procurement process or contract execution.

- (v) "obstructive practice" is:
  - (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
  - (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare mis procurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,<sup>7</sup> including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated<sup>8</sup> sub-contractor, consultant, supplier or service provider of an otherwise eligible firm being awarded a Bank financed contract.;

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<sup>7</sup> A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

<sup>8</sup> A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

- (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank.”



## **PART 2 – Supply Requirements**

## **Section VII. Schedule of Requirements**

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## 1. List of Goods and Delivery Schedule

**Full address of Final (Site) Destination as specified in BDS: ITB 14.8 (a)(iii)**

**Quantity of each Lot required by each Consignee (Technology Centre) is specified on the next page and Consignee details are as mentioned below:**

<b>Sr. No</b>	<b>Consignee</b>
1	<b>MSME TOOL ROOM Jamshedpur, (Indo-Danish Tool Room),</b> Ministry of MSME, Govt. of India Society, M-4 (Part), Phase VI, Tata Kandra Road, Gamharia, Jamshedpur 832 108
2	<b>Central Institute of Hand Tools,</b> G.T. Road, Bye Pass, Opp. Shaheed Bhagat Singh Colony, Jalandhar City - 144 008 State - Punjab, India
3	<b>CENTRAL TOOL ROOM,</b> A-5, Focal Point, Ludhiana - 141 010, Punjab, INDIA
4	<b>CENTRAL INSTITUTE OF TOOL DESIGN,</b> Balanagar, HYDERABAD - 500 037, INDIA
5	<b>MSME - TOOL ROOM KOLKATA,</b> (Central Tool Room & Training Centre), Government of India Society, Ministry of Micro, Small & Medium Enterprises, Bon Hooghly Industrial Area, Kolkata – 700 108
6	<b>MSME TOOL ROOM, INDORE, (Indo-German Tool Room, Indore),</b> 291/B-302/A, Sector E, Industrial Area, Sanwer Road, INDORE - 452 015 (M.P.)

Lot No.	Description	Total Quantity (in nos.)	Quantity required at each Technology Centre						Delivery Schedule (As per Incoterm)	
			Jamshedpur	Jalandhar	Ludhiana	Indore	Kolkata	Hyderabad	Delivery Period (in Weeks)*	Bidder's offered Delivery Period (Weeks)
1	CNC Lathe Machine	1					1		24	
2	CNC Turn Mill Centre with C & Y Axis	2			1			1	24	
3	CNC 3 Axis Milling Machine - High Speed	1				1			24	
4	CNC 3 Axis Milling Machine	1					1		24	
5	CNC Vertical Machining Centre -Large Bed	1					1		24	
6	CNC Vertical Machining Centre	1		1					24	
7	4 Axis CNC Horizontal Milling Machine With Vertical Attachment	1	1						24	
8	5 Axis CNC Milling Machine - Large Bed	1						1	24	
9	5 Axis CNC Milling Machine	3	1			1	1		24	
10	5 Axis CNC Milling Machine with Extra Tool	1			1				32	
11	CNC Vertical Double Column Milling Machine	1	1						24	
12	High Precision CNC EDM Die Sinking Machine	3	1	1	1				24	
13	CNC Wire Cut EDM Machine	3		1			1	1	24	
14	NC Cylindrical Grinding Machine	1	1						24	
15	Metal Laser Sintering Machine	1			1				24	
16	3D Polymer Additive Manufacturing Machine	1			1				24	

**Notes for Lists of Goods and Delivery Schedule:**

The delivery period indicated in the Table above is the required delivery period. However, the offered Delivery period beyond the above mentioned delivery requirement for each Lot shall be acceptable upto a maximum of 6 weeks for individual Lot subject to adjustment of Bid Price as mentioned in Bid Data Sheet ITB 34.6. Offers with the delivery period beyond 6 weeks over and above the delivery period indicated in the Table above shall be treated non responsive.

**\*Delivery period would start from the date of signing of the contract.**

## 2. List of Related Services and Completion Schedule

Lot no.: \_\_\_\_\_

Service	Description of Service	Place where Services shall be performed	Final Completion Date(s) of Services
1	On-site assembly/installation & commissioning and/or start-up of the supplied Goods	At consignee's place	
2	The cost of one (1) year Annual Maintenance Services beyond warranty period. *	As applicable	

*\*Purchaser shall reserve the right to extend the Annual Maintenance Services for another one year at the same terms & conditions and price offered.*

### 3. Technical Specifications

#### Lot No 1 - CNC Lathe Machine

The bidder shall write their specifications/ values of material/equipment in the space provided wherever values are specified or otherwise Yes/ No. The bidder should enclose a printed catalogue of the model offered.

S.No	Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	<b>CNC Turning Center (Lathe Machine)</b>		
<b>1</b>	<b>Field of Application</b>		
1.1	Turning		
1.2	Facing		
1.3	Boring		
1.4	Threading(Internal and External)		
1.5	Grooving		
1.6	Drilling		
<b>2</b>	<b>Materials</b>		
2.1	Hardened Steel upto 50HRC, steel, copper , Aluminum, Titanium etc.		
<b>2</b>	<b>Technical data</b>		
3.1	Axes Traverses : X-Axis : 400 mm (min) Z-Axis : 1000 mm (min)		
3.2	Turning Diameter: 600 mm (Min)		
3.3	Turning Length: 1000 mm (Min)		
3.4	Swing Over Bed: 850 mm		
3.5	Swing Over Cross Slide: 600 mm		
3.7	Chuck Diameter: 15 inch / 380 mm (min)		
3.8	Machine Spindle & Head Stock		
3.9	Spindle speed : Max 2,400 rpm		
3.10	Balanced Spindle		
3.11	Spindle Motor Power: 22kW (min)		
3.12	Spindle Nose: A2-8 or higher		
3.13	Spindle Bore Dia: 100 mm (min)		
3.14	Chip Enclosure		
3.15	Work Light		

S.No	Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
3.16	Minimum 12 Stations Turret		
3.17	Coolant System		
3.18	Rapid speed for Z min (m/min): 15 m/min [minimum]		
3.19	Rapid speed for X min (m/min): 15 m/min [minimum]		
3.20	Working Feed Z, X (mm/min): 10 m/min [minimum]		
3.21	Position accuracy: 0.005 mm or less		
3.22	Repeatability: 0.005 mm or less		
3.23	<b>Note :-</b> Positional accuracy and repeatability values should be reported as per ISO 230-2 standard. If the manufacturer follows any other standards such as VDI/DGQ 3441, JIS, ASME/ANSI for these measurements, the values should be reported as per the respective standard.		
<b>4</b>	<b>CNC Control Unit Features</b>		
4.1	Controller: Latest version of Siemens/Fanuc/Heidenhain/ equivalent OEM		
4.2	Panel-based compact CNC		
4.3	Technologies: Turning, functions		
4.4	Min 10.4" color display		
4.5	Standard USB port, Ethernet		
4.6	Blunt tool message		
<b>5</b>	<b>Accessories</b>		
5.1	Automatic Chip Removal System		
5.2	Servo Motors for axes and spindle		
5.3	MPG for each axes		
5.4	First Fill of Coolant		
5.5	Voltage Stabilizer, Capacity min 50 kVA, 1 no.		
5.6	Ultra Isolation Transformer, Capacity min 50 kVA, 1 no.		
5.7	<b>Tooling Set:</b>		
	Turning Tool Holder, 1 no.		
	Turning Tool Inserts, 10 nos.		
	Facing Tool Holder, 1 no.		
	Facing Tool Inserts, 10 nos.		
	Boring Tool Holder, 1 no.		

S.No	Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	Boring Tool Inserts, 10 nos. Sleeve (25 – 20), 1 no. Sleeve (25 – 16), 1 no. Tool Trolley, 1 no.		
5.8	<b>Maintenance Tool Kit:</b> 6-19 mm Drop Forged Combi. Spanners (Set 14), 1 no. 1.5-10 mm Allen Key Set (Set 9), 1 no. 1/16"-3/8" Allen Key Set (Set 10), 1 no. Tri-Line Driver (Set 6), 1 no.		
5.9	Note :- Inserts should be capable of cutting both mild steel and hardened tool steel upto 50 HRC		
5.10	<b>Important Note for Tooling :-</b> A) Cutting tool inserts should be of suitable "Coated Cemented Carbide" grades from reputed suppliers such as (Mitsubishi Materials / Sandvik / Kennmetal / Seco Tool / Sumitomo Electric / Tungaloy / Kyocera / Dijet / Hitachi Tool / Iscar etc.) for A.1) Light to heavy machining of un-alloyed & low alloy steels [Grade ISO P30(P10-P40)] equivalent A.2) Light Roughing of Hardened Steel upto HRC 60 [ISO H25 (H10-H25)] equivalent  B) Make and equivalent ISO Grade of the tools offered should be mentioned here.  C) Make of Cutting Tool Holders offered should be mentioned here  D) Cutting Tool Holders offered should be from reputed suppliers such as ( Sandvik / Kennmetal / Seco Tool)		
<b>6</b>	<b>Installation &amp; Commissioning</b>		
6.1	The complete installation and commissioning must be carried out by the supplier at the final destination/premises. A final accuracy test to be conducted by the purchaser, according to NAS-Standard Test part and verified by CMM-Metrology Test Record OR equivalent specimen test chart. Final accuracy test report is to be signed jointly by customer and supplier.		

S.No	Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	All utilities like power, water and compressed air etc. shall be made available by the consignee within 5 meter of the location where the machine is to be installed. The details of all the utility requirements and operating environment requirements need to be specified by the supplier and shall be the responsibility of the purchaser.		
<b>7</b>	<b>Training : To be provided at final destination place</b>		
7.1	Operator training - 5 days.		
7.2	Programming course - 5 days		
7.3	Maintenance course mechanical, electrical and electronics - 5 days.		



### Lot No 2 - CNC Turn Mill Centre with C & Y Axis

The bidder shall write their specifications/ values of material/equipment in the space provided wherever values are specified or otherwise Yes/ No. The bidder should enclose a printed catalogue of the model offered.

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	<b>CNC Turn Mill Center with “C” &amp; “Y” Axes</b>		
<b>1</b>	<b>Field of Application</b>		
1.1	Turning		
1.2	Facing		
1.3	Boring		
1.4	Threading(Internal and External)		
1.5	Grooving		
1.6	Drilling		
<b>2</b>	<b>Materials</b>		
2.1	Steel, Stainless Steel, , Hardened Steel upto 50 HRC, Titanium, Copper , Aluminum etc.		
<b>3</b>	<b>Technical data</b>		
3.1	<b>Work area dimensions: (approximately)</b>		
	Axes Traverse : Min 300 mm in X-Axis		
	: Min 450 mm in Z-Axis		
	: Min ±50 mm in Y-Axis		
3.1	<b>Swing:</b>		
	Over Front Apron: Min 600 mm		
	Over Cross Slide: Min 400 mm		
	Over Tailstock: 550 mm		
3.3	<b>Machine Spindle</b>		
	Spindle speed : 4,500 rpm (min.)		
	Spindle Torque: 100 Nm (min)		
	Spindle Nose: A 2-6/ 170h5 or equivalent		
	Spindle Motor: 20 kW		
	Spindle Bore: Min 80 mm		
3.4	C-Axis Motor Power: 3.5 kW		
3.5	C-Axis Positioning: 0.01 deg. (min.)		
3.6	Power failure detection module		
<b>4</b>	<b>Coolant System</b>		
4.1	Tank & filter unit		
4.2	Tank capacity min 150 lit or more		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
4.3	Adequate/Suitable coolant system should be provided.		
<b>5</b>	<b>Axis drives &amp; control</b>		
5.1	Digital controlled drive and motors for all axes.		
5.3	LM Guide ways		
5.4	Closed pitch ball screws, supported at both ends, pre-tensioned preferable.		
5.5	<b>Rapid speed:</b> X-axis 15 m/min [Minimum] Y-axis 12 m/min [Minimum] Z-axis 15 m/min [Minimum]		
5.6	Positional accuracy for full stroke in X, Z axes : +/- 0.005 mm or less.		
5.7	Repeatability : +/- 0.003 mm or less		
5.8	Straightness : 0.01 mm or less for full stroke.		
5.9	Perpendicularity: 0.01 mm for or less for full Stroke		
5.10	Run out at nose (Max): 0.003 mm or less		
5.11	Run out on test bar: 0.01 mm or less [ Bar Length 300 mm]		
5.12	<b>Note :-</b> Positional accuracy and repeatability values should be reported as per ISO 230-2 standard. If the manufacturer follows any other standards such as VDI/DGQ 3441, JIS, ASME/ANSI for these measurements, the values should be reported as per the respective standard.		
<b>6</b>	<b>CNC Control Unit Features (Essential)</b>		
6.1	Controller: Latest version of Siemens / Fanuc/ Heidenhain/ equivalent OEM		
6.2	64 bit processor or equivalent		
6.3	All axes simultaneous controllable		
6.4	Faster data procession rate and block processing		
6.5	Programming syntax as per DIN66025 ISO/EIA and additional manufacturer own syntax.		
6.6	Least increment 0.001 mm with decimal input.		
6.7	Spindle functions S, incl. Spindle Operation.		
6.8	Feed functions f, G-code & M-code		

<b>S.No</b>	<b>Machine Description</b>	<b>Bidders specification / confirmation</b>	<b>Reference page number/ section number of catalogue/Remarks</b>
6.9	Tool functions T, Tool length and cutter diameter, compensation G-code		
6.10	Interpolations		
	Standard A] Positioning		
	B] Linear interpolation		
	C] Helical		
6.11	Rigid tapping function		
6.12	Standard cycles as per ISO std.		
6.13	Standard USB port and Ethernet		
6.14	Controller memory 750 MB (minimum)		
6.15	Display of PLC alarm and message		
6.16	Over travel control		
6.17	Emergency stop on control panel, remote control & tool loading device		
6.18	Background editing and simulation of NC-Program		
6.19	CNC controller to take care of Stored pitch error compensation		
6.20	Backlash compensation for cutting traverse		
6.21	Backlash compensation for rapid traverse		
6.22	Feed forward control		
6.23	Standard cycle (canned)		
6.24	8.4" LCD Color Monitor with soft keys.		
6.25	Swiveling panel with in build keyboard, monitor & operating knobs.		
6.26	Feed control potentiometer 10%. Increments from 0 – 120%		
6.27	Spindle speed control potentiometer 10%. Increments from 0-120%.		
6.28	Emergency brake knob		
6.29	Machine hour reading		
6.30	Spindle load display		
6.31	Tool Load monitoring and Tool Life Management		
6.32	Blunt tool message		
<b>7</b>	<b>Essential Features / Accessories</b>		
7.1	Fully enclosed splash guard with sight windows.		
7.2	Automatic Tool Turret for min. 12 tools		
7.3	Leveling pads		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
7.4	Door safety interlock		
7.5	Work-piece washing gun.		
7.6	PLC controlled central lubrication system		
7.7	Run hour meter		
7.8	Warm up controller / timer.		
7.9	Suitable Voltage Stabilizer		
7.10	Suitable Ultra Isolation Transformer		
7.11	Suitable Air Compressor (if required)		
7.12	Suitable Air Dryer (if required)		
7.13	MT4 Tailstock		
7.14	One Set of Axial & Radial Tool Holder (1 each)		
7.15	Display of Cycle run time		
7.16	Automatic Tool Presetter System		
7.17	Optical / Auto measuring cycle		
7.18	<b>Tooling Set:</b>		
	Dia. 10 Indexable Cutter, 1 no.		
	Dia. 10 Indexable Cutter Inserts, 10 nos.		
	Dia. 16 Indexable Cutter, 1 no.		
	Dia. 16 Indexable Cutter Inserts 10 nos.		
	Turning Tool Holder, 1 no.		
	Turning Tool Inserts, 10 nos.		
	Facing Tool Holder, 1 no.		
	Facing Tool Inserts, 10 nos.		
	Boring Tool Holder, 1 no.		
	Boring Tool Inserts, 10 nos.		
	External Threading Tool Holder, 1 no.		
	External Threading Tool Holder Inserts, 10 nos.		
	Internal Threading Tool Holder, 1 no.		
	Internal Threading Tool Holder Inserts, 10 nos.		
	Parting Tool Holder, 1 no.		
	Parting Tool Inserts, 10 nos.		
	ER 32 Collet Chuck for Lathe, 1 no.		
	ER 32 Collet Set, 1 no.		
	ER 32 Collet Chuck Wrench, 1 no.		
	Tool Trolley, 1 no.		
7.19	<b>Standard Maintenance Tool Kit:</b>		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	6-19 mm Drop Forged Combi. Spanners (Set 14), 1 no. 1.5-10 mm Allen Key Set (Set 9), 1 no. 1/16"-3/8" Allen Key Set (Set 10), 1 no. Tri-Line Driver (Set 6), 1 no.		
7.20	<p><b>Important Note for Tooling :-</b></p> <p>A) Cutting tool inserts should be of suitable "Coated Cemented Carbide" grades from reputed suppliers such as (Mitsubishi Materials / Sandvik / Kennmetal / Seco Tool / Sumitomo Electric / Tungaloy / Kyocera / Dijet / Hitachi Tool / Iscar etc.) for</p> <p>A.1) Light to heavy machining of un-alloyed &amp; low alloy steels [Grade ISO P30(P10-P40)] equivalent</p> <p>A.2) Light Roughing of Hardened Steel upto HRC 60 [ISO H25 (H10-H25)] equivalent</p> <p>B) Make and equivalent ISO Grade of the tools offered should be mentioned here.</p> <p>C) Make of Cutting Tool Holders offered should be mentioned here</p> <p>D) Cutting Tool Holders offered should be from reputed suppliers such as ( Sandvik / Kennmetal / Seco Tool)</p>		
<b>8</b>	<b>Installation &amp; Commissioning</b>		
8.1	<p>The complete installation and commissioning must be carried out by the supplier at the project (at the final destination/premises). A final accuracy test according to be conducted and verified by CMM-Metrology Test Record OR equivalent specimen test chart. Certificate of acceptance is to be signed by customer and supplier.</p> <p>All utilities like power, water and compressed air etc. shall be made available by the consignee within 5 meter of the location where the machine is to be installed. The details of all the utility requirements and operating environment requirements need to be specified by the supplier and shall be the responsibility of the purchaser</p>		
<b>9</b>	<b>Training : To be provided at final destination place</b>		

<b>S.No</b>	<b>Machine Description</b>	<b>Bidders specification / confirmation</b>	<b>Reference page number/ section number of catalogue/Remarks</b>
9.1	Operator training - 5 days.		
9.2	Programming course - 5 days		
9.3	Maintenance course mechanical, electrical and electronics - 5 days.		

### Lot No 3 - CNC 3 Axis Milling Machine – High Speed

The bidder shall write their specifications/ values of material/equipment in the space provided wherever values are specified or otherwise Yes/ No. The bidder should enclose a printed catalogue of the model offered.

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	<b>CNC 3 Axis Milling Machine – High Speed</b>		
1	<b>Field of application</b>		
1.1	Machining of single jobs and batch production.		
1.2	Standard machining of press tool plate, die plates, mould plates, fixtures, Precision machining jobs in: - Face, shoulder and pocket milling. - Drilling & Boring application Tapping.		
1.3	Die and Mould Machining		
2	<b>Material</b>		
2.1	Mild steel , Tough materials like nickel		
2.2	Tool steel, low-medium-high alloyed(Toughened & ,Stainless steel ,Casting steels, low,& medium carbon steels, Cast iron, Grey cast iron & Nodular cast iron ferritic / pearlitic type HRB 125-200 (Non hardened) etc.		
2.3	Non ferrous metals like Aluminium and aluminium alloys ,Copper and copper alloys and Brass		
2.4	Tough materials like Titanium, Inconel etc.		
3	<b>Technical data</b>		
3.1	<b>Work area dimensions:</b>		
	Linear Traverses: X-Axis - 800 mm (min) Y-Axis -500 mm (min) Z-Axis - 450 mm (min)		
3.2	<b>Machine Table</b>		
	Table size 800 mm x 550 mm		
	Work holding: T-slot, 16/18 mm Width		
	Table loading capacity Min. 1000 kg.		
3.3	<b>Machine Spindle &amp; Head Stock</b>		
	Spindle speed : 18,000 rpm (min)		
	Balanced Spindle		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
3.4	Drive System: Inline / Motor Spindle		
3.5	Spindle Motor Power: 25 kW (min) 100% of duty Cycle.		
3.6	Digital controlled AC Spindle Motor drive		
3.7	Spindle with Pneumatic operated automatic tool changing and through spindle air blow cleaning while tool change.		
3.8	Adjustable external coolant nozzles.		
3.9	Spindle Taper BT40 /SK40/HSK 40/ HSK- A63		
3.10	Power failure detection module.		
4	<b>Coolant System</b>		
4.1	Coolant Tank & filter unit		
5	<b>Axis drives &amp; control</b>		
5.1	Digital controlled drive and motors for all axes.		
5.2	LM Guide ways		
5.3	Closed pitch ball screws, supported at both ends, pre-tensioned preferable.		
5.4	Rapid speed (m/min) : X Axis – 15 m/min Y Axis – 15 m/min Z Axis – 15 m/min		
5.5	Machining feed range in 3-Axis simultaneously resulting feed rate Min 30 m/min or higher.		
5.6	Positional accuracy for full stroke in each axis : +/- 0.005 mm or less		
5.7	Repeatability : +/- 0.003 mm or less		
5.8	Run out : 0.003 mm or less run out at nose.		
5.9	Run out on test bar: 0.005 mm or less [Test Bar Length 300 mm]		
5.10	<b>Note :-</b> Positional accuracy and repeatability values should be reported as per ISO 230-2 standard. If the manufacturer follows any other standards such as VDI/DGQ 3441, JIS, ASME/ANSI for these measurements, the values should be reported as per the respective standard.		
6	<b>CNC Control Unit Features</b>		



<b>S.No</b>	<b>Machine Description</b>	<b>Bidders specification / confirmation</b>	<b>Reference page number/ section number of catalogue/Remarks</b>
6.1	Controller: Latest version of Siemens/Fanuc/Heidenhain/equivalent OEM		
6.2	64 bit processor or equivalent		
6.3	3 axes simultaneous controllable		
6.4	Faster data procession rate and block processing suitable for high speed milling application. (1000 blocks/sec)		
6.5	Programming syntax as per DIN66025 ISO/EIA and additional manufacturer own syntax.		
6.6	Least increment 0.001 mm with decimal input.		
6.7	Spindle functions S, incl. Spindle Operation.		
6.8	Feed functions F, G-code & M-code		
6.9	Tool functions T, Tool length and cutter dia compensation G-code		
6.10	Interpolations		
	Standard A] Positioning		
	B] Linear interpolation		
	C] Helical		
6.11	USB port and Ethernet interface		
6.12	Rigid tapping function		
6.13	Standard cycles as per ISO std.		
6.14	Controller memory 500 MB or more		
6.15	High Speed Machining Function.		
6.16	Display of PLC alarm and message		
6.17	Over travel control		
6.18	Emergency stop on control panel, remote control & tool loading device		
6.19	Background editing and simulation of NC-Program		
6.20	CNC controller to take care of Stored pitch error Compensation		
6.21	Backlash compensation for cutting traverse		
6.22	Backlash compensation for rapid traverse		
6.23	Feed forward control		
6.24	Standard cycle (canned)		
6.25	8.4" LCD Colour Monitor with soft keys.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
6.26	Swiveling panel with in build keyboard, monitor & operating knobs.		
6.27	Feed control potentiometer 10%. Increments from 0 – 120%.		
6.28	Spindle speed control potentiometer 10%. Increments from 0-120%.		
6.29	Emergency brake knob		
6.30	Machine hour reading		
6.31	Spindle load display		
6.32	Tool Load monitoring and Tool Life Management		
6.33	Power Failure & Self diagnostic function		
6.34	Blunt tool message		
7	<b>Accessories</b>		
7.1	Fully enclosed splash guard with sight windows.		
7.2	Chip Conveyor		
7.3	Fully encapsulated housing with safety type window		
7.4	Automatic Tool Magazine for min. 30 tools and Changer with safety guard.		
7.5	Minimum tool weight 5 kg.		
7.6	Tool diameter standard – 80 mm (min)		
7.7	Adjacent pocket empty – 125 mm (min)		
7.8	Leveling pads		
7.9	Door safety interlock		
7.10	Manual Pulse Generator (MPG)		
7.11	Work-piece washing gun.		
7.12	Run hour meter		
7.13	Warm up controller / timer.		
7.14	<b>Tooling Set &amp; Work holding as enlisted below:</b>		
	Dia. 80 Facemilling Cutter, 1 no.		
	Facemilling Inserts, 20 nos.		
	Facemilling Adaptor (for Dia. 80 Facemilling Cutter) 1 no.		
	Dia. 50 Facemilling Cutter, 1 no.		
	Indexable Inserts, 20 no.		
	BT 40 Adaptors, 1 No		
7.15	<b>Standard Maintenance Tool Kit:</b>		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	6-19 mm Drop Forged Combi. Spanners (Set 14), 1 no. 1.5-10 mm Allen Key Set (Set 9), 1 no. 1/16"-3/8" Allen Key Set (Set 10), 1 no. Tri-Line Driver (Set 6), 1 no.		
7.16	First Fill of Coolant		
7.17	Voltage Stabilizer, Capacity 40 kVA, 1 no.		
7.18	Ultra Isolation Transformer, Capacity 40 kVA, 1 no.		
7.19	Panel Exhaust / Cooler for CNC Control Panel, 1 no.		
7.20	<p><b>Important Note for Tooling :-</b></p> <p>A) Cutting tool inserts should be of suitable "Coated Cemented Carbide" grades from reputed suppliers such as (Mitsubishi Materials / Sandvik / Kennmetal / Seco Tool / Sumitomo Electric / Tungaloy / Kyocera / Dijet / Hitachi Tool / Iscar etc.) for</p> <p>A.1) Light to heavy machining of un-alloyed &amp; low alloy steels [Grade ISO P30(P10-P40)] equivalent</p> <p>A.2) Light Roughing of Hardened Steel upto HRc 60 [ISO H25 (H10-H25)] equivalent</p> <p>B) Make and equivalent ISO Grade of the tools offered should be mentioned here.</p> <p>C) Make of Cutting Tool Holders offered should be mentioned here</p> <p>D) Cutting Tool Holders offered should be from reputed suppliers such as ( Sandvik / Kennmetal / Seco Tool)</p>		
8	<b>Installation &amp; Commissioning</b>		
8.1	<p>The complete installation and commissioning must be carried out by the supplier at the project (at the final destination/premises). A final accuracy test according to be conducted and verified by CMM-Metrology Test Record OR equivalent specimen test chart. Certificate of acceptance is to be signed by customer and supplier.</p> <p>All utilities like power, water and compressed air etc. shall be made</p>		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	available by the consignee within 5 meter of the location where the machine is to be installed. The details of all the utility requirements and operating environment requirements need to be specified by the supplier and shall be the responsibility of the purchaser.		
9	<b>Training – To be provided at final destination place</b>		
9.1	Operator training - 5 days.		
9.2	Programming course - 5 days		
9.3	Maintenance course mechanical, electrical and electronics - 5 days.		

### Lot No 4 - CNC 3 Axis Milling Machine

The bidder shall write their specifications/ values of material/equipment in the space provided wherever values are specified or otherwise Yes/ No. The bidder should enclose a printed catalogue of the model offered.

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	<b>CNC 3 Axis Milling Machine</b>		
1	<b>Field of application</b>		
1.1	Machining of single jobs and batch production.		
1.2	Standard machining of press tool plate, die plates, mould plates, fixtures, Precision machining jobs in : - Face, shoulder and pocket milling. - Drilling & Boring application Tapping.		
1.3	Die and Mould Machining		
2	<b>Material</b>		
2.1	Mild steel , Tough materials like nickel		
2.2	Tool steel, low-medium-high alloyed(Toughened & ,Stainless steel ,Casting steels, low,& medium carbon steels, Cast iron, Grey cast iron & Nodular cast iron ferritic / pearlitic type HRB 125-200 (Non hardened) etc.		
2.3	Non ferrous metals like Aluminium and aluminium alloys ,Copper and copper alloys and Brass		
2.4	Tough materials like Titanium, Inconel etc.		
3	<b>Technical data</b>		
3.1	<b>Work area dimensions:</b> (approximately) Linear Traverses: X-Axis - 2000 mm (min) : Y-Axis - 800 mm (min) : Z-Axis - 700 mm (min)		
3.2	<b>Machine Table</b> Table size 2100 mm x 700 mm Work holding: T-slot, 16/18 mm Width Table loading capacity Min. 1800 kg.		
3.3	<b>Machine Spindle &amp; Head Stock</b> Spindle speed : 6,000 rpm (min) Balanced Spindle		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
3.4	Drive System: Belt Drive / Gear Drive / Motor Spindle		
3.5	Spindle Motor Power: 20 kW (min) The spindle torque requirement at 40% duty cycle is 110 n-m to 130 n-m.		
3.6	Digital controlled AC Spindle Motor drive		
3.7	Spindle with Pneumatic operated automatic tool changing and through spindle air blow cleaning while tool change.		
3.8	Adjustable external coolant nozzles.		
3.9	Tool adapting support ISO50 / BT-50		
3.10	Power failure detection module.		
<b>4</b>	<b>Coolant System</b>		
4.1	Tank & filter unit		
4.2	Tank capacity : 250 lit or more		
4.3	Coolant system pump cap. : 65 lit / min. or more		
4.4	Through spindle coolant system; 40 bar		
<b>5</b>	<b>Axis drives &amp; control</b>		
5.1	Digital controlled drive and motors for all axes.		
5.2	LM Guide ways		
5.3	Closed pitch ball screws, supported at both ends, pre-tensioned preferable.		
5.4	Rapid speed (m/min) :		
	X Axis – 15 m/min		
	Y Axis – 15 m/min		
	Z Axis – 12 m/min		
5.5	Machining feed range in 3-Axis simultaneously resulting feed rate Min 10 m/min or higher.		
5.6	Positional accuracy for full stroke in each axis: +/- 0.010 mm or less		
5.7	Repeatability : +/- 0.005 mm or less		
5.8	Run out : 0.005 mm or less run out at nose.		
5.9	Run out on test bar: 0.010 mm or less		
5.10	<b>Note :-</b> Positional accuracy and repeatability values should be reported as per ISO 230-2 standard. If the manufacturer follows any other standards such as VDI/DGQ 3441, JIS, ASME/ANSI for these measurements, the		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	values should be reported as per the respective standard.		
<b>6</b>	<b>CNC Control Unit Features</b>		
6.1	<b>Controller:</b> Latest version of Siemens/Fanuc/Heidenhain/ equivalent OEM		
6.2	64 bit processor or equivalent		
6.3	3 axes simultaneous controllable		
6.4	Faster data procession rate and block processing suitable for high speed milling application. (1000 blocks/sec)		
6.5	Programming syntax as per DIN66025 ISO/EIA and additional manufacturer own syntax.		
6.6	Least increment 0.001 mm with decimal input.		
6.7	Spindle functions S, incl. Spindle Operation.		
6.8	Feed functions F, G-code & M-code		
6.9	Tool functions T, Tool length and cutter dia compensation G-code		
6.10	Interpolations		
	Standard A] Positioning		
	B] Linear interpolation		
	C] Helical		
6.11	USB port and Ethernet interface		
6.12	Rigid tapping function		
6.13	Standard cycles as per ISO std.		
6.14	Controller memory 500 MB or more		
6.15	High Speed Machining Function.		
6.16	Display of PLC alarm and message		
6.17	Over travel control		
6.18	Emergency stop on control panel, remote control		
6.19	Background editing and simulation of NC-Program		
6.20	CNC controller to take care of Stored pitch error Compensation		
6.21	Backlash compensation for cutting traverse		
6.22	Backlash compensation for rapid traverse		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
6.23	Feed forward control		
6.24	Standard cycle (canned)		
6.25	8.4" LCD Colour Monitor with soft keys		
6.26	Swiveling panel with in build keyboard, monitor & operating knobs		
6.27	Feed control potentiometer 10%. Increments from 0 – 120%.		
6.28	Spindle speed control potentiometer 10%. Increments from 0-120%.		
6.29	Emergency brake knob		
6.30	Machine hour reading		
6.31	Spindle load display		
6.32	Tool Load monitoring and Tool Life Management		
6.33	Power Failure & Self diagnostic function		
6.34	Blunt tool message		
<b>7</b>	<b>Accessories</b>		
7.1	Fully enclosed splash guard with sight windows.		
7.2	Chip Conveyor		
7.3	Fully encapsulated housing with safety type window		
7.4	Automatic Tool Magazine for min. 30 tools and Changer with safety guard.		
7.5	Minimum tool weight 12 kg.		
7.6	Tool diameter standard – 100 mm (min)		
7.7	Adjacent pocket empty – 160 mm (min)		
7.8	Leveling pads		
7.9	Door safety interlock		
7.10	Manual Pulse Generator (MPG)		
7.11	Work-piece washing gun.		
7.12	Run hour meter		
7.13	Warm up controller / timer.		
7.14	<b>Tooling Set &amp; Work holding as enlisted below:</b>		
	Dia. 200 Facemilling Cutter, 1 no.		
	Facemilling Inserts, 20 nos.		
	Facemilling Adaptor (for Dia. 200 Facemilling Cutter) 1 no.		
	Dia. 100 Facemilling Cutter, 1 no.		
	Indexable Inserts, 20 no.		



S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	BT 50 Adaptors, 1 No		
7.15	<b>Standard Maintenance Tool Kit:</b> 6-19 mm Drop Forged Combi. Spanners (Set 14), 1 no. 1.5-10 mm Allen Key Set (Set 9), 1 no. 1/16"-3/8" Allen Key Set (Set 10), 1 no. Tri-Line Driver (Set 6), 1 no.		
7.16	First Fill of Coolant		
7.17	Voltage Stabilizer, Capacity 60 kVA, 1 no.		
7.18	Ultra Isolation Transformer, Capacity 60 kVA, 1 no.		
7.19	Panel Exhaust / Cooler for CNC Control Panel, 1 no.		
7.20	<b>Important Note for Tooling :-</b> A) Cutting tool inserts should be of suitable "Coated Cemented Carbide" grades from reputed suppliers such as (Mitsubishi Materials / Sandvik / Kennmetal / Seco Tool / Sumitomo Electric / Tungaloy / Kyocera / Dijet / Hitachi Tool / Iscar etc.) for A.1) Light to heavy machining of un-alloyed & low alloy steels [Grade ISO P30(P10-P40)] equivalent A.2) Light Roughing of Hardened Steel upto HRC 60 [ISO H25 (H10-H25)] equivalent  B) Make and equivalent ISO Grade of the tools offered should be mentioned here.  C) Make of Cutting Tool Holders offered should be mentioned here  D) Cutting Tool Holders offered should be from reputed suppliers such as ( Sandvik / Kennmetal / Seco Tool)		
<b>8</b>	<b>Installation &amp; Commissioning</b>		
8.1	The complete installation and commissioning must be carried out by the supplier at the project (at the final destination/premises). A final accuracy test according to be conducted and verified by CMM-Metrology Test Record OR equivalent specimen test chart. Certificate of acceptance is to be signed by customer and supplier.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	All utilities like power, water and compressed air etc. shall be made available by the consignee within 5 meter of the location where the machine is to be installed. The details of all the utility requirements and operating environment requirements need to be specified by the supplier and shall be the responsibility of the purchaser		
<b>9</b>	<b>Training – To be provided at final destination place</b>		
9.1	Operator training - 5days.		
9.2	Programming course - 5 days		
9.3	Maintenance course mechanical, electrical and electronics - 5 days.		

### Lot No 5 - CNC Vertical Machining Centre – Large Bed

The bidder shall write their specifications/ values of material/equipment in the space provided wherever values are specified or otherwise Yes/ No. The bidder should enclose a printed catalogue of the model offered.

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	<b>CNC Vertical Machining Centre – Large Bed</b>		
1	<b>Field of application</b>		
1.1	Machining of single jobs and batch production.		
1.2	Standard machining of press tool plate, die plates, mould plates, fixtures, Precision machining jobs in : - Face, shoulder and pocket milling. - Drilling & Boring application Tapping.		
1.3	Die and Mould Machining		
2	<b>Material</b>		
2.1	Mild steel , Tough materials like nickel		
2.2	Tool steel, low-medium-high alloyed(Toughened & ,Stainless steel ,Casting steels, low,& medium carbon steels, Cast iron, Grey cast iron & Nodular cast iron ferritic / pearlitic type HRB 125-200 (Non hardened) etc.		
2.3	Non ferrous metals like Aluminium and aluminium alloys ,Copper and copper alloys and Brass		
2.4	Tough materials like Titanium, Inconel etc.		
3	<b>Technical data</b>		
3.1	<b>Work area dimensions:</b> (approximately) Linear Traverses: X-Axis - 1000 mm (min) : Y-Axis - 600 mm (min) : Z-Axis - 550 mm (min)		
3.2	<b>Machine Table</b> Table size 1200 mm x 600 mm Work holding: T-slot, 16/18 mm Width Table loading capacity Min. 1200 kg.		
3.3	<b>Machine Spindle &amp; Head Stock</b> Spindle speed : 8,000 rpm (min)		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	Balanced Spindle		
3.4	Drive System: Power belt/Inline/motor spindle		
3.5	Spindle Motor Power: 18 kW (min) Continuous/100 % duty Cycle		
3.6	Digital controlled AC Spindle Motor drive		
3.7	Spindle with Pneumatic operated automatic tool changing and through spindle air blow cleaning while tool change.		
3.8	Adjustable external coolant nozzles.		
3.9	Tool adapting support ISO40 / BT-40		
3.10	Power failure detection module.		
<b>4</b>	<b>Coolant System</b>		
4.1	Tank & filter unit		
<b>5</b>	<b>Axis drives &amp; control</b>		
5.1	Digital controlled drive and motors for all axes.		
5.2	LM Guide ways		
5.3	Closed pitch ball screws, supported at both ends, pre-tensioned preferable.		
5.4	<b>Rapid speed (m/min)</b>		
	X Axis – 15 m/min		
	Y Axis – 15 m/min		
	Z Axis – 15 m/min		
5.5	Machining feed range in 3-Axis simultaneously resulting feed rate Min 10 m/min or higher		
5.6	Positional accuracy for full stroke in each axis +/- 0.008 mm or less		
5.7	Repeatability : +/- 0.005 mm or less		
5.8	Run out : 0.005 mm or less run out at nose.		
5.9	Run out on test bar: 0.010 mm or less		
5.10	<b>Note :-</b> Positional accuracy and repeatability values should be reported as per ISO 230-2 standard. If the manufacturer follows any other standards such as VDI/DGQ 3441, JIS, ASME/ANSI for these measurements, the values should be reported as per the respective standard.		
<b>6</b>	<b>CNC Control Unit Features</b>		
6.1	<b>Controller:</b> Latest version of Siemens/Fanuc/Heidenhain/equivalent OEM		

<b>S.No</b>	<b>Machine Description</b>	<b>Bidders specification / confirmation</b>	<b>Reference page number/ section number of catalogue/Remarks</b>
6.2	64 bit processor or equivalent		
6.3	3 axes simultaneous controllable		
6.4	Faster data procession rate and block processing suitable for high speed milling application. (1000 blocks/sec)		
6.5	Programing syntax as per DIN66025 ISO/EIA and additional manufacturer own syntax.		
6.6	Least increment 0.001 mm with decimal input.		
6.7	Spindle functions S, incl. Spindle Operation.		
6.8	Feed functions F, G-code & M-code		
6.9	Tool functions T, Tool length and cutter dia compensation G-code,		
6.10	Interpolations		
	Standard A] Positioning		
	B] Linear interpolation		
	C] Helical		
6.11	USB port and Ethernet interface		
6.12	Rigid tapping function		
6.13	Standard cycles as per ISO std.		
6.14	Controller memory 500 MB or more		
6.15	High Speed Machining Function.		
6.16	Display of PLC alarm and message		
6.17	Over travel control		
6.18	Emergency stop on control panel, remote control		
6.19	Background editing and simulation of NC-Program		
6.20	CNC controller to take care of Stored pitch error Compensation		
6.21	Backlash compensation for cutting traverse		
6.22	Backlash compensation for rapid traverse		
6.23	Feed forward control		
6.24	Standard cycle (canned)		
6.25	8.4" LCD Colour Monitor with soft keys.		
6.26	Swiveling panel with in build keyboard, monitor & operating knobs.		
6.27	Feed control potentiometer 10%. Increments from 0 – 120%.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
6.28	Spindle speed control potentiometer 10%. Increments from 0-120%.		
6.29	Emergency brake knob		
6.30	Machine hour reading		
6.31	Spindle load display		
6.32	Tool Load monitoring and Tool Life Management		
6.33	Power Failure & Self diagnostic function		
6.34	Blunt tool message		
<b>7</b>	<b>Accessories</b>		
7.1	Fully enclosed splash guard with sight windows.		
7.2	Chip Conveyor		
7.3	Fully encapsulated housing with safety type window.		
7.4	Automatic Tool Magazine for min. 20 tools and Changer with safety – guard.		
7.5	Minimum tool weight 5 kg.		
7.6	Tool diameter standard – 80 mm (min)		
7.7	Adjacent pocket empty – 130 mm (min)		
7.8	Leveling pads		
7.9	Door safety interlock		
7.10	Manual Pulse Generator (MPG)		
7.11	Work-piece washing gun.		
7.12	Run hour meter		
7.13	Warm up controller / timer.		
7.14	<b>Tooling Set &amp; Work holding as enlisted below:</b>		
	Dia. 80 Facemilling Cutter, 1 no.		
	Facemilling Inserts, 20 nos.		
	Facemilling Adaptor (for Dia. 80 Facemilling Cutter) 1 no.		
	Dia. 80 Facemilling Cutter, 1 no.		
	Indexable Inserts, 20 no.		
	BT40 Pull Studs, 20 nos.		
	Magnetic Dial Stand, 1 no.		
	Edge Finder, 1 no.		
	Electronic Edge Finder, 1 no.		
	Twin Type Locking Fixture BT40, 1 no.		
	Clamping Kit (T16-M12), 1 no.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	Tool Trolley BT40, 1 no.		
7.15	<b>Standard Maintenance Tool Kit:</b>		
	6-19 mm Drop Forged Combi. Spanners (Set 14), 1 no.		
	1.5-10 mm Allen Key Set (Set 9), 1 no.		
	1/16"-3/8" Allen Key Set (Set 10), 1 no.		
	Tri-Line Driver (Set 6), 1 no.		
7.16	First Fill of Coolant		
7.17	Voltage Stabilizer, Capacity 45 kVA, 1 no.		
7.18	Ultra Isolation Transformer, Capacity 45 kVA, 1 no.		
7.19	Panel Exhaust / Cooler for CNC Control Panel, 1 no.		
7.20	<p><b>Important Note for Tooling :-</b></p> <p>A) Cutting tool inserts should be of suitable "Coated Cemented Carbide" grades from reputed suppliers such as (Mitsubishi Materials / Sandvik / Kennmetal / Seco Tool / Sumitomo Electric / Tungaloy / Kyocera / Dijet / Hitachi Tool / Iscar etc.) for</p> <p>A.1) Light to heavy machining of un-alloyed &amp; low alloy steels [Grade ISO P30(P10-P40)] equivalent</p> <p>A.2) Light Roughing of Hardened Steel upto HRc 60 [ISO H25 (H10-H25)] equivalent</p> <p>B) Make and equivalent ISO Grade of the tools offered should be mentioned here.</p> <p>C) Make of Cutting Tool Holders offered should be mentioned here</p> <p>D) Cutting Tool Holders offered should be from reputed suppliers such as ( Sandvik / Kennmetal / Seco Tool)</p>		
<b>8</b>	<b>Installation &amp; Commissioning</b>		
8.1	The complete installation and commissioning must be carried out by the supplier at the project (at the final destination/premises). A final accuracy test according to be conducted and verified by CMM-Metrology Test Record OR equivalent specimen test chart. Certificate of acceptance is to be signed by customer and supplier.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	All utilities like power, water and compressed air etc. shall be made available by the consignee within 5 meter of the location where the machine is to be installed. The details of all the utility requirements and operating environment requirements need to be specified by the supplier and shall be the responsibility of the purchaser		
<b>9</b>	<b>Training – To be provided at final destination place</b>		
9.1	Operator training - 5 days.		
9.2	Programming course - 5 days		
9.3	Maintenance course mechanical, electrical and electronics - 5 days.		



### Lot No 6 - CNC Vertical Machining Centre

The bidder shall write their specifications/ values of material/equipment in the space provided wherever values are specified or otherwise Yes/ No. The bidder should enclose a printed catalogue of the model offered.

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	<b>CNC Vertical Machining Centre</b>		
1	<b>Field of application</b>		
1.1	Machining of single jobs and batch production.		
1.2	Standard machining of press tool plate, die plates, mould plates, fixtures, Precision machining jobs in : - Face, shoulder and pocket milling. - Drilling & Boring application Tapping.		
1.3	Die and Mould Machining		
2	<b>Material</b>		
2.1	Mild steel , Tough materials like nickel		
2.2	Tool steel, low-medium-high alloyed(Toughened & ,Stainless steel ,Casting steels, low,& medium carbon steels, Cast iron, Grey cast iron & Nodular cast iron ferritic / pearlitic type HRB 125-200 (Non hardened) etc.		
2.3	Non ferrous metals like Aluminium and aluminium alloys ,Copper and copper alloys and Brass		
2.4	Tough materials like Titanium, Inconel etc.		
3	<b>Technical data</b>		
3.1	<b>Work area dimensions:</b> (approximately)		
	Linear Traverses: X-Axis - 750 mm (min)		
	Y-Axis -500 mm (min)		
	Z-Axis - 450 mm (min)		
3.2	<b>Machine Table</b>		
	Table size 900 mm x 600 mm min.		
	Work holding: T-slot, 16/18 mm Width		
	Table loading capacity Min. 1000 kg.		
3.3	<b>Machine Spindle &amp; Head Stock</b>		
	Spindle speed : 12,000 rpm (min)		
	Balanced Spindle		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
3.4	Drive System: Power belt / Inline drive / Motor Spindle		
3.5	Spindle Motor Power: 18 kW (min) 100% duty cycle		
3.6	Digital controlled AC Spindle Motor drive		
3.7	Spindle with Pneumatic operated automatic tool changing and through spindle air blow cleaning while tool change.		
3.8	Adjustable external coolant nozzles.		
3.9	Tool adapting support ISO 40/BT 40/ SK-40/ HSK A63		
3.10	Power failure detection module.		
<b>4</b>	<b>Coolant System</b>		
4.1	Tank & filter unit		
<b>5</b>	<b>Axis drives &amp; control</b>		
5.1	Digital controlled drive and motors for all axes.		
5.2	LM Guide ways		
5.3	Closed pitch ball screws, supported at both ends, pre-tensioned preferable.		
5.4	<b>Rapid speed (m/min)</b>		
	X Axis – 20 m/min		
	Y Axis – 20 m/min		
	Z Axis – 20 m/min		
5.5	Machining feed range in 3-Axis simultaneously resulting feed rate Min 10 m/min or higher.		
5.6	Positional accuracy for full stroke in each axis +/- 0.005 mm or less		
5.7	Repeatability : +/- 0.003 mm or less		
5.8	Run out : 0.003 mm or less run out at nose.		
5.9	Run out on test bar: 0.008 mm or less [Test Bar Length 200 mm]		
5.10	<b>Note :-</b> Positional accuracy and repeatability values should be reported as per ISO 230-2 standard. If the manufacturer follows any other standards such as VDI/DGQ 3441, JIS, ASME/ANSI for these measurements, the values should be reported as per the respective standard.		
<b>6</b>	<b>CNC Control Unit Features</b>		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
6.1	<b>Controller:</b> Latest version of Siemens/Fanuc/Heidenhain/ equivalent OEM		
6.2	64 bit processor or equivalent		
6.3	3 axes simultaneous controllable		
6.4	Faster data procession rate and block processing suitable for high speed milling application. (1000 blocks/sec)		
6.5	Programming syntax as per DIN66025 ISO/EIA and additional manufacturer own syntax.		
6.6	Least increment 0.001 mm with decimal input.		
6.7	Spindle functions S, incl. Spindle Operation.		
6.8	Feed functions F, G-code & M-code		
6.9	Tool functions T, Tool length and cutter dia compensation G-code		
6.10	Interpolations		
	Standard A] Positioning		
	B] Linear interpolation		
	C] Helical		
6.11	USB port and Ethernet interface		
6.12	Rigid tapping function		
6.13	Standard cycles as per ISO std.		
6.14	Controller memory 500 MB or more		
6.15	High Speed Machining Function.		
6.16	Display of PLC alarm and message		
6.17	Over travel control		
6.18	Emergency stop on control panel, remote control & tool loading device		
6.19	Background editing and simulation of NC-Program		
6.20	CNC controller to take care of Stored pitch error Compensation		
6.21	Backlash compensation for cutting traverse		
6.22	Backlash compensation for rapid traverse		
6.23	Feed forward control		
6.24	Standard cycle (canned)		
6.25	8.4" LCD Colour Monitor with soft keys.		
6.26	Swiveling panel with in build keyboard, monitor & operating knobs.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
6.27	Feed control potentiometer 10%. Increments from 0 – 120%.		
6.28	Spindle speed control potentiometer 10%. Increments from 0-120%.		
6.29	Emergency brake knob		
6.30	Machine hour reading		
6.31	Spindle load display		
6.32	Tool Load monitoring and Tool Life Management		
6.33	Power Failure & Self diagnostic function		
6.34	Blunt tool message		
<b>7</b>	<b>Accessories</b>		
7.1	Fully enclosed splash guard with sight windows.		
7.2	Chip Conveyor		
7.3	Fully encapsulated housing with safety type window.		
7.4	Automatic Tool Magazine for min. 20 tools and Changer with safety – guard.		
7.5	Minimum tool weight 5 kg.		
7.6	Tool diameter standard – 80 mm (min)		
7.7	Adjacent pocket empty – 125 mm (min)		
7.8	Leveling pads		
7.9	Door safety interlock		
7.1	Manual Pulse Generator (MPG)		
7.11	Work-piece washing gun.		
7.12	Run hour meter		
7.13	Warm up controller / timer.		
7.14	<b>Tooling Set &amp; Work holding as enlisted below:</b>		
	Dia. 150 Facemilling Cutter, 1 no.		
	Facemilling Inserts, 20 nos.		
	Facemilling Adaptor (for Dia. 150 Facemilling Cutter) 1 no.		
	Dia. 80 Facemilling Cutter, 1 no.		
	Indexable Inserts, 20 no.		
	BT40 Pull Studs, 20 nos.		
	Magnetic Dial Stand, 1 no.		
	Edge Finder, 1 no.		
	Electronic Edge Finder, 1 no.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	Twin Type Locking Fixture BT40, 1 no.		
	Clamping Kit (T16-M12), 1 no.		
	Tool Trolley BT40, 1 no.		
7.15	<b>Standard Maintenance Tool Kit:</b>		
	6-19 mm Drop Forged Combi. Spanners (Set 14), 1 no.		
	1.5-10 mm Allen Key Set (Set 9), 1 no.		
	1/16"-3/8" Allen Key Set (Set 10), 1 no.		
	Tri-Line Driver (Set 6), 1 no.		
7.16	First Fill of Coolant,		
7.17	AVR, Capacity 45 kVA, 1 no.		
7.18	Ultra Isolation Transformer, Capacity 45 kVA, 1 no.		
7.19	Panel Exhaust / Cooler for CNC Control Panel, 1 no.		
7.20	<p><b>Important Note for Tooling :-</b></p> <p>A) Cutting tool inserts should be of suitable "Coated Cemented Carbide" grades from reputed suppliers such as (Mitsubishi Materials / Sandvik / Kennmetal / Seco Tool / Sumitomo Electric / Tungaloy / Kyocera / Dijet / Hitachi Tool / Iscar etc.) for</p> <p>A.1) Light to heavy machining of un-alloyed &amp; low alloy steels [Grade ISO P30(P10-P40)] equivalent</p> <p>A.2) Light Roughing of Hardened Steel upto HRC 60 [ISO H25 (H10-H25)] equivalent</p> <p>B) Make and equivalent ISO Grade of the tools offered should be mentioned here.</p> <p>C) Make of Cutting Tool Holders offered should be mentioned here</p> <p>D) Cutting Tool Holders offered should be from reputed suppliers such as ( Sandvik / Kennmetal / Seco Tool)</p>		
<b>8</b>	<b>Installation &amp; Commissioning</b>		
8.1	The complete installation and commissioning must be carried out by the supplier at the project (at the final destination/premises). A final accuracy test according to be conducted and verified by CMM-Metrology Test Record OR equivalent specimen test chart. Certificate of acceptance is to be signed by customer and supplier.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	All utilities like power, water and compressed air etc. shall be made available by the consignee within 5 meter of the location where the machine is to be installed. The details of all the utility requirements and operating environment requirements need to be specified by the supplier and shall be the responsibility of the purchaser.		
<b>9</b>	<b>Training – To be provided at final destination place</b>		
9.1	Operator training - 5days.		
9.2	Programming course - 5 days		
9.3	Maintenance course mechanical, electrical and electronics - 5 days.		

### Lot No 7 – 4 Axis CNC Horizontal Milling Machine with Vertical Attachment

The bidder shall write their specifications/ values of material/equipment in the space provided wherever values are specified or otherwise Yes/ No. The bidder should enclose a printed catalogue of the model offered.

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	<b>4 Axis CNC Horizontal Milling Machine with Vertical Attachment</b>		
<b>1</b>	<b>Traverse</b>		
1.1	X Axis: 600 mm (Minimum)		
1.2	Y axis: 400 mm (Minimum)		
1.3	Z Axis: 400 mm (Minimum)		
1.4	C Axis : 360° Step Less		
<b>2</b>	<b>Axis Drives</b>		
2.1	Min. Feed Rate:		
2.1.1	X- 2000 mm/Min		
2.1.2	Y- 2000 mm/Min		
2.1.2	Z- 1500 mm/Min		
2.2	Min. Rapid Traverse X / Y / Z Axis		
2.2.1	X- 2000 mm/Min		
2.2.2	Y- 4000 mm/Min		
2.2.3	Z- 1500 mm/Min.		
<b>3</b>	<b>Load capacity : 200 Kg Max.</b>		
<b>4</b>	<b>Table Size (Min): CNC Rotary Table Dia 320 mm</b>		
<b>5</b>	<b>Spindle</b>		
5.1	Power: 5.5 Kw (Minimum)		
5.2	Speed: 4500 rpm (Minimum)		
5.3	Taper: ISO 40/BT 40/SK 40/BBT-40		
<b>6</b>	<b>Power supply: 415 V AC, 3 Phase , 50 Hz</b>		
<b>7</b>	<b>Accuracy</b>		
7.1	Positioning on Job (Through out the entire length)		
7.1.1	X : - + 0.015 mm or Less		
7.1.2	Y : - + 0.010 mm or Less		
7.1.3	Z : - + 0.010 mm or Less		
7.2	Repeatability: + 0.006 mm Or Less		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
7.3	<b>Note :-</b> Positional accuracy and repeatability values should be reported as per ISO 230-2 standard. If the manufacturer follows any other standards such as VDI/DGQ 3441, JIS, ASME/ANSI for these measurements, the values should be reported as per the respective standard.		
<b>8</b>	<b>General Features</b>		
8.1	The machine must have Horizontal spindle with vertical spindle attachment.		
8.1.1	Swivel of vertical head minimum + 90 deg. Swivel axis preferably be parallel to horizontal spindle axis		
8.1.2	Vertical Head Quill Stroke 60 mm		
8.1.3	Facility To Park Vertical Head When Not In Use		
8.2	Hardened and ground ball screws		
8.3	Automatic centralized lubrication system		
8.4	Provision for fixing rotary “ C “ axis on the Standard Machine Table		
8.5	Covers on all Axis with safety & flash guards		
8.5.1	X : Telescopic		
8.5.2	Y : Telescopic Or Below		
8.5.3	Z : Telescopic Or Below Or Sheet Metal		
8.6	Coolant Unit		
8.7	Linear Glass Scale in All Axis		
8.8	Servo Motor & Drive should be of same make.		
<b>9</b>	<b>Controller:</b> Latest Version Of Fanuc Oi Mc (Or 310 I S Or Oimd) / Heidenhain Tnc 530 / Siemens 802 Or 840d / Equivalent		
9.1	Simultaneous interpolation : X,Y,Z & C Axis		
9.2	Adaptive control		
9.3	Self diagnostic feature		
9.4	RS 232 /LAN /Ethernet/USB port		
9.5	Inductive transmission/ optical / radio (RMP) Automatic Probing System with touch probe and fittings.		
9.6	Work alignment feature		
9.7	Drift feed feature		
9.8	Over Load Controller		



S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
9.9	512 MB RAM or More (If Drift Feed not available)		
9.1	Repositioning After Power Failure.		
<b>10</b>	<b>Accessories/Attachments</b>		
10.1	Precision Hydraulic Machine Vice, Qty: 1 No. Jaw Length: 125 mm		
10.2	Job Clamping Kit, Qty : 1 Set Height : 5-125 mm		
10.3	Collet Chuck Adaptor : 10 Nos		
10.4	Set Of Collets ( From 2-25 mm) ( Set Of 15 Nos), Qty : 2 Sets 2,3,4,5,6,8,10,12,14,16,18,20,22,24,25 mm		
10.6	Key less Drill Chuck With Adaptor, Qty : 2 Nos. 1-13 mm		
10.7	Side Lock Adapter, Qty: 1 Set 6,8,10,12,16,20,25,32 mm ( Set Of 8 Nos)		
10.8	Morse Taper Adaptor, Qty : 2 Sets MT-1,MT-2,MT-3,MT-4 ( Set Of 4 Nos)		
10.9	Pull stud : (40 Nos)		
10.1	Anti Vibration Leveling Pad :1 Set		
10.11	Arbor Holder for Long Milling Arbors		
10.12	Long Arbor Dia 27		
10.13	<p><b>Important Note for Tooling :-</b></p> <p>A) Cutting tool inserts should be of suitable "Coated Cemented Carbide" grades from reputed suppliers such as (Mitsubishi Materials / Sandvik / Kennmetal / Seco Tool / Sumitomo Electric / Tungaloy / Kyocera / Dijet / Hitachi Tool / Iscar etc.) for</p> <p>A.1) Light to heavy machining of un-alloyed &amp; low alloy steels [Grade ISO P30(P10-P40)] equivalent</p> <p>A.2) Light Roughing of Hardened Steel upto HRC 60 [ISO H25 (H10-H25)] equivalent</p> <p>B) Make and equivalent ISO Grade of the tools offered should be mentioned here.</p> <p>C) Make of Cutting Tool Holders offered should be mentioned here</p> <p>D) Cutting Tool Holders offered should be from reputed suppliers such as ( Sandvik / Kennmetal / Seco Tool)</p>		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
11	<b>Standard Hand Tools as per machine requirement : (One Set)</b>		
12	<b>Installation &amp; Commissioning</b>		
12.1	<p>The complete installation and commissioning must be carried out by the supplier at the project (at the final destination/premises). A final accuracy test according to be conducted and verified by CMM-Metrology Test Record OR equivalent specimen test chart. Certificate of acceptance is to be signed by customer and supplier.</p> <p>All utilities like power, water and compressed air etc. shall be made available by the consignee within 5 meter of the location where the machine is to be installed. The details of all the utility requirements and operating environment requirements need to be specified by the supplier and shall be the responsibility of the purchaser</p>		
13	<b>Training – To be provided at final destination place</b>		
13.1	Operator training - 5days.		
13.2	Programming course - 5 days		
13.3	Maintenance course mechanical, electrical and electronics - 5 days.		

### Lot No 8 – 5 Axis CNC Milling Machine – Large Bed

The bidder shall write their specifications/ values of material/equipment in the space provided wherever values are specified or otherwise Yes/ No. The bidder should enclose a printed catalogue of the model offered.

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	<b>5 Axis CNC Milling Machine – Large Bed</b>		
<b>1</b>	<b>Field of Application</b>		
1.1	Machining of single jobs and batch production.		
1.2	Standard machining of press tool plate, die plates, mould plates, fixtures, Precision machining jobs in :		
	Face, shoulder and pocket milling.		
	Drilling & Boring application		
	Tapping.		
1.3	Five Axis simultaneous Core & Cavity machining of :		
	Forming & stamping tool components		
	Die casting Die components		
	Injection molding components		
	Other free form machining components		
1.4	The following Tool Holding & Cutting Tools must be able to use.		
	Tool holding:		
	Suitable for Tool Shank BT40/ISO40/SK40/HSK A63 (Drawing sketch and tool shank drawing to be attached in the quotation).		
	minimum 30 station Spindle tool adapting suitable for automatic tool change as per BT40/ISO40/SK40/HSK A63		
	Software Controlled Tool adaptor holding with self clamping disk spring loaded holding facility.		
	Solid and modular tool holders with or without internal coolant supply for automatic tool change.		
<b>2</b>	<b>Material</b>		
2.1	Mild steel , Tough materials like nickel		
2.2	Tool steel, low-medium-high alloyed(Toughened & ,Stainless steel ,Casting steels, low,& medium carbon steels, Cast iron, Grey cast iron & Nodular cast iron ferritic /		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	pearlitic type HRB 125-200 (Non hardened) etc.		
2.3	Non ferrous metals like Aluminium and aluminium alloys ,Copper and copper alloys and Brass		
2.4	Tough materials like Titanium, Inconel etc.		
<b>3</b>	<b>Technical data</b>		
3.1	<b>Work area dimensions : (approximately)</b>		
	Linear Traverses : Min. 1500 mm in X-Axis		
	Min. 600 mm in Y-Axis		
	Min. 600 mm in Z-Axis		
	With 5 axis capabilities - A & C Axis		
3.2	Rotary Axis Tilt : Min. +90 <sup>0</sup> /- 90 <sup>0</sup>		
3.3	Rotary Axis Rotation :360 <sup>0</sup> .		
3.4	Both axis should be Continuous.		
3.5	<b>Machine Table</b>		
	Table : Min 1600 x 600 mm		
	Table Load Capacity : max 500 kgs.		
3.6	Work holding: T-slot width 14/16 mm		
3.7	'C' axis Swing diameter 600 mm		
3.8	<b>Machine Spindle &amp; Head Stock</b>		
	Spindle speed : Min 12,000 rpm		
	Balanced Spindle		
3.9	Drive System : Power belt / Inline drive / Motor Spindle		
3.10	Spindle Motor – Min 20Kw 100% duty Cycle		
3.11	Oil cooled and permanent spindle lubrication display function at CNC Control Monitor		
3.12	For spindle – Jacket cooling preferred		
3.13	For Head – Jacket cooling preferred		
3.14	Synchronized with bed temp preferred		
3.15	Digitally controlled AC Spindle Motor drive		
3.16	Spindle with hydraulic / pneumatic operated automatic tool changing and through spindle air blow for cleaning while tool change.		
3.17	Tool adapting support HSK-A63 / SK-40 / BT-40		
3.18	Power failure detection module.		

<b>S.No</b>	<b>Machine Description</b>	<b>Bidders specification / confirmation</b>	<b>Reference page number/ section number of catalogue/Remarks</b>
<b>4</b>	<b>Coolant system</b>		
4.1	Tank capacity min 200 lit or more		
4.2	Air Gun for Dry Machining.		
4.3	Adjustable external coolant nozzles		
4.4	Programmable Coolant Nozzle		
4.5	Through Spindle Coolant with filtering system		
<b>5</b>	<b>Axis drives &amp; control</b>		
5.1	Digital controlled drive and motors for all axes.		
5.2	LM Guide ways		
5.3	Closed pitch ball screws, supported at both ends, pre-tensioned		
5.4	Rapids X/Y/Z Axis : Min 30 m/min		
5.5	Feed Rate X/Y/Z Axis : Min 20 m/min		
5.6	Rotary Speed Axis Tilt : 20 RPM		
5.7	Rotary Speed Axis Rotation :20 RPM		
<b>6</b>	<b>CNC Control Unit features</b>		
6.1	<b>Controller:</b> Latest version of Siemens/Fanuc/Heidenhain/ equivalent OEM		
6.2	64 bit processor or equivalent		
6.3	5 axes simultaneous controllable		
6.4	Faster data procession rate and block processing suitable for high speed milling application. (1000 blocks/sec)		
6.5	Programming syntax as per DIN66025 ISO/EIA and additional manufacturer own syntax.		
6.6	Least increment 0.001 mm with decimal input.		
6.7	Spindle functions S, incl. Spindle Operation.		
6.8	Feed functions F, G-code & M-code		
6.9	Tool functions T, Tool length and cutter dia compensation G-code, 3 D cutter compensation		
6.10	Interpolations, Tool Life Management		
	Standard A] positioning		
	B] Linear interpolation		
	C] Helical		
6.11	I/O interface Ethernet with ISO/EIA auto-discrimination.		
6.12	Rigid tapping/synchronized tapping function		
6.13	Measuring cycles for touch probe		
6.14	Standard cycles as per ISO std.		

<b>S.No</b>	<b>Machine Description</b>	<b>Bidders specification / confirmation</b>	<b>Reference page number/ section number of catalogue/Remarks</b>
6.15	RS 232 /LAN /Ethernet/USB port for communication		
6.16	Part program storage Min 500 MB on Hard disk and Ethernet interface		
6.17	Display of alarm and message		
6.18	Over travel control		
6.19	Emergency stop on control panel, remote control & tool loading device		
6.20	CNC controller to take care of		
6.20.1	Stored pitch error compensation		
6.20.2	Backlash compensation for cutting traverse		
6.20.3	Backlash compensation for rapid traverse		
6.20.4	Friction compensation control		
6.20.5	Electronic Thermal Compensation		
6.20.6	Feed forward control		
6.21	Standard cycle (canned)		
6.22	8.4 inch (min) LCD Color Monitor with soft keys.		
6.23	Swiveling Panel with in-build keyboard, monitor & operating knobs.		
6.24	Feed control potentiometer 10%. Increments from 0 – 120%.		
6.25	Spindle speed control potentiometer 10% Increments from 0 – 120%.		
6.26	Emergency brake knob		
6.27	Machine hour reading		
6.28	Spindle load display (KW)		
6.29	AC control for PLC and drive control cabinet, self-diagnostic function		
6.30	Blunt tool message		
7	<b>Accuracy</b>		
7.1	Positional accuracy for full stroke in each axis +/- 0.005 mm or less		
7.2	Repeatability : +/- 0.003 mm or less		
7.3	Run out : 0.003 mm or less run out at nose.		
7.4	Run out on test bar: 0.010 mm or less [Test Bar Length 200 mm]		
7.5	Rotational Accuracy : ± 3 Arc Seconds		
7.6	Indexing Accuracy : ± 3 Arc Seconds		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
7.7	<b>Note :-</b> Positional accuracy and repeatability values should be reported as per ISO 230-2 standard. If the manufacturer follows any other standards such as VDI/DGQ 3441, JIS, ASME/ANSI for these measurements, the values should be reported as per the respective standard.		
<b>8</b>	<b>Accessories</b>		
8.1	Chip conveyor		
8.2	Fully enclosed splash guard with slide windows.		
8.3	Fully encapsulated housing with safety type window.		
8.4	Automatic Tool Magazine for min. 30 tools and Changer with safety – guard.		
8.5	Tool weight 5 Kg (min)		
8.6	Max tool dia 80 mm random access. Max Tool Length 250 mm		
8.7	Leveling pads		
8.8	Door safety interlock		
8.9	Remote Jog Handle		
8.10	Wireless Tool Touch probe and Spindle Part Probe		
8.11	Work-piece washing gun.		
8.12	Software controlled central lubrication system		
8.13	Run hour meter and Mimic Display		
8.14	Auto Measuring Cycle		
8.15	Hypermill/Delcam/MasterCam Software or equivalent		
8.16	<b>Tooling Set</b>		
	Dia. 80 mm and 50 mm Face milling Cutters, 1 no. each		
	Face milling Inserts, 20 nos.		
	Face milling Adopter (for Dia. 80 mm and 50 mm Face milling Cutter) 1 No. each		
	Dia. 10 Indexable Cutter, 1 no.		
	Dia. 10 Indexable Cutter Inserts, 10 nos.		
	Dia. 16 Indexable Cutter, 1 no.		
8.17	<b>Standard Maintenance Tool Kit:</b>		
	6-19 mm Drop Forged Combi. Spanners (Set 14), 1 no.		
	1.5-10 mm Allen Key Set (Set 9), 1 no.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	1/16"-3/8" Allen Key Set (Set 10), 1 no.		
	Tri-Line Driver (Set 6), 1 no.		
8.18	First Fill of Coolant,		
8.19	AVR, Capacity 45 kVA, 1 no.		
8.20	Ultra Isolation Transformer, Capacity 45 kVA, 1 no.		
8.21	Panel Exhaust / Cooler for CNC Control Panel, 1 no.		
8.22	<p><b>Important Note for Tooling :-</b></p> <p>A) Cutting tool inserts should be of suitable "Coated Cemented Carbide" grades from reputed suppliers such as (Mitsubishi Materials / Sandvik / Kennmetal / Seco Tool / Sumitomo Electric / Tungaloy / Kyocera / Dijet / Hitachi Tool / Iscar etc.) for</p> <p>A.1) Light to heavy machining of un-alloyed &amp; low alloy steels [Grade ISO P30(P10-P40)] equivalent</p> <p>A.2) Light Roughing of Hardened Steel upto HRC 60 [ISO H25 (H10-H25)] equivalent</p> <p>B) Make and equivalent ISO Grade of the tools offered should be mentioned here.</p> <p>C) Make of Cutting Tool Holders offered should be mentioned here</p> <p>D) Cutting Tool Holders offered should be from reputed suppliers such as ( Sandvik / Kennmetal / Seco Tool)</p>		
<b>9</b>	<b>Installation &amp; Commissioning</b>		
9.1	<p>The complete installation and commissioning must be carried out by the supplier at the project (at the final destination/premises). A final accuracy test according to be conducted and verified by CMM-Metrology Test Record OR equivalent specimen test chart. Certificate of acceptance is to be signed by customer and supplier.</p> <p>All utilities like power, water and compressed air etc. shall be made available by the consignee within 5 meter of the location where the machine is to be installed. The details of all the utility requirements and operating environment requirements need to be specified by the supplier and shall be the responsibility of the purchaser</p>		



<b>S.No</b>	<b>Machine Description</b>	<b>Bidders specification / confirmation</b>	<b>Reference page number/ section number of catalogue/Remarks</b>
<b>10</b>	<b>Training – To be provided at final destination place</b>		
10.1	Operator training - 5days.		
10.2	Programming course - 5 days		
10.3	Maintenance course mechanical, electrical and electronics - 5 days.		

### Lot No 9 – 5 Axis CNC Milling Machine

The bidder shall write their specifications/ values of material/equipment in the space provided wherever values are specified or otherwise Yes/ No. The bidder should enclose a printed catalogue of the model offered.

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	<b>5 Axis CNC Milling Machine</b>		
<b>1</b>	<b>Field of Application</b>		
1.1	Machining of single jobs and batch production.		
1.2	Standard machining of press tool plate, die plates, mould plates, fixtures, Precision machining jobs in :		
	Face, shoulder and pocket milling.		
	Drilling & Boring application		
	Tapping.		
1.3	Five Axis simultaneous Core & Cavity machining of :		
	Forming & stamping tool components		
	Die casting Die components		
	Injection molding components		
	Other free form machining components		
1.4	The following Tool Holding & Cutting Tools must be able to use.		
	Tool holding:		
	Suitable for Tool Shank BT40/ISO40/SK40/HSK A63 (Drawing sketch and tool shank drawing to be attached in the quotation).		
	Min. 30 station Spindle tool adapting suitable for automatic tool change as per BT40/ISO40/SK40/HSK A63		
	Software Controlled Tool adaptor holding with self-clamping disk spring loaded holding facility.		
	Solid and modular tool holders with or without internal coolant supply for automatic tool change.		
2	<b>Material</b>		
2.1	Mild steel , Tough materials like nickel		
2.2	Tool steel, low-medium-high alloyed(Toughened & ,Stainless steel ,Casting steels, low,& medium carbon steels, Cast iron, Grey cast iron & Nodular cast iron ferritic / pearlitic type HRB 125-200 (Non hardened) etc.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
2.3	Non ferrous metals like Aluminium and aluminium alloys ,Copper and copper alloys and Brass		
2.4	Tough materials like Titanium, Inconel etc.		
<b>3</b>	<b>Technical data</b>		
3.1	<b>Work area dimensions : (approximately)</b>		
	Linear Traverses : Min. 700 mm in X-Axis		
	Min. 500 mm in Y-Axis		
	Min. 500 mm in Z-Axis		
	With 5 axis capabilities - A/B & C Axis		
3.2	Rotary Axis Tilt: Min. -100 <sup>0</sup> /+ 30 <sup>0</sup>		
3.3	Rotary Axis Rotation :360 <sup>0</sup> .		
3.4	Both axis should be Continuous.		
3.5	<b>Machine Table</b>		
	Table : Min 600 x 500 mm		
	Table Load Capacity: Min. 400 kgs.		
3.6	Work holding: T-slot width 14/16 mm		
3.7	'C' axis Swing diameter 600 mm		
3.8	<b>Machine Spindle &amp; Head Stock</b>		
	Spindle speed : Min 18,000 rpm		
	Balanced Spindle		
3.9	Drive System : Power belt / Inline drive / Motor Spindle		
3.10	Spindle Motor – Min 20Kw 100% duty cycle		
3.11	Oil cooled and permanent spindle lubrication display function at CNC Control Monitor		
3.12	For spindle – Jacket cooling preferred.		
3.13	For Head – Jacket cooling preferred		
3.14	Synchronized with bed temp preferred.		
3.15	Digital controlled AC Spindle Motor drive		
3.16	Spindle with hydraulic / pneumatic operated automatic tool changing and through spindle air blow for cleaning while tool change.		
3.17	Tool adapting support HSK-A63 / SK-40 / BT-40		
3.18	Power failure detection module.		
<b>4</b>	<b>Coolant system</b>		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
4.1	Tank capacity min 200 lit or more		
4.2	Air Gun for Dry Machining.		
4.3	Adjustable external coolant nozzles		
4.4	Programmable Coolant Nozzle.		
4.5	Through Spindle Coolant with filtering system.		
<b>5</b>	<b>Axis drives &amp; control</b>		
5.1	Digital controlled drive and motors for all axes.		
5.2	LM Guide ways		
5.3	Closed pitch ball screws, supported at both ends, pre-tensioned		
5.4	Rapids X/Y/Z Axis : Min 30 m/min		
5.5	Feed Rate X/Y/Z Axis : Min 30 m/min		
5.6	Rotary Speed Axis Tilt : 20 RPM		
5.7	Rotary Speed Axis Rotation :20 RPM		
<b>6</b>	<b>CNC Control Unit features</b>		
6.1	<b>Controller:</b> Latest version of Siemens/Fanuc/Heidenhain/ equivalent OEM		
6.2	64 bit processor or equivalent		
6.3	5 axes simultaneous controllable		
6.4	Faster data procession rate and block processing suitable for high speed milling application. (1000 blocks/sec)		
6.5	Programming syntax as per DIN66025 ISO/EIA and additional manufacturer own syntax.		
6.6	Least increment 0.001 mm with decimal input.		
6.7	Spindle functions S, incl. Spindle Operation.		
6.8	Feed functions F, G-code & M-code		
6.9	Tool functions T, Tool length and cutter dia compensation G-code, 3 D cutter compensation		
6.10	Interpolations, Tool Life Management		
	Standard A] positioning		
	B] Linear interpolation		
	C] Helical		
6.11	I/O interface Ethernet with ISO/EIA auto-discrimination.		
6.12	Rigid tapping/synchronized tapping function		
6.13	Measuring cycles for touch probe		
6.14	Standard cycles as per ISO std.		
6.15	RS 232 /LAN /Ethernet/USB port for communication		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
6.16	Part program storage Min 500 MB on Hard disk and Ethernet interface		
6.17	Display of alarm and message		
6.18	Over travel control		
6.19	Emergency stop on control panel, remote control & tool loading device		
6.20	CNC controller to take care of,		
6.20.1	Stored pitch error compensation		
6.20.2	Backlash compensation for cutting traverse		
6.20.3	Backlash compensation for rapid traverse		
6.20.4	Friction compensation control		
6.20.5	Electronic Thermal Compensation		
6.20.6	Feed forward control		
6.21	Standard cycle (canned)		
6.22	Min. 8.4 inch LCD Color Monitor with soft keys.		
6.23	Swiveling Panel with in build keyboard, monitor & operating knobs.		
6.24	Feed control potentiometer 10%. Increments from 0 – 120%.		
6.25	Spindle speed control potentiometer 10% Increments from 0 – 120%.		
6.26	Emergency brake knob		
6.27	Machine hour reading		
6.28	Spindle load display (KW)		
6.29	AC control for PLC and drive control cabinet, self diagnostic function		
6.30	Blunt tool message		
7	<b>Accuracy</b>		
7.1	Positional accuracy for full stroke in each axis +/- 0.005 mm or less		
7.2	Repeatability : +/- 0.003 mm or less		
7.3	Run out : 0.003 mm or less run out at nose.		
7.4	Run out on test bar: 0.010 mm or less [Test Bar Length 200 mm]		
7.5	Rotational Accuracy : 5 Arc Seconds		
7.6	Indexing Accuracy : 5 Arc Seconds		
7.7	<b>Note :-</b> Positional accuracy and repeatability values should be reported as per ISO 230-2 standard. If the manufacturer follows any other standards such as VDI/DGQ 3441, JIS, ASME/ANSI for these measurements, the values should be reported as per the respective standard.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
<b>8</b>	<b>Accessories</b>		
8.1	Chip conveyor.		
8.2	Fully enclosed splash guard with slide windows.		
8.3	Fully encapsulated housing with safety type window.		
8.4	Automatic Tool Magazine for min. 30 tools and Changer with safety – guard.		
8.5	Tool weight 5 Kg (min)		
8.6	Max tool dia 80 mm random access. Max Tool Length 250 mm		
8.7	Leveling pads		
8.8	Door safety interlock		
8.9	Remote Jog Handle		
8.10	Wireless Tool Touch probe and Spindle Part Probe		
8.11	Work-piece washing gun.		
8.12	Software controlled central lubrication system		
8.13	Run hour meter		
8.14	Data Logger / Auto Utilization Mechanism		
8.15	Mimic Display		
8.16	Optical / Auto measuring cycle		
8.17	Hypermill/Delcam/MasterCam Software or equivalent		
8.18	<b>Tooling Set</b>		
	Face milling cutters: Dia. 80mm and 50 mm, 1 No. each		
	Adopters ( For dia 80mm and 50 mm face milling cutter) , 1 nos each		
	Face milling Inserts, 20 nos.		
	Dia. 10 Indexable Cutter, 1 no.		
	Dia. 10 Indexable Cutter Inserts, 10 nos.		
	Dia. 16 Indexable Cutter, 1 no.		
8.19	<b>Standard Maintenance Tool Kit:</b>		
	6-19 mm Drop Forged Combi. Spanners (Set 14), 1 no.		
	1.5-10 mm Allen Key Set (Set 9), 1 no.		
	1/16"-3/8" Allen Key Set (Set 10), 1 no.		
	Tri-Line Driver (Set 6), 1 no.		
8.20	First Fill of Coolant,		
8.21	Voltage Stabilizer, Capacity 45 kVA, 1 no.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
8.22	Ultra Isolation Transformer, Capacity 45 kVA, 1 no.		
8.23	Panel Exhaust / Cooler for CNC Control Panel, 1 No.		
8.24	<p><b>Important Note for Tooling :-</b></p> <p>A) Cutting tool inserts should be of suitable "Coated Cemented Carbide" grades from reputed suppliers such as (Mitsubishi Materials / Sandvik / Kennmetal / Seco Tool / Sumitomo Electric / Tungaloy / Kyocera / Dijet / Hitachi Tool / Iscar etc.) for</p> <p>A.1) Light to heavy machining of un-alloyed &amp; low alloy steels [Grade ISO P30(P10-P40)] equivalent</p> <p>A.2) Light Roughing of Hardened Steel upto HRc 60 [ISO H25 (H10-H25)] equivalent</p> <p>B) Make and equivalent ISO Grade of the tools offered should be mentioned here.</p> <p>C) Make of Cutting Tool Holders offered should be mentioned here</p> <p>D) Cutting Tool Holders offered should be from reputed suppliers such as ( Sandvik / Kennmetal / Seco Tool)</p>		
<b>9</b>	<b>Installation &amp; Commissioning</b>		
9.1	<p>The complete installation and commissioning must be carried out by the supplier at the project (at the final destination/premises). A final accuracy test according to be conducted and verified by CMM-Metrology Test Record OR equivalent specimen test chart. Certificate of acceptance is to be signed by customer and supplier.</p> <p>All utilities like power, water and compressed air etc. shall be made available by the consignee within 5 meter of the location where the machine is to be installed. The details of all the utility requirements and operating environment requirements need to be specified by the supplier and shall be the responsibility of the purchaser</p>		
<b>10</b>	<b>Training – To be provided at final destination place</b>		
10.1	Operator training - 5days.		
10.2	Programming course - 5 days		
10.3	Maintenance course mechanical, electrical and electronics - 5 days.		





### Lot No 10 – 5 Axis CNC Milling Machine with Extra Tool

The bidder shall write their specifications/ values of material/equipment in the space provided wherever values are specified or otherwise Yes/ No. The bidder should enclose a printed catalogue of the model offered.

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	<b>5 Axis CNC Milling Machine with Extra Tool</b>		
<b>1</b>	<b>Field of Application</b>		
1.1	Machining of single jobs and batch production.		
1.2	Standard machining of press tool plate, die plates, mould plates, fixtures, Precision machining jobs in :		
	Face, shoulder and pocket milling.		
	Drilling & Boring application		
	Tapping.		
1.3	Five Axis simultaneous Core & Cavity machining of :		
	Forming & stamping tool components		
	Die casting Die components		
	Injection molding components		
	Other free form machining components		
1.4	The following Tool Holding & Cutting Tools must be able to use.		
	Tool holding:		
	Suitable for Tool Shank BT40/ISO40/ SK40/HSK A63 (Drawing sketch and tool shank drawing to be attached in the quotation).		
	minimum 30 station Spindle tool adapting suitable for automatic tool change as per BT40/ISO40/SK40/HSK A63		
	Software Controlled Tool adaptor holding with self clamping disk spring loaded holding facility.		
	Solid and modular tool holders with or without internal coolant supply for automatic tool change.		
<b>2</b>	<b>Material</b>		
2.1	Mild steel , Tough materials like nickel		
2.2	Tool steel, low-medium-high alloyed(Toughened & ,Stainless steel ,Casting steels, low,& medium carbon steels, Cast iron, Grey cast iron & Nodular cast iron ferritic / pearlitic type HRB 125-200 (Non hardened) etc.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
2.3	Non ferrous metals like Aluminium and aluminium alloys ,Copper and copper alloys and Brass		
2.4	Tough materials like Titanium, Inconel etc.		
<b>3</b>	<b>Technical data</b>		
3.1	Work area dimensions : (approximately)		
	Linear Traverses : Min. 700 mm in X-Axis		
	Min. 500 mm in Y-Axis		
	Min. 500 mm in Z-Axis		
	With 5 axis capabilities - A/B & C Axis		
3.2	Rotary Axis Tilt :Min. -100 <sup>0</sup> /+ 30 <sup>0</sup>		
3.3	Rotary Axis Rotation :360 <sup>0</sup> .		
3.4	Both axis should be Continuous.		
3.5	Machine Table		
	Table : Min 600 x 500 mm		
	Table Load Capacity : min 300 kgs.		
3.6	Work holding: T-slot width 14/16 mm		
3.7	'C' axis Swing diameter 600 mm		
3.8	Machine Spindle & Head Stock		
	Spindle speed : Min 18,000 rpm		
	Balanced Spindle		
3.9	Drive System : Power belt/Inline drive/ Motor spindle		
3.10	Spindle Motor – Min 20Kw 100% Duty Cycle		
3.11	Oil cooled and permanent spindle lubrication display function at CNC Control Monitor		
3.12	For spindle – Jacket cooling preferred.		
3.13	For Head – Jacket cooling preferred		
3.14	Synchronized with bed temp preferred.		
3.15	Digital controlled AC Spindle Motor drive		
3.16	Spindle with hydraulic / pneumatic operated automatic tool changing and through spindle air blow for cleaning while tool change.		
3.17	Tool adapting support HSK-A63 / SK-40 / BT-40		
3.18	Power failure detection module.		
<b>4</b>	<b>Coolant system</b>		
4.1	Tank capacity min 200 lit or more		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
4.2	Air Gun for Dry Machining.		
4.3	Adjustable external coolant nozzles		
4.4	Programmable Coolant Nozzle.		
4.5	Through Spindle Coolant with filtering system.		
<b>5</b>	<b>Axis drives &amp; control</b>		
5.1	Digital controlled drive and motors for all axes.		
5.2	LM Guide ways		
5.3	Closed pitch ball screws, supported at both ends, pre-tensioned		
5.4	Rapids X/Y/Z Axis : Min 30 m/min		
5.5	Feed Rate X/Y/Z Axis : Min 30 m/min		
5.6	Rotary Speed Axis Tilt : 20 RPM		
5.7	Rotary Speed Axis Rotation :20 RPM		
<b>6</b>	<b>CNC Control Unit features</b>		
6.1	Controller: Latest version of Siemens/Fanuc/Heidenhain/ equivalent OEM		
6.2	64 bit processor or equivalent		
6.3	5 axes simultaneous controllable		
6.4	Faster data procession rate and block processing suitable for high speed milling application. (1000 blocks/sec)		
6.5	Programming syntax as per DIN66025 ISO/EIA and additional manufacturer own syntax.		
6.6	Least increment 0.001 mm with decimal input.		
6.7	Spindle functions S, incl. Spindle Operation.		
6.8	Feed functions F, G-code & M-code		
6.9	Tool functions T, Tool length and cutter dia compensation G-code, 3 D cutter compensation		
6.10	Interpolations, Tool Life Management		
	Standard A] positioning		
	B] Linear interpolation		
	C] Helical		
6.11	I/O interface Ethernet with ISO/EIA auto-discrimination.		
6.12	Rigid tapping/synchronized tapping function		
6.13	Measuring cycles for touch probe		
6.14	Standard cycles as per ISO std.		
6.15	RS 232 /LAN /Ethernet/USB port for communication		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
6.16	Part program storage Min 500 MB on Hard disk and Ethernet interface		
6.17	Display of alarm and message		
6.18	Over travel control		
6.19	Emergency stop on control panel, remote control & tool loading device		
6.20	CNC controller to take care of,		
6.21	Stored pitch error compensation		
6.22	Backlash compensation for cutting traverse		
6.23	Backlash compensation for rapid traverse		
6.24	Friction compensation control		
6.25	Electronic Thermal Compensation		
6.26	Feed forward control		
6.27	Standard cycle (canned)		
6.28	8.4 inch LCD Color Monitor with soft keys.		
6.29	Swiveling Panel with in build keyboard, monitor & operating knobs.		
6.30	Feed control potentiometer 10%. Increments from 0 – 120%.		
6.31	Spindle speed control potentiometer 10% Increments from 0 – 120%.		
6.32	Emergency brake knob		
6.33	Machine hour reading		
6.34	Spindle load display (KW)		
6.35	AC control for PLC and drive control cabinet, self diagnostic function		
6.36	Blunt tool message		
<b>7</b>	<b>Accuracy</b>		
7.1	Positional accuracy for full stroke in each axis +/- 0.005 mm or less		
7.2	Repeatability : +/- 0.003 mm or less		
7.3	Run out : 0.003 mm or less run out at nose.		
7.4	Run out on test bar: 0.010 mm or less [Test Bar Length 200 mm]		
7.5	Rotational Accuracy : 5 Arc Seconds		
7.6	Indexing Accuracy : 5 Arc Seconds		
7.7	Note :- Positional accuracy and repeatability values should be reported as per ISO 230-2 standard. If the manufacturer follows any other standards such as VDI/DGQ 3441, JIS,		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	ASME/ANSI for these measurements, the values should be reported as per the respective standard.		
<b>8</b>	<b>Accessories</b>		
8.1	Chip conveyor.		
8.2	Fully enclosed splash guard with slide windows.		
8.3	Fully encapsulated housing with safety type window.		
8.4	Automatic Tool Magazine for min. 30 tools and Changer with safety – guard.		
8.5	Tool weight 5 Kg (min)		
8.6	Max tool dia 80 mm random access. Max Tool Length 250 mm		
8.7	Leveling pads		
8.8	Door safety interlock		
8.9	Remote Jog Handle		
8.10	Wireless Tool Touch probe and Spindle Part Probe		
8.11	Work-piece washing gun.		
8.12	Software controlled central lubrication system		
8.13	Run hour meter		
8.14	Data Logger / Auto Utilization Mechanism		
8.15	Mimic Display		
8.16	Optical / Auto measuring cycle		
8.17	Hypermill/Delcam/MasterCam Software or equivalent		
8.18	Tooling Set		
	Dia. 80 Facemilling Cutter, 1 no.		
	Facemilling Inserts, 20 nos.		
	Facemilling Adaptor (for Dia. 80 Facemilling Cutter) 1 no.		
	Dia. 10 Indexable Cutter, 1 no.		
	Dia. 10 Indexable Cutter Inserts, 10 nos.		
	Dia. 16 Indexable Cutter, 1 no.		
	Dia. 16 Indexable Cutter Inserts 10 nos.		
	Dia. 6 Solid Carbide Endmill Cutter, 2 nos.		
	Dia. 8 Solid Carbide Endmill Cutter, 2 nos.		
	Dia. 10 Solid Carbide Endmill Cutter, 2 nos.		
	Dia. 12 Solid Carbide Endmill Cutter, 2 nos.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	Dia. 16 Solid Carbide Endmill Cutter, 2 nos.		
	Dia. 20 Solid Carbide Endmill Cutter, 2 nos.		
	Dia. 25 Endmill Cutter, 1 no.		
	Dia. 25 Endmill Cutter Inserts, 10 nos.		
	Dia. 6 Solid Carbide Ballmill Cutter, 2 nos.		
	Dia. 8 Solid Carbide Ballmill Cutter, 2 nos.		
	Dia. 10 Solid Carbide Ballmill Cutter, 2 nos.		
	Dia. 12 Solid Carbide Ballmill Cutter, 2 nos.		
	Dia. 12 Solid Carbide Bullnose Cutter, 2 nos.		
	ER32 Collet Chuck BT40, 10 nos.		
	ER32 Collet Set, 1 no.		
	ER32 Collet Chuck BT40 Wrench, 1 no.		
	MT-2 Adaptor, 1 no.		
	Dia. 25 Sidelock Holder, 1 no.		
	Dia. 6 Carbide Reamer, 1 no.		
	Dia. 8 Carbide Reamer, 1 no.		
	Dia. 10 Carbide Reamer, 1 no.		
	Dia. 12 Carbide Reamer, 1 no.		
	Dia. 6.5 Carbide Drill, 1 no.		
	Dia. 8.5 Carbide Drill, 1 no.		
	Dia. 10.2 Carbide Drill, 1 no.		
	Dia. 12.5 Carbide Drill, 1 no.		
	Dia. 10 Carbide Drill, 1 no.		
	Dia. 12 Carbide Drill, 1 no.		
	Drill Chuck BT40, 1 no.		
	M6 Carbide Taps, 1 no.		
	M8 Carbide Taps, 1 no.		
	M10 Carbide Taps, 1 no.		
	M12 Carbide Taps, 1 no.		
	Tapping Chuck M3-M12, 1 no.		
	Tapping Chuck M8-M16, 1 no.		
	Tapping Adaptor M3-M12, 1 no.		
	Tapping Adaptor M8-M16, 1 no.		
	Side Lock Adaptor Dia 25, 1 no.		
	BT40 Pull Studs, 20 nos.		
	Mechanical Vice (Opening 150 mm), 1 no.		
	Hydraulic Vice (Opening 150 mm), 1 no.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	Magnetic Dial Stand, 1 no.		
	Edge Finder, 1 no.		
	Electronic Edge Finder, 1 no.		
	Twin Type Locking Fixture BT40, 1 no.		
	Clamping Kit (T16-M12), 1 no.		
	Shrink fit adaptor Dia-16mm -01 no.		
	High speed milling chuck – dia-05,06,08,10,12 - 01each		
	Tool Trolley BT40, 1 no.		
	Boring Kit:		
	Range Dia 6-125 mm, Accuracy :- +/- 0.005 mm		
8.19	Standard Maintenance Tool Kit:		
	6-19 mm Drop Forged Combi. Spanners (Set 14), 1 no.		
	1.5-10 mm Allen Key Set (Set 9), 1 no.		
	1/16"-3/8" Allen Key Set (Set 10), 1 no.		
	Tri-Line Driver (Set 6), 1 no.		
8.20	First Fill of Coolant		
8.21	Voltage Stabilizer, Capacity 45 kVA, 1 no.		
8.22	Ultra Isolation Transformer, Capacity 45 kVA, 1 no.		
8.23	Panel Exhaust / Cooler for CNC Control Panel, 1 No.		
8.24	<p><b>Important Note for Tooling :-</b></p> <p>A) Cutting tool inserts should be of suitable "Coated Cemented Carbide" grades from reputed suppliers such as (Mitsubishi Materials / Sandvik / Kennmetal / Seco Tool / Sumitomo Electric / Tungaloy / Kyocera / Dijet / Hitachi Tool / Iscar etc.) for</p> <p>A.1) Light to heavy machining of un-alloyed &amp; low alloy steels [Grade ISO P30(P10-P40)] equivalent</p> <p>A.2) Light Roughing of Hardened Steel upto HRc 60 [ISO H25 (H10-H25)] equivalent</p> <p>B) Make and equivalent ISO Grade of the tools offered should be mentioned here.</p> <p>C) Make of Cutting Tool Holders offered should be mentioned here</p> <p>D) Cutting Tool Holders offered should be from reputed suppliers such as ( Sandvik / Kennmetal / Seco Tool)</p>		
<b>9</b>	<b>Installation &amp; Commissioning</b>		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
9.1	<p>The complete installation and commissioning must be carried out by the supplier at the project (at the final destination/premises). A final accuracy test according to be conducted and verified by CMM-Metrology Test Record OR equivalent specimen test chart. Certificate of acceptance is to be signed by customer and supplier.</p> <p>All utilities like power, water and compressed air etc. shall be made available by the consignee within 5 meter of the location where the machine is to be installed. The details of all the utility requirements and operating environment requirements need to be specified by the supplier and shall be the responsibility of the purchaser</p>		
10	Training – To be provided at final destination place		
10.1	Operator training - 5days.		
10.2	Programming course - 5 days		
10.3	Maintenance course mechanical, electrical and electronics - 5 days.		



### Lot No 11 – CNC Vertical Double Column Milling Machine

The bidder shall write their specifications/ values of material/equipment in the space provided wherever values are specified or otherwise Yes/ No. The bidder should enclose a printed catalogue of the model offered.

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	<b>CNC Vertical Double Column Milling Machine</b>		
<b>1</b>	<b>Field of Application</b>		
1.1	Machining of single jobs and batch production.		
1.2	Standard machining of press tool plate, die plates, mould plates, fixtures, Precision machining jobs in :		
	Face, shoulder and pocket milling.		
	Drilling & Boring application		
	Tapping.		
1.3	3 Axis simultaneous Core & Cavity machining of :		
	Forming & stamping tool components		
	Die casting Die components		
	Injection molding components		
	Other free form machining components		
1.4	The following Tool Holding & Cutting Tools must be able to use.		
	Tool holding:		
	Suitable for Tool Shank BT50/ISO50 (Drawing sketch and tool shank drawing to be attached in the quotation).		
	32 station Spindle tool adapting suitable for automatic tool change as per BT50/ISO50		
	Software Controlled Tool adaptor holding with self clamping disk spring loaded holding facility.		
	Solid and modular tool holders with or without internal coolant supply for automatic tool change.		
<b>2</b>	<b>Material</b>		
2.1	Mild steel , Tough materials like nickel		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
2.2	Tool steel, low-medium-high alloyed (Hardened & Toughened , Stainless steel, Casting steels, low & medium carbon steels, Grey cast iron & Nodular cast iron, ferritic / pearlitic type HRB 125-200 (Non hardened) etc.		
2.3	Non ferrous metals like Aluminium and aluminium alloys ,Copper and copper alloys and Brass		
2.4	Tough materials like Titanium, Inconel etc.		
<b>3</b>	<b>Technical data</b>		
3.1	Work area dimensions : (approximately)		
	Linear Traverses : Min. 4000 mm in X-Axis		
	: Min. 1900 mm in Y-Axis		
	( OR, Min. 4000 mm in Y-Axis, and Min. 1900 mm in X-Axis as per machine configuration)		
	: Min. 900 mm in Z-Axis		
3.2	Machine Table		
	Table : Min 4000 x 1600 mm		
	Table Load Capacity : min 8500 kgs.		
3.3	Work holding: T-slot Size - 22 mm		
	: T-Slot Number - 9		
3.4	Machine Spindle & Head Stock		
	Spindle speed : Min 4,000 rpm		
	Balanced Spindle		
3.5	Manual 90 degree milling head attachment with swivel in the axis parallel to main vertical spindle axis.		
3.6	Drive System : Belt/Gear Direct Drive		
3.7	Spindle Motor – Min 18.5 Kw		
3.8	Axis Motors – Min X-Axis Motor capacity - 4kW Y & Z Axis - 7 kW		
3.9	Oil cooled and permanent spindle lubrication display function at CNC Control Monitor		
3.1	For spindle – Jacket cooling		
3.13	Digital controlled AC Spindle Motor drive		

<b>S.No</b>	<b>Machine Description</b>	<b>Bidders specification / confirmation</b>	<b>Reference page number/ section number of catalogue/Remarks</b>
3.14	Spindle with hydraulic / pneumatic operated automatic tool changing and through spindle air blow for cleaning while tool change.		
3.15	Tool adapting support BT-50		
3.16	Power failure detection module.		
<b>4</b>	<b>Coolant system</b>		
4.1	Tank & filter unit		
<b>5</b>	<b>Axis drives &amp; control</b>		
5.1	Digital controlled drive and motors for all axes		
5.2	LM Guide ways (for long travel axis box type guide ways/ LM guide ways)		
5.3	Closed pitch ball screws, supported at both ends, pre-tensioned		
5.4	Rapids X/Y/Z Axis : Min 10 m/min		
5.5	Feed Rate X/Y/Z Axis : Min 4 m/min		
<b>6</b>	<b>CNC Control Unit features</b>		
6.1	Controller: Latest version of FANUC Oi MC(or 310 i S) / HEIDENHAIN TNC 530 / SIEMENS 840C/840D/EQUIVALENT		
6.2	64 bit processor or equivalent		
6.3	3 axes (X, Y and Z) simultaneous controllable		
6.4	Faster data procession rate and block processing suitable for high speed milling application		
6.5	Programming syntax as per DIN66025 ISO/EIA and additional manufacturer own syntax.		
6.6	Least increment 0.001 mm with decimal input.		
6.7	Spindle functions S, incl. Spindle Operation.		
6.8	Feed functions F, G-code & M-code		
6.9	Tool functions T, Tool length and cutter dia compensation G-code, 3 D cutter compensation		
6.10	Interpolations, Tool Life Management		
	Standard A] positioning		
	B] Linear interpolation		
	C] Helical		

<b>S.No</b>	<b>Machine Description</b>	<b>Bidders specification / confirmation</b>	<b>Reference page number/ section number of catalogue/Remarks</b>
6.11	RS 232 /LAN /Ethernet/USB port for communication		
6.12	Rigid tapping function		
6.13	Standard cycles as per ISO std.		
6.14	Controller memory 500 MB or more		
6.15	High Speed Machining Function.		
6.16	Display of PLC alarm and message		
6.17	Over travel control		
6.18	Emergency stop on control panel, remote control & tool loading device		
6.19	Background editing and simulation of NC-Program		
6.20	CNC controller to take care of Stored pitch error Compensation		
6.21	Backlash compensation for cutting traverse		
6.22	Backlash compensation for rapid traverse		
6.23	Friction compensation control		
6.24	Thermal Compensation		
6.25	Feed forward control		
6.26	Standard cycle (canned)		
6.27	10.4" LCD Colour Monitor with soft keys.		
6.28	Swiveling panel with in build keyboard, monitor & operating knobs.		
6.29	Feed control potentiometer 10%. Increments from 0 – 120%.		
6.30	Spindle speed control potentiometer 10%. Increments from 0-120%.		
6.31	Emergency brake knob		
6.32	Machine hour reading		
6.33	Spindle load display		
6.34	Tool Load monitoring and Tool Life Management		
6.35	Power Failure & Self diagnostic function		
6.36	Blunt tool message		
6.37	Provision for pitch error compensation feeding as per laser calibration report.		
6.38	Blunt tool message		
<b>7</b>	<b>Accuracy</b>		
7.1	Positioning accuracy : +/- 0.01/300 mm or better		

<b>S.No</b>	<b>Machine Description</b>	<b>Bidders specification / confirmation</b>	<b>Reference page number/ section number of catalogue/Remarks</b>
7.2	Repeatability : +/- 0.008 mm or better		
7.3	Run out : 0.005 mm or less run out at nose.		
7.4	Run out on test bar: 0.010 mm or less [Test Bar Length 200 mm]		
7.5	Note :- Positional accuracy and repeatability values should be reported as per ISO 230-2 standard. If the manufacturer follows any other standards such as VDI/DGQ 3441, JIS, ASME/ANSI for these measurements, the values should be reported as per the respective standard.		
<b>8</b>	<b>Accessories</b>		
8.1	Chip conveyor.		
8.2	Fully enclosed splash guard with slide windows.		
8.3	Fully encapsulated housing with safety type window.		
8.4	Automatic Tool Magazine for min. 30 tools and Changer with safety – guard.		
8.5	Min. tool weight 15 Kg		
8.6	Max tool dia 125 mm.		
8.7	Leveling pads		
8.8	Door safety interlock		
8.9	Remote Jog Handle		
8.10	Wireless Tool Touch probe and Spindle Part Probe		
8.11	Work-piece washing gun.		
8.12	Software controlled central lubrication system		
8.13	Run hour meter		
8.14	Data Logger / Auto Utilization Mechanism		
8.15	Mimic Display		
8.16	Optical / Auto measuring cycle		
8.18	Hypermill/Delcam/MasterCam Software or equivalent		
8.19	Tooling Set		
	Face milling Adopter ( For dia 125 mm) face milling cutter ), 1 nos		
	Dia. 125 mm Face milling Cutter, 1 no.		
	Face milling Inserts, 20 nos.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	Face milling Adopter (for Dia. 125 mm Face milling Cutter) 1No.		
	Face milling Adopter ( For Dia 80 & 63) face milling 2 No.		
8.20	Standard Maintenance Tool Kit:		
	6-19 mm Drop Forged Combi. Spanners (Set 14), 1 no.		
	1.5-10 mm Allen Key Set (Set 9), 1 no.		
	1/16"-3/8" Allen Key Set (Set 10), 1 no.		
	Tri-Line Driver (Set 6), 1 no.		
8.21	First Fill of Coolant,		
8.22	Voltage Stabilizer, Capacity min. 45 kVA, 1 no.		
8.23	Ultra Isolation Transformer, Capacity min. 45 kVA, 1 no.		
8.24	Panel Exhaust / Cooler/ AC Panel for CNC Control Panel, 1 No.		
8.26	Job Clamping kit (1 SET) 25-300 Height		
8.27	Collet Chuck Adaptor (10 NOS)		
8.28	Set of collets ( from 2-25 MM)2,3,4,5,6,8,10,12,14,16,18,20,22,24,25		
8.29	Side lock adaptor (3 SETS)6,8,10,12,16,20,25,32 mm( Set of 8 Nos.)		
8.3	Morse Taper Adaptor (2 sets) MT-1, MT-2, MT-3, MT-4 ( SET OF 4 Nos)		
8.31	Pull studs (40 Nos)		
8.32	Air Blast Spindle Taper Cleaning		
8.33	<p><b>Important Note for Tooling :-</b></p> <p>A) Cutting tool inserts should be of suitable "Coated Cemented Carbide" grades from reputed suppliers such as (Mitsubishi Materials / Sandvik / Kennmetal / Seco Tool / Sumitomo Electric / Tungaloy / Kyocera / Dijet / Hitachi Tool / Iscar etc.) for</p> <p>A.1) Light to heavy machining of un-alloyed &amp; low alloy steels [Grade ISO P30(P10-P40)] equivalent</p> <p>A.2) Light Roughing of Hardened Steel upto HRc 60 [ISO H25 (H10-H25)] equivalent</p> <p>B) Make and equivalent ISO Grade of the tools offered should be mentioned here.</p>		

<b>S.No</b>	<b>Machine Description</b>	<b>Bidders specification / confirmation</b>	<b>Reference page number/ section number of catalogue/Remarks</b>
	<p>C) Make of Cutting Tool Holders offered should be mentioned here</p> <p>D) Cutting Tool Holders offered should be from reputed suppliers such as ( Sandvik / Kennmetal / Seco Tool)</p>		
<b>9</b>	<b>Installation &amp; Commissioning</b>		
9.1	<p>The complete installation and commissioning must be carried out by the supplier at the project (at the final destination/premises). A final accuracy test to be conducted and verified by CMM-Metrology Test Record OR equivalent specimen test chart. Certificate of acceptance is to be signed by customer and supplier.</p> <p>All utilities like power, water and compressed air etc. shall be made available by the consignee within 5 meter of the location where the machine is to be installed. The details of all the utility requirements and operating environment requirements need to be specified by the supplier and shall be the responsibility of the purchaser</p>		
<b>10</b>	<b>Training – To be provided at final destination place</b>		
10.1	Operator training - 5days.		
10.2	Programming course - 5 days		
10.3	Maintenance course mechanical, electrical and electronics - 5 days.		

### Lot No 12 – High Precision CNC EDM Die Sinking Machine

The bidder shall write their specifications/ values of material/equipment in the space provided wherever values are specified or otherwise Yes/ No. The bidder should enclose a printed catalogue of the model offered.

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	<b>High Precision CNC EDM DIE SINKING</b>		
<b>1</b>	<b>Field of application</b>		
1.1	The Machine will be used for the following applications.		
	Making of dies and punches, moulds, fixtures, steel parts Suitable for thread cutting operation and deep hole drilling operation		
1.2	<b>Materials</b>		
	Hardened die steel, steel, carbide, Aluminium		
<b>2</b>	<b>Technical Data:-</b>		
2.1	<b>Travel :</b> X=600 mm (min.) Y=400mm (min.) Z=400 mm (min.) C-Axis is also required.		
2.2	Simultaneous Interpolation of X,Y,Z & C axis is also required.		
2.3	Spindle Rotation : C=360°		
2.4	Positioning Resolution X,Y,Z Axis - 0.001 mm		
2.5	Positioning Resolution C Axis - 0.001°		
2.6	Work Table – 700 x 500 mm Min.		
2.7	Work piece height – 300 mm min.		
2.8	Work Tank Dimension 1200 x 800 x 400 mm min.		
2.9	Work Piece Weight 1000 kg or more		
2.10	Electrode Weight 50 kg or more		
2.11	Max MRR : Copper to Steel – 400 cube mm /min or more :Graphite to Steel – 500 cube mm/min or more		
2.12	Technology for Anti Arc and Anti Collision		
<b>3</b>	<b>Cutting Technology</b>		
3.1	Copper to steel		



S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
3.2	Graphite to steel		
3.3	Tungsten copper to steel		
3.4	Copper to aluminum		
3.5	Copper to copper		
3.6	Steel to steel		
3.7	Tungsten copper to carbide		
<b>4</b>	<b>Accuracy</b>		
4.1	Accuracy : $\pm$ 0.005 mm / 200 mm in all Axis		
4.2	Repeatability : $\pm$ .003 mm / 300 mm		
4.3	Surface Finish : 0.2 micron Ra or less		
4.4	<b>Note :-</b> Positional accuracy and repeatability values should be reported as per ISO 230-2 standard. If the manufacturer follows any other standards such as VDI/DGQ 3441, JIS, ASME/ANSI for these measurements, the values should be reported as per the respective standard.		
<b>5</b>	<b>Power Supply Unit</b>		
5.1	Min. Working Current : 80A		
5.2	Connected Load : 3 Ph, 415 V AC, 50 Hz 9 KVA or more		
5.3	Servo System: Servo System - DC Servo / AC Servo		
<b>6</b>	<b>Dielectric Unit</b>		
6.1	Volume: 800 L min.		
6.2	Filter: 10 micron Paper Filter		
<b>8</b>	<b>The CNC control system should be state of art with latest control system, with CAD/CAM software part programming and below mentioned control features</b>		
8.1	Dual processor architecture.		
8.2	Automatic repositioning after cycle interruption.		
8.3	Background programming and simulation.		
8.4	Auto power recovery.		
8.5	Mirror image on X or Y axis.		
8.6	Programme manipulation like move, rotation, copy etc.		
8.7	Pitch error & backlash compensation.		
8.8	Menu driven dialogue box.		
8.9	Self diagnostics feature with interpretations		

<b>S.No</b>	<b>Machine Description</b>	<b>Bidders specification / confirmation</b>	<b>Reference page number/ section number of catalogue/Remarks</b>
8.10	Display of electrode path during machining		
8.11	Auto edge Find and centre find		
8.12	Definable erosion axis.		
8.13	Auto power recovery		
8.14	Programmable auto flushing.		
8.15	RS232 /LAN/ USB / Ethernet port and latest dual processor architecture		
8.16	Adaptive Control		
8.17	Automatic Probing System like Center Finding, Edge Finding		
8.18	Automatic Touch Probe		
8.19	Interpolation - Linear, Circular , Helical, threading,		
8.20	Facility for Dry Run		
8.21	Absolute and Incremental Mode		
<b>9</b>	<b>Accessories</b>		
9.1	Servo stabilizer		
9.2	Chiller		
9.3	Quick Clamping System		
9.4	Glass Scale in X,Y & Z Axis		
9.5	USB port		
9.6	Standard tool kit		
9.7	3R Job Holding Vice - System 3R product no.3R -900-SI (3 REFIX) or Erowa- 1 No		
9.8	System 3R Magnetic Table - 3R-909-MT or Erowa - 1No		
9.9	System 3R Hydraulic Chuck for Electrode Holder - System 3R product no 3R or Erowa- 653 - 6 Nos		
9.10	System 3R Mini Electrode Vice - System 3R product no.VST 10 or Erowa - 1 No		
9.11	System 3R Horizontal Hyd raulic Chuck - System 3R product no. 3R-603.9 or Erowa- 1 No		
9.12	Set of Clamps for Holding Jobs Upto 200mm Height - 1 Set		
9.13	Flushing Unit - 2 Sets		
9.14	System 3R Electrode Holder Dia 20 mm - System 3R product no.3R-322/50 or Erowa - 20 Nos		
9.15	2 in 1 AVR and Isolation Transformer		
9.16	Electrical Touch probe		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
9.17	Drop tank / Swing door design		
9.18	Automatic Fire Extinguisher		
9.19	System 3R Spindle Nose		
9.20	ATC (6PKT or more)		
<b>10</b>	<b>Installation &amp; Commissioning</b>		
10.1	<p>The complete installation and commissioning must be carried out by the supplier at the project (at the final destination/premises). A final accuracy test according to be conducted and verified by CMM-Metrology Test Record OR equivalent specimen test chart. Certificate of acceptance is to be signed by customer and supplier.</p> <p>All utilities like power, water and compressed air etc. shall be made available by the consignee within 5 meter of the location where the machine is to be installed. The details of all the utility requirements and operating environment requirements need to be specified by the supplier and shall be the responsibility of the purchaser</p>		
<b>11</b>	<b>Training must be provided at final destination place</b>		
11.1	2 Weeks basic training		
11.2	1 Weeks advanced training		
11.3	1 week Training on Maintenance		

### Lot No 13 – CNC Wire Cut EDM Machine

The bidder shall write their specifications/ values of material/equipment in the space provided wherever values are specified or otherwise Yes/ No. The bidder should enclose a printed catalogue of the model offered.

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	<b>CNC Wire Cut EDM Machine</b>		
<b>1</b>	<b>Field of application</b>		
1.1	Cutting of dies and punches, moulds, electrodes, fixtures, steel parts		
1.2	<b>Materials</b>		
	Hardened die steel, Graphite, Copper etc.		
<b>2</b>	<b>Technical Data:-</b>		
2.1	Table Size : 900 X 550 mm min.		
2.2	Work piece Height : 250 mm min.		
2.3	Permissible Work Piece weight: 1200 kg min.		
2.4	Main Axis Travel X=500 mm (min)		
	Y=350 mm (min)		
2.5	U, V, Travel 75 x 75 mm min.		
2.6	Taper Cutting Angle : +/- 30 deg/250 mm		
2.7	Wire Diameters 0.10 – 0.3 mm		
2.8	Dielectric Fluid : Water		
2.9	Tank capacity : 1000 Lit		
2.10	Cutting Speed: 300 mm <sup>2</sup> per min or more		
2.11	Surface Finish: 0.1 micron Ra or less		
2.12	Wire spool capacity (min): 8 Kg or more		
2.13	Paper Filter : 10 micron		
<b>3</b>	<b>CNC Power Supply</b>		
3.1	Screen Display : 15" TFT		
3.2	Control System : Close Loop		
3.3	Measurement Resolution : 0.001 mm		
3.4	Max. Command Value : ± 9999.999		
3.5	Data Input/ Output USB /Key Board/RS232		
3.6	Input Power Supply : 3 Ph, AC 415 V, 50 Hz		
3.7	Maximum Load : 15 kVA		
<b>4</b>	<b>Accuracy</b>		
4.1	Accuracy :± 0.005 mm / 200 mm,		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
4.2	Repeatability : $\pm .003$ mm / 300 mm		
4.3	Surface Finish : 0.1 micron Ra or less		
4.4	<b>Note :-</b> Positional accuracy and repeatability values should be reported as per ISO 230-2 standard. If the manufacturer follows any other standards such as VDI/DGQ 3441, JIS, ASME/ANSI for these measurements, the values should be reported as per the respective standard.		
<b>5</b>	<b>Accessories</b>		
5.1	Auto Vertical Alignment jig		
5.2	Auto Wire Threaded		
5.3	2 in 1 AVR + Transformer		
5.4	X&Y Axis Glass Scale		
5.5	CF card reader		
5.6	Water Chiller		
5.7	AC Power		
5.8	Quick clamping system		
5.9	Electrical touch probe		
5.10	Automatic Part Measuring		
<b>6</b>	<b>The CNC control system should be state of art with latest control system, with CAD/CAM software part programming and below mentioned control features</b>		
6.1	Dual processor architecture.		
6.2	Automatic repositioning after cycle interruption.		
6.3	Background programming and simulation.		
6.4	Trim Cut facility		
6.5	Auto power recovery.		
6.6	Mirror image on X or Y axis.		
6.7	Programme manipulation like move, rotation, copy etc.		
6.8	Pitch error & backlash compensation.		
6.9	Menu driven dialogue box.		
6.10	Self diagnostics.		
6.11	Display of electrode path during machining		
6.12	Auto edge Find and centre find		
6.13	Definable erosion axis.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
6.14	Auto power recovery		
6.15	Programmable auto flushing.		
6.16	RS232/LAN/ USB /Ethernet port and latest dual processor architecture		
<b>7</b>	<b>Installation &amp; Commissioning</b>		
7.1	<p>The complete installation and commissioning must be carried out by the supplier at the project (at the final destination/premises). A final accuracy test according to be conducted and verified by CMM-Metrology Test Record OR equivalent specimen test chart. Certificate of acceptance is to be signed by customer and supplier.</p> <p>All utilities like power, water and compressed air etc. shall be made available by the consignee within 5 meter of the location where the machine is to be installed. The details of all the utility requirements and operating environment requirements need to be specified by the supplier and shall be the responsibility of the purchaser</p>		
<b>8</b>	<b>Training must be provided at final destination place</b>		
8.1	2 Weeks basic training		
8.2	1 Weeks advanced training		
8.3	1 week Training on Maintenance		

### Lot No 14 – NC Cylindrical Grinding Machine

The bidder shall write their specifications/ values of material/equipment in the space provided wherever values are specified or otherwise Yes/ No. The bidder should enclose a printed catalogue of the model offered.

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	<b>NC Cylindrical Grinding Machine</b>		
<b>1</b>	<b>Machine Data</b>		
1.1	Centre Height 175 MM (Minimum)		
1.2	Longitudinal Travel 800 MM (Minimum)		
1.3	Cross Travel 260 MM (Minimum)		
1.4	Work Piece Weight 130 KG Minimum		
1.5	Swivel of Table + 8 ° WITH FINE ADJUSTMENT WITH SUPPORT FOR DIAL INDICATOR.		
1.6	Incremental in Feed 0.001 MM – 0.05MM		
1.7	Accuracy of the Machine LESS THAN OR EQUAL TO 0.005 mm		
<b>2</b>	<b>Wheel Head</b>		
2.1	Swivel of Wheel Head 15 DEG (Either Side) (Minimum)		
2.2	External Wheel Motor 5.5 KW.		
2.3	Wheel Head Rapid Approach 60 MM APPROX.		
2.4	Grinding Wheel Size BORE-203MM OR AS PER FLANGE,OD-500MM THICKNESS - 80 MM		
<b>3</b>	<b>Hydraulic Tail Stock</b>		
3.1	Tail Stock Nose Taper MT3		
3.2	Tail Stock Spindle Stroke : 35 MM Minimum with Mechanically Adjustable Barrel Travel Control.		
<b>4</b>	<b>HIGH PRECISION WORK HEAD</b>		
4.1	Swivel of Workhead		

<b>S.No</b>	<b>Machine Description</b>	<b>Bidders specification / confirmation</b>	<b>Reference page number/ section number of catalogue/Remarks</b>
	0-90 DEG		
4.2	Work Spindle Speed 60-600 RPM AT LEAST IN 4 STEPS		
4.3	Work Head Spindle Nose Taper MT-5		
4.4	Work Head Spindle Bore DIA : 30 MM Minimum		
4.5	Work Head Motor 0.5 KW With Adjustable Speed		
4.6	Alignment Attachment		
<b>5</b>	<b>Internal Grinding</b>		
5.1	Internal Grinding Spindle DIA-100 MM		
5.2	Internal Grinding Spindle Speed FROM 10000 TO 50000 RPM Minimum		
5.3	Internal Grinding Motor 1.5 KW.		
5.4	Should be a Permanently Built-up Feature		
<b>6</b>	<b>General Features</b>		
6.1	Machine Base Material Granite		
6.2	Synthetic – Based Surface Coating on Guide Ways.		
6.3	Provision for Oil Circulating Lubrication.		
6.4	Hand Wheel for Z Axis		
6.5	DRO FOR X & Z AXIS WITH DISPLAY OF MINIMUM 0.001 MM		
6.6	Operating Panel and Electrical Cabinet Permanently Fixed to the machine.		
6.7	Control System With Relay Logic & Hydraulically Controlled X & Z Axis		
6.8	Coolant Unit: Internal ( Through Spindle) & External Cooling Lines, Flash Guardes, Swarf Trays, Suitable Electric Motor.		



S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
6.9	Safety Guard as per Machine Design		
<b>7</b>	<b>Accessories</b>		
7.1	Dressing Attachment 1 SET( 1 NO Face Dressing and One No Side Dressing Unit).		
7.2	3-JAW SELF CENTRERING FINE ADJUSTMENT CHUCK 1 NO.( WITH FLANG & KEY)		
7.3	Collet Adaptor with Draw Bar 1-25MM COLLETS IN 0.5MM STEP-1 SET.		
7.4	4-JAW INDEPENDENT JAW CHUCK 1 NO ( WITH FLANG & KEY)		
7.5	Face Plate with Adapter 1 NO		
7.6	Carbide Tipped Dead Centres 1) FULL DEAD CENTRES. -4NOS. 2) HALF DEAD CENTRES. -4NOS.		
7.7	Grinding Wheel Flanges 2 SETS.		
7.8	Dog Carriers TO HOLD UPTO DIA 60		
7.9	Internal Grinding Wheel Collets with Adapters 1 SET		
7.10	Internal Grinding Wheel Mounting Adapters/Quils 4 SETS ( TO HOLD WHEEL DIA 10 TO 80 MM)( SHORT AND LONG)		
7.11	Set of Hand Tools For Normal Operation of the Machine		
<b>8</b>	<b>Installation &amp; Commissioning</b>		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
8.1	<p>The complete installation and commissioning must be carried out by the supplier at the project (at the final destination/premises). A final accuracy test according to be conducted and verified by CMM-Metrology Test Record OR equivalent specimen test chart. Certificate of acceptance is to be signed by customer and supplier.</p> <p>All utilities like power, water and compressed air etc. shall be made available by the consignee within 5 meter of the location where the machine is to be installed. The details of all the utility requirements and operating environment requirements need to be specified by the supplier and shall be the responsibility of the purchaser</p>		
<b>9</b>	<b>Training must be provided at final destination place</b>		
9.1	1 Weeks basic training		
9.2	1 Weeks advanced training		
9.3	1 week Training on Maintenance		

### Lot No 15 – Metal Laser Sintering Machine

The bidder shall write their specifications/ values of material/equipment in the space provided wherever values are specified or otherwise Yes/ No. The bidder should enclose a printed catalogue of the model offered.

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
1	Metal Laser Sintering (Direct Metal Laser sintering, Selective Laser Melting or similar) Please mention name and model no. of the machine		
2	<b>Application:</b>		
	1. Direct Metal Laser Sintering/Melting system of latest specifications to deliver metal parts directly from CAD models.		
	2. The process should be able to sinter / melt metal powder and should be free from non-metallic binders.		
	3. Machine quoted should have options to run both with reactive and non-reactive material for currently available material.		
	4. Machine should have the capabilities to process Maraging Steel, aluminum, Stainless Steel and Titanium, Nickel. Super alloys (for example Inconel) and its alloys like Hastalloy HX.		
	5. The machine should process Inconel with steel platforms and should provide a local source in India for future local production and procurement.		
3	<b>Features:</b>		
	1) The machine should meet the requirements of international laser safety standards.		
	2) Build method: Metallic part building through layered manufacturing directly from the selected 3D CAD files through metallic particle melting, sintering or fusing through high power laser. The machine should be able to be operated in both argon and nitrogen modes.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	3) Provision of inert gas (e.g. Argon)/Nitrogen environment to ensure no contamination during powder recoating.		
	4) In case of Nitrogen gas environment, online Nitrogen generator should be provided by the manufacturer.		
	5) Sieving Module- since at least 1 material will be qualified to avoid contamination the manufacturer should quote for 2 numbers of Sieving modules. 1 number of extraction modules to remove sintered powder from the machine for sieving and -1 Number of refilling module (to fill machine with powder).		
	6) CAPABILITIES OF THE MACHINE TO HANDLE THE FOLLOWING MATERIALS: Within a single system, all of the following material options should be available for direct metal prototyping.		
	(i) Maraging Steel & its Alloys		
	(ii) Stainless Steels & its Alloys		
	(iii) Titanium based Alloy Ti-6Al-4V / AMS-4928 chemical composition shall be checked and confirmed as per AMS-2249 / ASTM E120 standards.		
	(iv) Nickel based Alloy IN-718 / AMS-5662 chemical composition shall be checked and confirmed as per AMS 2269D / ASTM E354 standards.		
	(v) Aluminum alloy AlSi10Mg composition reference as per AMS equivalent.		
	(vi) Hastalloy X ( AMS-5754) or equivalent		
	7) DIN or Equivalent certificate to be provided with the technical bid by the manufacturer for the specified materials.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	8) MATERIAL TEST REPORTS- Specify the qualified materials and its material properties i.e. attach material technical data sheets. All the specified material should be approved with respective AMS standards. Provide respective AMS or UNS or DIN standard data sheets which should meet DIN OR EQUIVALENT standards for reference.		
	a) The material data sheets should contain general process data, physical and chemical properties; Mechanical properties are tested in approved laboratory.		
	b) General Process data such as typical achievable part accuracy, Min. wall thickness, surface roughness, volume flow rate etc.,		
	c) Should provide DIN or Equivalent certificate for the powder and also the batch traceability of powder supplied should be clearly mentioned.		
	d) Physical and chemical properties such as material composition, relative density, Density etc.		
	e) Mechanical properties at different temperature and before and after heat treatment such as		
	I. Tensile Strength in horizontal (XY) and in vertical direction (Z)		
	II. Yield Strength (0.2%PS) in horizontal (XY) and in vertical direction (Z)		
	III. % Elongation at break in horizontal (XY) and in vertical direction (Z)		
	IV. % Reduction in Area (%RA) in horizontal (XY) and in vertical direction (Z)		
	V. Modulus of elasticity in horizontal (XY) and in vertical direction (Z)		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	VI. Hardness as per EN ISO 6508-1 on polished surface.		
	f) Other than the above if vendor is having any specific technical data which is relevant to inserts for Die casting toolmaterial components to be provided with appropriate standard reference preferably DIN OR EQUIVALENT standard.		
	9) MATERIAL HANDLING		
	a) Ergonomic handling		
	b) Suitable safe system for removing and transporting building platforms.		
	c) Cleaning - Since during building a lot of condensate is sucked from the build area into the filter, the system should have automated filter cleaning. Suitable vacuum cleaner to be provided by the manufacturer.		
	d) Notes:		
	I. In case of build and support material are different, separate bays should be provided for the materials.		
	II. For reducing residual stresses, provision should be made for pre heating of build material		
	10) OPTICAL SYSTEM		
	a) The system capable of directing laser beam to melt with the aid of optics, beam expander, scanner mirror / focusing lens etc. Optical surfaces to have special coatings for beam steering.		
	b) For cooling the laser a fluid / gas cooling system should be provided along with the system.		
	c) The energy source for laser should be min 400W.		
	11) Scanner		
	a) The scanner provided in the machine should be able to scan the complete build		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	volume and should not have any manual movement.		
	b) High speed rotating mirror deflection system with precision galvanometer scanner with temperature, actively cooled deflection mirror, integrated servo electronics and data transmission with a digital signal processor.		
	c) An integrated home in sensor, to correct any scanner drift at regular intervals to provide position stability of the laser beam under varying environmental conditions or thermal load due to long exposure times or large building jobs.		
	(i) Min. Exposure area from fixed position should be complete build volume.		
	12) Focusing lens		
	a) F-Theta or better lens that focuses the beam on a flat plane and a window with provision of dirt cleaning.		
	b) Focus diameter in the range 50-150 microns.		
	13) Handling System		
	a) The machine should handle finished products with the help of lifting trolley or any other material handling equipment.		
	b) The z axis movement system should secure an accurate movement of the axis and should have feedback		
	<b>14) SUPPORT FEATURES</b>		
	a) Automatic support generation for overhang features and removal of support impressions through post processing procedures such as air blast to be provided, in case support material was built.		
	b) 200 nos. of filters to be supplied along with the system.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	Coater blades – 6 Nos. for each material to be supplied along with the machine.		
	<b>15) SOFTWARE PROVISIONS</b>		
	a) MS-Windows 7 (or better) compatible software with user interface routines for further requirements are defined by the individual process chain, starting from CAD design to the building process and can include repair, cutting /scaling, nesting of 3D structures. If the part is to be separated from the building platform, e.g. typically in Direct Part applications, a support structure is also needed.		
	b) The machine should accept STL format file.		
	c) STL verification for correction of flipped normal and overlap incidences		
	d) Automatic generation of support structures		
	e) Scaling (linear and non-linear), resizing and nesting of parts		
	f) Automatic build time estimation		
	g) Graphical user interface for visualizing layer data.		
	h) Multi-level reversing of build actions		
	i) Platform set up routines for platform configuration		
	j) Analysis of built process and report generation.		
	k) Generation of two dimensional data from three dimensional data		
	l) The Software to have additional 25 users for offline Training to students or 5 user network licenses.		
	<b>16) Capability to build parts -The machine should build Continuous</b>		



S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	unattended operation from build starts to completion.		
	<b>17) Build Material</b>		
	The supplier shall also supply 100 kgs of each commercially available powder of the following materials.		
	a) Hot Die Steel 11 or equivalent		
	b) Aluminium alloy BSL 168 or equivalent		
	c) Stainless Steel SS 304 or equivalent		
	d) Ti alloy Ti-6Al-4v		
	e) Nickel alloy 1N 718		
	<b>18) POST PROCESSING EQUIPMENT</b>		
	a) Post processing heat treatment equipment for reactive and non-reactive materials to be provided.		
	b) Micro peening system/ shot blasting system.		
	<b>19) DESKTOP COMPUTOR</b>		
	a) It is necessary to prepare CAD data before prototyping. For this data preparation a DELL/HP/IBM or equivalent compatible PC is required. The equipment should satisfy the configuration required for the main equipment.		
	<b>20) SAFETY FEATURES</b>		
	Safety features for safe operation of system should include as follows:		
	a) Door locking security		
	b) Temperature controller in process chamber		
	c) Safety against laser beam exposure		
	d) Safety against inert gas		
	e) Movement of build platform along vertical axis		
	f) Safety against material overflow in container		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	g) Compressed air pressure and vacuum limits		
	h) Control of motion motors in horizontal directions and other subsystems specific to the equipment.		
	i) Non-contact powder handling		
	j) Safe failure mode		
	k) Confirm Environmental compliance according to the latest international standards for waste disposal and chemical emission from the machine and furnish detail		
<b>4.1</b>	<b>Build Envelop</b>		
	Minimum Capability to build the parts of build envelope: 240mm x 240mm x 280mm or better		
<b>4.2</b>	<b>Build Parameters</b>		
	Minimum Layer Thickness /Maximum Layer Thickness: 20 microns or less / 60 microns or more		
	Editable Free parameter range: 10 to 200 microns or better		
	Layer thickness : 30-40 micron or better		
	Build Volume Rate: 10 to 20 cm <sup>3</sup> /hour or better		
	<b>Accuracy-</b> as per ISO 2768-1/ DIN or equivalent standard		
	Over a length of 100 mm 70 microns or better		
	Over a length of 250 mm 100 microns or better		
	<b>Capability to build parts</b>		
	Minimum wall thickness -not more than 0.8 mm		
	Minimum diameter-not more than 0.8 mm		
	<b>Exposure Editor Speed</b> 7 m/s or better		
<b>4.3</b>	<b>Ambient Operating Condition</b>		
	Temperature range 10-30 deg C or better, preferably 0-40 deg C		
	Humidity range (Non-condensing) 30% - 80% or better		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
4.4	<p><b>Power Supply</b></p> <p>Machine should operate at 400V + 6% /- 10% / with line frequency of 50/60Hz and main fuse protection. Step up /down transformer should be included in case of variations. An UPS with appropriate specifications to be provided..</p>		
5	<p><b>Essential Accessories</b></p> <p>The following be categorized as essential</p> <p>a) Cleaning kits for optics and other sub systems</p> <p>b) Chiller unit</p> <p>c) Clamping systems for firm holding of the work platform / referencing</p> <p>d) Recoater assembly / blades</p> <p>f) Nitrogen gas generator (if applicable)</p> <p>g) Powder re-cycling/sieving system</p> <p>h) Desktop computer suitable for the equipment</p> <p>Supplier should provide additional equipment for the post-treatment of the parts.</p>		
6	<p><b>Prove out of Sample Parts/ Qualification material</b></p> <p>The part as per drawing to be provided by the purchaser to the supplier after placement of the contract should be built by the supplier on the same machine (same Model) which is being offered, using raw material as Aluminum and Maraging Steel and Inconel during pre-dispatch inspection.</p>		
7	<p><b>Usage of 3rd Party Material options in the system without affecting warranty clause(s).</b></p>		
8	<p><b>Installation &amp; commissioning</b></p> <p>The complete installation and commissioning must be carried out by the supplier at the project (at the final destination/premises). A final accuracy test to be conducted and verified by CMM-</p>		

<b>S.No</b>	<b>Machine Description</b>	<b>Bidders specification / confirmation</b>	<b>Reference page number/ section number of catalogue/Remarks</b>
	<p>Metrology Test Record. Certificate of acceptance is to be signed jointly by customer and supplier.</p> <p>All utilities like power, water and compressed air etc. shall be made available by the consignee within 5 meter of the location where the machine is to be installed. The details of all the utility requirements and operating environment requirements need to be specified by the supplier and shall be the responsibility of the purchaser</p>		
<b>9</b>	<b>Training</b>		
	1. The bidder shall provide training for one week for two engineers for application/operations, routine maintenance, safety of the equipment and reactive powder handling procedures.		
	2. 1 week follow up training during commissioning on the following i. Operation and maintenance ii. Optimal cooling design and design support.		
	3. Handholding during 1 <sup>st</sup> year of operation: Design/process support on the first 20 LIVE projects or the projects during 1st year of operation whichever earlier, on direct parts as per Additive Manufacturing of Metal design rules by the OEM.		

### Lot No 16 – 3D Polymer Additive Manufacturing Machine based on SLS

The bidder shall write their specifications/ values of material/equipment in the space provided wherever values are specified or otherwise Yes/ No. The bidder should enclose a printed catalogue of the model offered.

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
<b>1</b>	<b>Name of machine &amp; equipment:</b>		
	3-D Polymer Additive Manufacturing Machine Additive manufacturing machine should be based on Selective Laser Sintering (SLS)		
	Please mention the name and model no. of the machine		
<b>2</b>	<b>Applications</b>		
	The Machine will be used for the following Applications		
	Additive manufacturing process with latest specifications and technology to produce prototypes/components from commonly used plastics like Polyamide ,Glass Filled Polyamide with computer system & application software		
	Direct production of concept models,functional prototypes, patterns for sand casting,investment casting and vacuum casting		
	The machine should be able to process engineering polymers to enable rigid and flexible parts to be produced.		
	<b>Types of Material the machine should handle</b>		
	Polyamide like Nylon 11 & Nylon 12		
	Glass filled polyamide		
	Rubber like thermoplastic elastomer like Shore D ISO868 35/ASTM D2240 35		
	Polystrene material for investment casting		
	<b>Any other material</b>		
	a) The data sheets of all materials to be enclosed by the supplier. DIN or Equivalent Certificate to be provided		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	with the technical bid by the manufacturer for the specified materials.		
<b>3</b>	<p><b>Features:</b></p> <p>Robust structure with ball screw movement guide ways for better repeatability, reliability and predictability of the components manufactured.</p> <p>The machine/equipment should be capable of using the entire build volume to produce more than one type of parts in small quantity/ small series in the most economics way and with least down time. It should be capable to place parts, avoiding collision, automatically, through the build envelope</p> <p>Control software integrated with the hardware to produce desired part and components profile with desired tolerances and building parts in commonly used plastics /material having properties similar to commonly used plastics.</p> <p>The process should be able to process thermoplastic material to enable functional parts to be produced.</p> <p>All parts which are integral of the machine should be CE certified and from the OEM. Information should be clearly stated in technical bid on locally purchased items</p> <p>Machine quoted should have option to upgrade for currently available material and also for future materials</p> <p>Parts should not warp and remain dimensionally stable with passage of time.</p> <p>Part should be manufactured with a maximum of 20% material waste.</p> <p>Toxicity -Non Toxic Processes and Materials</p>		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	PC- latest Windows Operating System compatible and suitable for the system		
	Software-RP Tools; STATE; Magics RP (Materialize)		
	The machine should accept STL format file.		
	Network-Ethernet / USB 3.0		
<b>4</b>	<b>Effective building volume -300 x 300 x 450 mm or better</b>		
	Building Speed - upto 16 mm / hour or better		
	Layer Thickness (Range) 80-120 micron or better		
	Accuracy - Better than 0.1mm/100mm		
	Power Supply (approx.) 400 V AC- 3 Phase 50 Hz & 40 A		
	Power Consumption Maximum 15 Kw/ typical 2.4 Kw		
	Compressed air supply (if applicable) up to 6 bar		
	System incl. switching cabinet size 2700 x 1600 x 2000 mm or better		
<b>5</b>	<b>Essential Accessories</b>		
	The supplier should provide all essential accessories required for operating the machine and the price may be offered either including in the price of machine or separately.		
<b>6</b>	<b>Material</b>		
	The vendor should also quote for 100 kgs of each commercially available powder of the materials following materials.		
	a) Nylon 11 or equivalent		
	b) Nylon 12 or equivalent		
	c) 30% Glass filled polyamide		
	d) Elastomer		
	e) Polystrene		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	<p>The plastic material should have the following material properties as per standards.</p> <p>Properties should be the same in all the 3 directions. Supporting documents to be provided</p> <p>I. Density of the plastic part should be more than 0.93 g/cm<sup>3</sup></p> <p>II. Tensile modulus – EN ISO527 = 1700 Mpa</p> <p>III. Tensile strength – EN ISO 527 = 48 Mpa</p> <p>IV. Elongation at break EN ISO 527 = 24%</p> <p>V. Melting point EN ISO 11357-1 = 172-180 Degree C</p> <p>VI. Vicat softening temperature = EB ISO 306 =163 degree C</p> <p>VII. Heat conductivity – hot wire method = 0.5 -0.8W/Mk Electrical properties of surface resistance, volume resistance, dielectric properties should be mentioned.</p>		
7	<p><b>Computer for pre processing</b></p> <p>DELL/HP/HCL or equivalent Intel Core i7 of latest configuration workstation computer with 16 GB RAM expandable to 32 GB RAM , 128 MB dedicated video memory 1 TB x 2 HDD, DVD writer, Keyboard, Optical mouse with scroll, network adaptor card and interface cabling, 24" colour high resolution LED monitor for workstation, windows operating system</p>		
8	<p><b>Power, and ambient operating condition</b></p> <p>a) UPS of 400V and 50 Hz for digital controller 20 KVA Qty 01 Nos. The Controller should have built in safety device to protect it from voltage spikes</p>		



S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
	and sudden surges AMBIENT OPERATING CONDITION b) Temperature range 10-45 deg C or better c) Humidity range (Non-condensing) 30% - 80% or better Confirm Environmental compliance according to the latest international standards for waste disposal and chemical emission from the machine and furnish detail		
<b>9</b>	<b>Software features</b> The following software features are required The data software should have the following information which should be demonstrated by the vendor during technical evaluation. <ul style="list-style-type: none"> <li>• Monitor and record all KPVs critical to the performance of the process.</li> <li>• Error warnings which either interrupt part manufacture or alert operators in the event of limits for key KPVs being exceeded.</li> </ul> All these software features and advantages should be demonstrated by the vendor to the technical committee during technical evaluation The Software to have additional 25 users for offline Training to students or 5 user network license		
<b>10</b>	<b>Usage of 3rd Party Material options in the system with warranty provisions from vendor</b> The vendor should supply the necessary R&D open source code software license which can be readily used to develop parameters for 3rd party materials and this open source code license acts as a platform for 3rd party materials usage of the machine without affecting the warranty.		

S.No	Machine Description	Bidders specification / confirmation	Reference page number/ section number of catalogue/Remarks
11	<p><b>Installation &amp; commissioning</b></p> <p>The complete installation and commissioning must be carried out by the supplier at the project (at the final destination/premises). A final accuracy test to be conducted and verified by CMM-Metrology Test Record. Certificate of acceptance is to be signed jointly by customer and supplier.</p> <p>All utilities like power, water and compressed air etc. shall be made available by the consignee within 5 meter of the location where the machine is to be installed. The details of all the utility requirements and operating environment requirements need to be specified by the supplier and shall be the responsibility of the purchaser</p>		
12	<p><b>Training</b></p> <p>1. The bidder shall provide training for one week for two engineers for application/operations, routine maintenance, safety of the equipment and safe material handling procedures.</p> <p>2. 1 week follow up training during commissioning on the following</p> <p>i. Operation and maintenance</p> <p>ii. Optimal cooling design and design support.</p> <p>3. Handholding during 1<sup>st</sup> year of operation: Design/process support on the first 20 LIVE projects or the projects during 1st year of operation whichever earlier, on direct parts as per Additive Manufacturing of Metal design rules by the OEM.</p>		

## **4. Drawings**

Drawings are along with the technical specifications of the particular item wherever required.

## **5. Inspections and Tests**

In accordance with GCC and SCC clause 26.

## **PART 3 - Contract**



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## Section VIII. General Conditions of Contract

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## Section VIII. General Conditions of Contract

### 1. Definitions

1.1 The following words and expressions shall have the meanings hereby assigned to them:

- (a) “Bank” means the World Bank and refers to the International Bank for Reconstruction and Development (IBRD) or the International Development Association (IDA).
- (b) “Contract” means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
- (c) “Contract Documents” means the documents listed in the Contract Agreement, including any amendments thereto.
- (d) “Contract Price” means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.
- (e) “Day” means calendar day.
- (f) “Completion” means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
- (g) “GCC” means the General Conditions of Contract.
- (h) “Goods” means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract.
- (i) “Purchaser’s Country” is the country specified in the Special Conditions of Contract (SCC).
- (j) “Purchaser” means the entity purchasing the Goods and Related Services, as specified in the SCC.
- (k) “Related Services” means the services incidental to the supply of the goods, such as insurance, installation, training and initial maintenance and other such obligations of the Supplier under the Contract.
- (l) “SCC” means the Special Conditions of Contract.

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- (m) “Subcontractor” means any person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.
- (n) “Supplier” means the person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.
- (o) “The Project Site,” where applicable, means the place named in the **SCC**.
- 2. Contract Documents**
- 2.1 Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.
- 3. Corrupt and Fraudulent Practices**
- 3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Appendix to the GCC.
- 3.2 The Purchaser requires the Supplier to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.
- 4. Interpretation**
- 4.1 If the context so requires it, singular means plural and vice versa.
- 4.2 Incoterms
- (a) Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties thereunder shall be as prescribed by Incoterms.
- (b) The terms EXW, CIP, FCA, CFR and other similar terms, when used, shall be governed by the rules prescribed in the current edition of Incoterms specified in the **SCC** and published by the International Chamber of Commerce in Paris, France.
- 4.3 Entire Agreement
- The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications,

negotiations and agreements (whether written or oral) of the parties with respect thereto made prior to the date of Contract.

#### 4.4 Amendment

No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto.

#### 4.5 Non waiver

- (a) Subject to GCC Sub-Clause 4.5(b) below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.
- (b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

#### 4.6 Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

### 5. Language

- 5.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser, shall be written in the language specified in the **SCC**. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified, in which case, for purposes of interpretation of the Contract, this translation shall govern.
- 5.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation, for documents provided by the Supplier.

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- 6. Joint Venture, Consortium or Association** 6.1 If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.
- 7. Eligibility** 7.1 The Supplier and its Subcontractors shall have the nationality of an eligible country. A Supplier or Subcontractor shall be deemed to have the nationality of a country if it is a citizen or constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country.
- 7.2 All Goods and Related Services to be supplied under the Contract and financed by the Bank shall have their origin in Eligible Countries. For the purpose of this Clause, origin means the country where the goods have been grown, mined, cultivated, produced, manufactured, or processed; or through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.
- 8. Notices** 8.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the **SCC**. The term “in writing” means communicated in written form with proof of receipt.
- 8.2 A notice shall be effective when delivered or on the notice’s effective date, whichever is later.
- 9. Governing Law** 9.1 The Contract shall be governed by and interpreted in accordance with the laws of the Purchaser’s Country, unless otherwise specified in the **SCC**.
- 9.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the Purchaser’s country when
- (a) as a matter of law or official regulations, the Borrower’s country prohibits commercial relations with that country; or
- 9.2 (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower’s Country prohibits any import of goods from that country or any payments to any country, person, or entity in that country.

**10 Settlement of Disputes**

- 10.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 10.2 If, after twenty-eight (28) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract. Arbitration proceedings shall be conducted in accordance with the rules of procedure **specified in the SCC**.
- 10.3 Notwithstanding any reference to arbitration herein,
- (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
  - (b) the Purchaser shall pay the Supplier any monies due the Supplier.

**11. Inspections and Audit by the Bank**

- 11.1 The Supplier shall keep, and shall make all reasonable efforts to cause its Subcontractors to keep, accurate and systematic accounts and records in respect of the Goods in such form and details as will clearly identify relevant time changes and costs.
- 11.2 The Supplier shall permit, and shall cause its Subcontractors to permit, the Bank and/or persons appointed by the Bank to inspect the Supplier's offices and all accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the Bank if requested by the Bank. The Supplier's and its Subcontractors and consultants' attention is drawn to Clause 3 [Fraud and Corruption], which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under this Sub-Clause 11.1 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures)

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- 12. Scope of Supply** 12.1 The Goods and Related Services to be supplied shall be as specified in the Schedule of Requirements.
- 13. Delivery and Documents** 13.1 Subject to GCC Sub-Clause 33.1, the Delivery of the Goods and Completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Schedule of Requirements. The details of shipping and other documents to be furnished by the Supplier are specified in the **SCC**.
- 14. Supplier's Responsibilities** 14.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with GCC Clause 12, and the Delivery and Completion Schedule, as per GCC Clause 13.
- 15 Contract Price** 15.1 Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any price adjustments authorized in the **SCC**.
- 16. Terms of Payment**
- 16.1 The Contract Price, including any Advance Payments, if applicable, shall be paid as specified in the **SCC**.
- 16.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods delivered and Related Services performed, and by the documents submitted pursuant to GCC Clause 13 and upon fulfillment of all other obligations stipulated in the Contract.
- 16.3 Payments shall be made promptly by the Purchaser, but in no case later than sixty (60) days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.
- 16.4 The currencies in which payments shall be made to the Supplier under this Contract shall be those in which the bid price is expressed.
- 16.5 In the event that the Purchaser fails to pay the Supplier any payment by its due date or within the period set forth in the **SCC**, the Purchaser shall pay to the Supplier interest on the amount of such delayed payment at the rate shown in the **SCC**, for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.
- 17. Taxes and Duties** 17.1 For goods manufactured outside the Purchaser's Country, the Supplier shall be entirely responsible for all taxes, stamp duties,

license fees, and other such levies imposed outside the Purchaser's Country.

17.2 For goods Manufactured within the Purchaser's country, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.

17.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in the Purchaser's Country, the Purchaser shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

### **18. Performance Security**

18.1 If required as specified in the SCC, the Supplier shall, within twenty-eight (28) days of the notification of contract award, provide a performance security for the performance of the Contract in the amount specified in the SCC.

18.2 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

18.3 As specified in the SCC, the Performance Security, if required, shall be denominated in the currency(ies) of the Contract, or in a freely convertible currency acceptable to the Purchaser; and shall be in one of the format stipulated by the Purchaser in the SCC, or in another format acceptable to the Purchaser.

18.4 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of Completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in the SCC.

### **19. Copyright**

19.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party

### **20. Confidential Information**

20.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following

completion or termination of the Contract. Notwithstanding the above, the Supplier may furnish to its Subcontractor such documents, data, and other information it receives from the Purchaser to the extent required for the Subcontractor to perform its work under the Contract, in which event the Supplier shall obtain from such Subcontractor an undertaking of confidentiality similar to that imposed on the Supplier under GCC Clause 20.

20.2 The Purchaser shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Purchaser for any purpose other than the performance of the Contract.

20.3 The obligation of a party under GCC Sub-Clauses 20.1 and 20.2 above, however, shall not apply to information that:

- (a) the Purchaser or Supplier need to share with the Bank or other institutions participating in the financing of the Contract;
- (b) now or hereafter enters the public domain through no fault of that party;
- (c) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or
- (d) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.

20.4 The above provisions of GCC Clause 20 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.

20.5 The provisions of GCC Clause 20 shall survive completion or termination, for whatever reason, of the Contract.

## **21. Subcontracting**

21.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under the Contract if not already specified in the bid. Such notification, in the original bid or later shall not relieve the Supplier from any of its obligations, duties, responsibilities, or liability under the Contract.

21.2 Subcontracts shall comply with the provisions of GCC Clauses 3 and 7.



**22. Specifications and Standards****22.1 Technical Specifications and Drawings**

- (a) The Goods and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in Section VI, Schedule of Requirements and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the Goods' country of origin.
- (b) The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designed by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Purchaser.
- (c) Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Schedule of Requirements. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with GCC Clause 33.

**23. Packing and Documents**

23.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.

23.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in the **SCC**, and in any other instructions ordered by the Purchaser.

**24. Insurance**

24.1 Unless otherwise specified in the **SCC**, the Goods supplied under the Contract shall be fully insured—in a freely convertible currency from an eligible country—against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery, in accordance with the applicable Incoterms or in the manner specified in the **SCC**.

**25. Transportation and Incidental Services**

- 25.1 Unless otherwise specified in the **SCC**, responsibility for arranging transportation of the Goods shall be in accordance with the specified Incoterms.
- 25.2 The Supplier may be required to provide any or all of the following services, including additional services, if any, **specified in SCC**:
- (a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;
  - (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;
  - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;
  - (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
  - (e) training of the Purchaser's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.
- 25.3 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services

**26. Inspections and Tests**

- 26.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as are specified in the **SCC**.
- 26.2 The inspections and tests may be conducted on the premises of the Supplier or its Subcontractor, at point of delivery, and/or at the Goods' final destination, or in another place in the Purchaser's Country as specified in the **SCC**. Subject to GCC Sub-Clause 26.3, if conducted on the premises of the Supplier or its Subcontractor, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.
- 26.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Sub-Clause 26.2, provided that the Purchaser bear all of its own costs and expenses incurred in connection with such attendance

including, but not limited to, all traveling and board and lodging expenses.

- 26.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.
- 26.5 The Purchaser may require the Supplier to carry out any test and/or inspection not required by the Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.
- 26.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.
- 26.7 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser, and shall repeat the test and/or inspection, at no cost to the Purchaser, upon giving a notice pursuant to GCC Sub-Clause 26.4.
- 26.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report pursuant to GCC Sub-Clause 26.6, shall release the Supplier from any warranties or other obligations under the Contract.
- 27.1 Except as provided under GCC Clause 32, if the Supplier fails to deliver any or all of the Goods by the Date(s) of delivery or perform the Related Services within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in the SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum

## **27. Liquidated Damages**

deduction of the percentage specified in those **SCC**. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to GCC Clause 35.

## **28. Warranty**

- 28.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.
- 28.2 Subject to GCC Sub-Clause 22.1(b), the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the country of final destination.
- 28.3 Unless otherwise specified in the **SCC**, the warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the **SCC**, or for eighteen (18) months after the date of shipment from the port or place of loading in the country of origin, whichever period concludes earlier.
- 28.4 The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.
- 28.5 Upon receipt of such notice, the Supplier shall, within the period specified in the **SCC**, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.
- 28.6 If having been notified, the Supplier fails to remedy the defect within the period specified in the **SCC**, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

## **29. Patent Indemnity**

- 29.1 The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 29.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design,

trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:

- (a) the installation of the Goods by the Supplier or the use of the Goods in the country where the Site is located; and
- (b) the sale in any country of the products produced by the Goods.

Such indemnity shall not cover any use of the Goods or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Supplier, pursuant to the Contract.

- 29.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in GCC Sub-Clause 29.1, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.
- 29.3 If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf.
- 29.4 The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.
- 29.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Supplier may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Purchaser.

**30 Limitation of Liability**

- 30.1 Except in cases of criminal negligence or willful misconduct,
- (a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser and
  - (b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the supplier to indemnify the purchaser with respect to patent infringement

**31. Change in Laws and Regulations**

- 31.1 Unless otherwise specified in the Contract, if after the date of 28 days prior to date of Bid submission, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in the place of the Purchaser's country where the Site is located (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with GCC Clause 15.

**32. Force Majeure**

- 32.1 The Supplier shall not be liable for forfeiture of its Performance Security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 32.2 For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

32.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

**33. Change Orders  
and Contract  
Amendments**

33.1 The Purchaser may at any time order the Supplier through notice in accordance GCC Clause 8, to make changes within the general scope of the Contract in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- (b) the method of shipment or packing;
- (c) the place of delivery; and
- (d) the Related Services to be provided by the Supplier.

33.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery/Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within twenty-eight (28) days from the date of the Supplier's receipt of the Purchaser's change order.

33.3 Prices to be charged by the Supplier for any Related Services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

33.4 Subject to the above, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

**34. Extensions of  
Time**

34.1 If at any time during performance of the Contract, the Supplier or its subcontractors should encounter conditions impeding timely delivery of the Goods or completion of Related Services pursuant to GCC Clause 13, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its

discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.

34.2 Except in case of Force Majeure, as provided under GCC Clause 32, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 26, unless an extension of time is agreed upon, pursuant to GCC Sub-Clause 34.1.

### **35. Termination**

#### **35.1 Termination for Default**

- (a) The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:
  - (i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 34;
  - (ii) if the Supplier fails to perform any other obligation under the Contract; or
  - (iii) if the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in GCC Clause 3, in competing for or in executing the Contract.
- (b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 35.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

#### **35.2 Termination for Insolvency.**

- (a) The Purchaser may at any time terminate the Contract by giving notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the Purchaser



### 35.3 Termination for Convenience.

- (a) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- (b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
  - (i) to have any portion completed and delivered at the Contract terms and prices; and/or
  - (ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

### **36. Assignment**

- 36.1 Neither the Purchaser nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party.

### **37. Export Restriction**

- 37.1 Notwithstanding any obligation under the Contract to complete all export formalities, any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, which arise from trade regulations from a country supplying those products/goods, systems or services, and which substantially impede the Supplier from meeting its obligations under the Contract, shall release the Supplier from the obligation to provide deliveries or services, always provided, however, that the Supplier can demonstrate to the satisfaction of the Purchaser and of the Bank that it has completed all formalities in a timely manner, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract. Termination of the Contract on this basis shall be for the Purchaser's convenience pursuant to Sub-Clause 35.3.



## APPENDIX TO GENERAL CONDITIONS

### Bank's Policy- Corrupt and Fraudulent Practices

*(text in this Appendix shall not be modified)*

#### **Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011:**

##### **“Fraud and Corruption:**

1.16 It is the Bank's policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.<sup>9</sup> In pursuance of this policy, the Bank:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

- (i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;<sup>10</sup>;
- (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;<sup>11</sup>
- (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;<sup>12</sup>

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<sup>9</sup> In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

<sup>10</sup> For the purpose of this sub-paragraph, “*another party*” refers to a public official acting in relation to the procurement process or contract execution. In this context, “*public official*” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

<sup>11</sup> For the purpose of this sub-paragraph, “*party*” refers to a public official; the terms “*benefit*” and “*obligation*” relate to the procurement process or contract execution; and the “*act or omission*” is intended to influence the procurement process or contract execution.

<sup>12</sup> For the purpose of this sub-paragraph, “*parties*” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other's bid prices or other conditions.

- (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;<sup>13</sup>
- (v) "obstructive practice" is:
  - (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
  - (bb) acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare mis procurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank’s sanctions procedures,<sup>14</sup> including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated<sup>15</sup>;

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<sup>13</sup> For the purpose of this sub-paragraph, “party” refers to a participant in the procurement process or contract execution.

<sup>14</sup> A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank’s sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

<sup>15</sup> A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder

- (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank.”

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in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.



## Section IX. Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

<b>GCC 1.1(i)</b>	The Purchaser's country is: <i>India</i>														
<b>GCC 1.1(j)</b>	The Purchaser is: <b>The Development Commissioner (MSME), Ministry of Micro Small and Medium Enterprises, Government of India</b>														
<b>GCC 1.1 (o)</b>	<p>The Project Site(s)/Final Destination(s) is:</p> <table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Final destination (Project Site)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td><b>MSME TOOL ROOM Jamshedpur (Indo-Danish Tool Room)</b> Ministry of MSME, Govt. of India Society, M-4 (Part), Phase VI, Tata Kandra Road, Gamharia, Jamshedpur 832 108</td> </tr> <tr> <td>2</td> <td><b>Central Institute of Hand Tools</b> G.T. Road, Bye Pass, Opp. Shaheed Bhagat Singh Colony, Jalandhar City - 144 008, Punjab, India</td> </tr> <tr> <td>3</td> <td><b>CENTRAL TOOL ROOM</b> A-5, Focal Point, Ludhiana - 141 010, Punjab, INDIA</td> </tr> <tr> <td>4</td> <td><b>CENTRAL INSTITUTE OF TOOL DESIGN</b> Balanagar, HYDERABAD - 500 037, INDIA</td> </tr> <tr> <td>5</td> <td><b>MSME - TOOL ROOM KOLKATA</b>, (Central Tool Room &amp; Training Centre), Government of India Society, Ministry of Micro, Small &amp; Medium Enterprises, Bon Hooghly Industrial Area, Kolkata – 700 108</td> </tr> <tr> <td>6</td> <td><b>MSME TOOL ROOM, INDORE (Indo-German Tool Room, Indore)</b> 291/B-302/A, Sector E, Industrial Area, Sanwer Road, INDORE - 452 015 (M.P.)</td> </tr> </tbody> </table>	Sr. No.	Final destination (Project Site)	1	<b>MSME TOOL ROOM Jamshedpur (Indo-Danish Tool Room)</b> Ministry of MSME, Govt. of India Society, M-4 (Part), Phase VI, Tata Kandra Road, Gamharia, Jamshedpur 832 108	2	<b>Central Institute of Hand Tools</b> G.T. Road, Bye Pass, Opp. Shaheed Bhagat Singh Colony, Jalandhar City - 144 008, Punjab, India	3	<b>CENTRAL TOOL ROOM</b> A-5, Focal Point, Ludhiana - 141 010, Punjab, INDIA	4	<b>CENTRAL INSTITUTE OF TOOL DESIGN</b> Balanagar, HYDERABAD - 500 037, INDIA	5	<b>MSME - TOOL ROOM KOLKATA</b> , (Central Tool Room & Training Centre), Government of India Society, Ministry of Micro, Small & Medium Enterprises, Bon Hooghly Industrial Area, Kolkata – 700 108	6	<b>MSME TOOL ROOM, INDORE (Indo-German Tool Room, Indore)</b> 291/B-302/A, Sector E, Industrial Area, Sanwer Road, INDORE - 452 015 (M.P.)
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<b>GCC 4.2 (a)</b>	The meaning of the trade terms shall be as prescribed by <b>Incoterms</b> .														
<b>GCC 4.2 (b)</b>	The version edition of Incoterms shall be <b><i>Incoterm 2010 or latest</i></b>														
<b>GCC 5.1</b>	The language shall be: <b><i>English</i></b>														

<b>GCC 8.1</b>	<p>For <b>notices</b>, the Purchaser’s address for the quantity specified against each Lots is specified in Section VII “Schedule of Requirement” as relevant:</p> <table border="1"> <thead> <tr> <th><b>Sr. No.</b></th> <th><b>Address of Technology Centre</b></th> <th><b>Contact Details</b></th> </tr> </thead> <tbody> <tr> <td>1</td> <td><b>Managing Director MSME Tool Room Jamshedpur (Indo-Danish Tool Room)</b>, Ministry of MSME, Govt. of India Society, M-4 (Part), Phase VI, Tata Kandra Road, Gamharia Jamshedpur 832 108</td> <td>Phone: +91 657 2201261/ 2201262 Fax: 0657 2202723 Email: <a href="mailto:reach@idtrjamshedpur.com">reach@idtrjamshedpur.com</a> Website: <a href="http://www.idtr.gov.in">www.idtr.gov.in</a></td> </tr> <tr> <td>2</td> <td><b>Principal Director Central Institute of Hand Tools</b> G.T. Road, Bye Pass, Opp. Shaheed Bhagat Singh Colony, Jalandhar City - 144 008, State - Punjab, India</td> <td>Phone: +91 181 2290225 / 2290226 Fax: +91.181.2290457 E-mail: <a href="mailto:institute_jld@dataone.in">institute_jld@dataone.in</a> E-mail: <a href="mailto:info@ciht.in">info@ciht.in</a> Website: Website: <a href="http://www.ciht.in">www.ciht.in</a></td> </tr> <tr> <td>3</td> <td><b>General Manager Central Tool Room</b> A-5, Focal Point, Ludhiana - 141 010, Punjab, India</td> <td>Phone: +91-161-2670058 Fax: +91-161-2674746 Email: <a href="mailto:info@ctrludhiana.com">info@ctrludhiana.com</a> <a href="mailto:gm@ctrludhiana.com">gm@ctrludhiana.com</a> Website: <a href="http://www.ctrludhiana.com">www.ctrludhiana.com</a></td> </tr> <tr> <td>4</td> <td><b>Principal Director Central Institute of Tool Design</b> Balanagar, HYDERABAD - 500 037, India</td> <td>Tel.No : 91-40-2377 2748/ 2749 Fax : 91-40-23772658 Email: <a href="mailto:citdcadcam@citdindia.org">citdcadcam@citdindia.org</a> Website: <a href="http://www.citdindia.org">www.citdindia.org</a></td> </tr> <tr> <td>5</td> <td><b>General Manager MSME - Tool Room Kolkata</b> (Central Tool Room &amp; Training Centre), Government of India Society, Ministry of Micro, Small &amp; Medium Enterprises, Bon Hooghly Industrial Area, Kolkata – 700 108</td> <td>Phone: +91-33-25780001 Fax: +91-33-25772494 E-mail: <a href="mailto:cttc-msme@gov.in">cttc-msme@gov.in</a>, <a href="mailto:deddutta.guha@msmetoolroomkolkata.com">deddutta.guha@msmetoolroomkolkata.com</a> Website: <a href="http://www.msmetoolroomkolkata.com">www.msmetoolroomkolkata.com</a></td> </tr> <tr> <td>6</td> <td><b>General Manager MSME - Tool Room, Indore (Indo-German Tool Room, Indore)</b> 291/B-302/A, Sector E, Industrial Area, Sanwer Road, INDORE - 452 015 (M.P.)</td> <td>Phone : (0731) 4210737, 4210700 Fax : (0731) 2720353 E-mail: <a href="mailto:indigr@sancharnet.in">indigr@sancharnet.in</a>, <a href="mailto:igrindore-mp@nic.in">igrindore-mp@nic.in</a> Website: <a href="http://www.igr-indore.com">www.igr-indore.com</a></td> </tr> </tbody> </table>	<b>Sr. No.</b>	<b>Address of Technology Centre</b>	<b>Contact Details</b>	1	<b>Managing Director MSME Tool Room Jamshedpur (Indo-Danish Tool Room)</b> , Ministry of MSME, Govt. of India Society, M-4 (Part), Phase VI, Tata Kandra Road, Gamharia Jamshedpur 832 108	Phone: +91 657 2201261/ 2201262 Fax: 0657 2202723 Email: <a href="mailto:reach@idtrjamshedpur.com">reach@idtrjamshedpur.com</a> Website: <a href="http://www.idtr.gov.in">www.idtr.gov.in</a>	2	<b>Principal Director Central Institute of Hand Tools</b> G.T. 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<b>GCC 9.1</b>	The governing law shall be the laws of: <b>Union of India.</b>																					



<b>GCC 10.2</b>	<p>The rules of procedure for arbitration proceedings pursuant to GCC Clause 10.2 shall be as follows:</p> <p><i>“Clause 10.2 (a) shall be retained in the case of a Contract with a foreign Supplier and clause 10.2 (b) shall be retained in the case of a Contract with a national of the Purchaser’s country.”]</i></p> <p><b>(a) Contract with foreign Supplier:</b></p> <p>Any dispute, controversy, or claim arising out of or relating to this Contract, or breach, termination or invalidity thereof, shall be settled by arbitration in accordance with the UNCITRAL Arbitration Rules as at present in force.</p> <p>The arbitration venue shall be a neutral country or a venue mutually agreed at the time of signing of contract agreement.</p> <p>The language of Arbitration proceeding shall be English.</p> <p><b>(b) Contracts with Supplier national of the Purchaser’s country:</b></p> <p>i) In case of Dispute or difference arising between the Purchaser and a supplier who is a national of India relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The arbitral tribunal shall consist of 3 arbitrators one each to be appointed by the Purchaser and the Supplier. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties and shall act as Presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed in accordance with the provisions of the Arbitration and Conciliation Act 1996.</p> <p>ii) If one of the parties fails to appoint its arbitrator in pursuance of sub clause (a) above, within 30 days after receipt of the notice of the appointment of its arbitrator by the other party, then the appointment of the Arbitrator shall be made in accordance with the provisions of the Arbitration and Conciliation Act 1996.</p> <p>iii) The venue of Arbitration shall be New Delhi and the language of the arbitration proceedings and that of all councils and communications between the parties shall be English.</p>
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	<p>iv) The decision of the majority of arbitrators shall be final and binding upon parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation, etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be borne by each party itself.</p> <p>v) The provisions of the Arbitration and Conciliation Act of 1996 along with the Rules herewith and any statutory modification or reenactment thereof shall apply to arbitration proceedings.</p> <p>For both a) and b) above: If a dispute under the Supplier Contract raises the same issues as those in respect of a related dispute with another supplier contract, the Purchaser will have the option of having the arbitration proceedings joined.</p>
GCC 13.1	<p><b>The details of shipping and/or other documents, as applicable, to be furnished by the Supplier are:</b></p> <p><b>I. For Goods supplied from abroad: Documents to be submitted to purchaser : -</b></p> <p>Upon shipment, within 24 hours the Supplier shall notify the Purchaser and Consignee and the insurance company in writing by email or Fax, the full details of the shipment, and expected date of arrival at port of entry. In the event of Goods sent by airfreight, the Supplier shall notify the Purchaser and Consignee a minimum of seventy-two (72) hours ahead of dispatch, all air freighting details like the name of the carrier, the flight number, date and time of arrival, The supplier shall send the documents to the negotiating Bank and scanned copies of all the documents shall be sent to the Purchaser and Consignee immediately after shipment.</p> <ol style="list-style-type: none"> <li>i. One original and four copies of commercial invoice, in the name of purchaser as mentioned in GCC 8.1 of SCC on behalf of “O/o DC MSME, Ministry of Micro Small and Medium Enterprises, Government of India”, Consignee as mentioned in GCC 8.1 of SCC the Contract number, Credit number; Goods’ description, quantity, unit price, and total amount. Invoices must be signed in original and stamped or sealed with the company stamp/seal:</li> <li>ii. Original and two copies of negotiable, clean, on-board through bill of lading marked “freight prepaid” or Airway Bill indicating purchaser as mentioned in GCC 8.1 of SCC on behalf of “O/o DC MSME, Ministry of Micro Small and Medium Enterprises, Government of India” and Consignee as mentioned in GCC 8.1 of SCC.</li> <li>iii. Four copies of the packing list identifying contents of each package;</li> </ol>

	<ul style="list-style-type: none"> <li>iv. Copy of insurance certificate.</li> <li>v. One original of the manufacturer’s Warranty Certificate covering all items supplied;</li> <li>vi. Original and four copies of Certificate of Inspection furnished to supplier by the nominated agency (where inspection is required);</li> <li>vii. Original and four copies of Internal Test Analysis Report of the Manufacturer for the items offered.</li> <li>viii. Certificate of Origin</li> </ul> <p>The above documents shall be received by the Purchaser at least seventy two hours before arrival of Goods at the port or place of arrival and, if not received, the Supplier will be responsible for any consequent expenses.</p> <p><b>II. For Goods from within India</b></p> <p>The Supplier should intimate the Consignee in advance at least 7 days before the dispatch of Goods the expected date of arrival of Goods along with quantity of Goods.</p> <p><b>Documents to be submitted to Purchaser:-</b></p> <p>The Supplier shall submit the following documents to the purchaser after delivery of goods to the Consignee. One set of these documents shall be submitted to the consignee along with the delivery of goods except the CRC certificate.</p> <ul style="list-style-type: none"> <li>i. One original and four copies of commercial invoice, in the name of purchaser as mentioned in GCC 8.1 of SCC on behalf of “O/o DC MSME, Ministry of Micro Small and Medium Enterprises, Government of India”, Consignee as mentioned in GCC 8.1 of SCC the Contract number, Goods’ description, quantity, unit price, and total amount. Invoices must be signed in original and stamped or sealed with the company stamp/seal:</li> <li>ii. Proof of dispatch (POD) viz., Railway consignment note, road consignment note, truck or airway bill, or multimodal transport document indicating purchaser as mentioned in GCC 8.1 of SCC on behalf of “O/o DC MSME, Ministry of Micro Small and Medium Enterprises, Government of India” and Consignee as mentioned in GCC 8.1 of SCC.</li> <li>iii. Four copies of packing list identifying contents of each package;</li> <li>iv. Copy of insurance certificate.</li> <li>v. One original manufacturer’s Warranty certificate covering all items supplied. Original and four copies of Certificate of Inspection furnished to supplier by the nominated agency (where inspection is required)</li> </ul>
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	<ul style="list-style-type: none"> <li>vi. Original and four copies of Internal test Analysis Report of the Manufacturer for the items offered.</li> <li>vii. Certificate of Origin</li> <li>viii. Two original and three copies of receipt of goods from the Consignee ie Consignee Receipt Certificate (CRC).</li> </ul>
<b>GCC 15.1</b>	The prices charged for the Goods supplied and the related Services performed <i>shall not</i> be adjustable.
<b>GCC 16.1</b>	<p>Paying Authority/LC opening on behalf of Purchaser: <b>As specified in GCC 8.1 of SCC</b></p> <p>GCC 16.1—The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:</p> <p><b>16.1.1 Payment for Goods supplied from abroad:</b></p> <p>Payment of foreign currency portion shall be made in currency specified in the Contract in the following manner:</p> <p><b>Advance Payment</b> twenty (20%) percent of the Contract Price (except Annual Maintenance Services) in foreign currency shall be paid through ECS within thirty (30) days of signing the contract and upon of submission of claim consisting of Proforma Invoice and a Bank Guarantee of equivalent amount towards Advance Payment Security as per form enclosed in section X. The Bank Guarantee shall be issued by a bank located in the Purchaser’s country (Nationalized or Scheduled commercial Bank in India) or issued by a reputed foreign Bank and routed through a correspondent Bank (Nationalized or Scheduled commercial Bank in India),</p> <p><b>A. Irrevocable letter of credit (LC)</b> shall be opened by the Purchaser in favor of the Supplier in a Nationalized bank in Purchasers country for an amount equal to <b>Eighty percent (80%)</b> of the contract amount (except Annual Maintenance Services) in foreign currency, LC confirmation if required by the supplier, the same shall be done by supplier at its own cost. Charges for amendment of the letter of credit at the request of or due to a fault or default of the Purchaser are to the account of the Purchaser. Charges for amendment to letters of credit at the request of or due to a fault or default on behalf of the Supplier are to the account of the Supplier. Where payments are to be effected through a Letter of Credit (LC), the same shall be subject to the latest Customs and Practice for Documentary</p>

	<p>Credit of the International Chamber of Commerce; Payment shall be made as under</p> <p><b>B.</b></p> <p>i. <b>On Shipment: Sixty (60%) percent</b> of the goods Price in foreign currency shall be paid through above irrevocable LC upon submission of documents specified in GCC Clause 13.1</p> <p>ii. <b>Balance Payment of the contract</b> (except Annual Maintenance Services) <b>price</b> in foreign currency shall be paid within thirty (30) days against above LC upon receipt of the goods and upon submission of claim (Invoice supported by Final Acceptance Certificate (as per Form enclosed in Section X of Bid Document) issued by the consignee.</p> <p>Payment of local currency portion shall be made in Indian Rupees (INR) within thirty (30) days of presentation of claim supported by a Final Acceptance Certificate issued by the Consignee declaring that the Goods have been received and that all related services has been performed satisfactorily in accordance with the Contract.</p> <p><b>16.1.2 Payment for Goods supplied from within the Purchaser's country:</b></p> <p>Payment for Goods and Services supplied from within the Purchaser's country shall be made in Indian Rupees (INR) as follows:</p> <p><b>A. Advance Payment twenty (20%) percent</b> of the Contract Price (except Annual Maintenance Services) of the Goods shall be paid through ECS within thirty (30) days and, upon of submission of claim consisting of Proforma Invoice and a Bank Guarantee of equivalent amount towards Advance Payment Security. as per form enclosed in section X. The Bank Guarantee shall be issued by a bank located in the Purchaser's country (Nationalized or Scheduled commercial Bank in India) or issued by a reputed foreign Bank and routed through a correspondent Bank (Nationalized or Scheduled commercial Bank in India),</p> <p><b>B.</b></p> <p><b>i. On Delivery Sixty (60%) percent:</b> of the Contract Price of the Goods delivered shall be paid through ECS, upon submission of documents specified in GCC Clause 13.1</p> <p><b>ii). Balance Payment of contract price</b> (except Annual Maintenance Services) and cost of all related services as per contract shall be paid within thirty days (30) through ECS on submission of claim (Invoice) supported by Final Acceptance</p>
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	<p>Certificate (As per form enclosed in Section X of bid Document)</p> <p><b>16.1.3 Payments for Annual Maintenance Services for one (1) year beyond warranty:</b>  The first payment for Annual Maintenance Services shall be made through ECS on completion of every six (6) months after warranty period and subsequently on completion of twelve (12) month period. The payment shall be made against Invoice supported by satisfactory performance certificate from the Consignee.</p>
<p><b>GCC 16.4</b></p>	<p>The following is added:  Payment of agency commission to any Indian Agent, if applicable and mentioned separately in the letter of Bid shall be paid to the bidder's Agent in India in Indian Rupees using the T. T Buying market rate of exchange ruling on the date of award of contract and shall not be subject to any further exchange variation.</p>
<p><b>GCC 16.5</b></p>	<p>The payment-delay period after which the Purchaser shall pay interest to the supplier shall be 30 days.</p> <p><b>The interest rate is:</b>  - For foreign currency: London Inter Bank Offered Rate (LIBOR) plus 2% per annum.  For local currency: @ 8% per annum for each day of delay.</p>
<p><b>GCC 18.1</b></p>	<p>A Performance Security <i>shall be required</i></p> <p>Within 21 days after the Supplier's receipt of Notification of Award, the Supplier shall furnish Performance Security to the Purchaser for an amount of 10% of the contract value, valid up to 60 days after the date of final acceptance certificate from Purchaser. The Performance security shall be in the form of Bank Guarantee as per form enclosed in Section X of Bid document. The Bank Guarantee shall be issued by a bank located in the Purchaser's country (Nationalized or Scheduled commercial Bank in India) or issued by a reputed foreign Bank and routed through a correspondent Bank (Nationalized or Scheduled commercial Bank in India),</p> <p>The amount of performance security shall be reduced to 5% of the contract value on final acceptance of the goods and shall remain valid upto 60 days after the date of completion of one (1) year period of Annual Maintenance Services. In case the Annual Maintenance Service period is extended by another one year then the Performance Security shall be extended and shall remain valid upto 60 days after the date of completion of extended one (1) year period of Annual Maintenance Services.</p>

	In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/replaced material shall be extended to a further period of <b>Twelve (12) months</b> pursuant to SCC clause 28.5 (GCC 28.5) and the Performance Bank Guarantee for proportionate value shall be extended 60days over and above the extended warranty period.
<b>GCC 18.3</b>	If required, the Performance Security shall be in the form of a “Bank Guarantee or demand draft or pay order” drawn in favour of the <b>purchaser as indicated in GCC 8.1 of SCC</b>
<b>GCC 18.4</b>	The Performance Security will be discharged by the Purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier’s performance obligations, including any warranty obligation and one (1) year Annual Maintenance Services beyond warranty.
<b>GCC 23.2</b>	<p><u>Packing Instructions:</u> The Supplier will be required to make separate packages for each Consignee. Each package will be marked on three sides with proper paint/indelible ink with the following:</p> <ul style="list-style-type: none"> <li>(i) Project Name;</li> <li>(ii) Contract No.;</li> <li>(iii) Country of Origin of Goods;</li> <li>(iv) Supplier’s Name</li> <li>(v) Packing list reference No.,</li> </ul> <p>Suppliers should use recycled materials as much as possible for packing</p>

<b>GCC 24.1</b>	<p>The insurance shall be in an amount equal to 110 percent of the CIP (EXW for goods supplied from within the country) value of the Goods from “warehouse” to “warehouse” on “All Risks” basis, including war risks and strikes .</p> <p><b>Add GCC Clause 24.2 as under:</b></p> <p style="padding-left: 40px;">GCC 24.2      Should any loss or damage occur, the Supplier shall</p> <p style="padding-left: 40px;">a)      initiate and pursue claim till settlement on behalf of purchaser, and</p> <p style="padding-left: 40px;">b)      promptly make arrangements for repair and/or replacement of any damaged items/lost in transit items irrespective of settlement of claim by the underwriters.</p>
<b>GCC 25.1</b>	<p>The Supplier is required under the Contract to transport the Goods to the specified place of final destination, defined as the Project Site. Transport to such place of destination, including unloading, and insurance, shall be arranged by the Supplier, and related costs are included in the Contract Price.</p>
<b>GCC 25.2</b>	<p>Incidental services to be provided are: As indicated in GCC Clause 25.2</p>
<b>GCC 26.1</b>	<p>The Supplier shall conduct tests to confirm that the goods supplied are as per specification and enclose the test and inspection certificate along with supply.</p>
<b>GCC 26.2</b>	<p>The pre dispatch inspection shall be carried out by Purchaser’s nominated inspection agency (purchaser’s representative /third party) at supplier’s premises within a period of 4 weeks from the date of receipt of inspection call. Alternatively the Purchaser may decide to waive the pre dispatch inspection and agree to accept manufacturer’s test certificate.</p> <p>In addition to the provisions of GCC 26, the consignee shall inspect the goods on arrival and verify the documents. In case of any discrepancy, the consignee shall arrange for a joint inspection at consignee’s premises, which will be attended by the representatives of the consignee, purchaser, inspection agency and the supplier. The results of the joint inspection shall be recorded and signed by the representatives for further necessary action.</p> <p>Unless the full quantity of Goods supplied according to the Schedule of Requirements/each shipment is received in good condition and satisfactorily installed, the Consignee will not accept the Goods and will not issue the Final Acceptance Certificate.</p>
<b>GCC 27.1</b>	<p>The liquidated damage shall be: <b>0.5 % per week or part thereof.</b></p>



<b>GCC 27.1</b>	The maximum amount of liquidated damages shall be: <b>10 % of contract value.</b>
<b>GCC 28.3</b>	<p>(i) The Supplier shall, in addition, comply with the performance guarantees specified under the Contract. If, for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the supplier shall at its discretion, either</p> <ol style="list-style-type: none"> <li>a. Make such changes, modifications and/or additions to the goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the contract at its own cost and expense and to carry out further performance tests in accordance with GCC 4 &amp; SCC 4.</li> <li>b. Pay liquidated damages to the Purchaser with respect to the failure to meet the contractual guarantees. The rate of these liquidated damages shall be equivalent to the actual cost of modifications required, subject to a maximum of 10% of the contract cost of the subject equipment.</li> </ol> <p>(ii) Details of Representative/ Agent who will be responsible for carrying out supplier's maintenance, repair and spare parts stocking obligations shall be as furnished in Letter of Bid or furnished after Award of contract along with Performance security and shall be included here along with the location, detailed addresses, phone number etc. of Service centers .</p> <p>They should have spares as detailed available with each center on replenishment basis i.e. the spares should be replaced in the inventory within a week of the usage of the same. At any point of time the spares parts should be adequate to take care of the warranty obligations.</p> <p>The warranty shall include spare parts and updation of software (including transportation, if any) wherever required.</p> <p>For purposes of the Warranty, the place(s) of final destination(s) shall be: As specified in GCC 1.1 (o) of SCC.</p>

<b>GCC 28.5</b>	<p>Upon receipt of such notice, the Supplier shall, within a period of Twenty One <b>(21) days</b> and with all reasonable speed, repair or replace the defective goods or parts thereof, free of cost at the ultimate destination. The Supplier shall take over the replaced parts/goods at the time of their replacement. No claim what so ever, shall lie on the Purchaser for the replaced parts/goods thereafter.</p> <p>In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/replaced material shall be extended to a further period of <b>Twelve (12) months</b> subject to a maximum period of 24 months from the date of installation and commissioning.</p>
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<p><b>GCC 28</b> <b>(additional sub-clause 28.7)</b></p>	<p>Add the following additional sub-clause.</p> <p><b>a) Warranty</b></p> <p>Maintenance and Repair services including testing, updation of software, labor and spares shall be provided by the Supplier without any extra charge during the period of warranty as specified in SCC 28.3.</p> <p><b>b) Annual Maintenance Service for one year:</b> shall include the services as under:</p> <ul style="list-style-type: none"> <li>• Four visits for preventive maintenance and the Preventive Maintenance schedule shall be provided by the supplier.</li> <li>• Break down maintenance to be attended as and when required.</li> </ul> <p>Purchaser shall reserve the right to extend the Annual Maintenance Services for another one year at the same terms &amp; conditions and price.</p> <p><b>For both a)and b)above:</b></p> <p>The maximum response time for maintenance complaint from any part of the country shall not exceed 7 days including the travel time. The unit must be made functional at the earliest within a maximum period of 15 days (including response time) from the time a defect is reported to the Supplier. In case, a replacement of defective Goods needs more than 15 days, or as agreed in specific cases with the consignee, the liquidated damages as indicated below, shall apply. The warranty/Annual Maintenance Service period shall be extended by the number of days for which the Machine/equipment has not been in operation without any additional cost to the purchaser.</p> <p>In case of non-compliance of the above, liquidated damages at the rate of 0.075% of the Contract Price of the Equipment/Machine per day beyond 15 days in a year shall be imposed and equivalent amount shall be deducted. The maximum amount of liquidated damages shall be applicable as specified in GCC 27.1 of SCC.</p>
<p><b>GCC 31.1</b></p>	<p>This clause will apply only to variations in VAT/Sales tax/ Octroi etc. payable in India on the final product which is being supplied and not for variations in tax on the individual components / raw materials which go into the product.</p>

## Section X. Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

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# Letter of Acceptance

*[letterhead paper of the Purchaser]*

*[date]*

To: *[name and address of the Supplier]*

Subject: **Notification of Award Contract No.** . . . . .

This is to notify you that your Bid dated . . . . *[insert date]* . . . . for execution of the . . . .  
. . . . .*[insert name of the contract and identification number, as given in the SCC]*. . .  
. . . . . for the Accepted Contract Amount of . . . . .*[insert amount in numbers and words and name of currency]*, as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by our Agency.

You are requested to furnish the Performance Security within 21 days in accordance with the Conditions of Contract, using for that purpose the of the Performance Security Form included in Section X, Contract Forms, of the Bidding Document.

Authorized Signature: \_\_\_\_\_  
Name and Title of Signatory: \_\_\_\_\_  
Name of Agency: \_\_\_\_\_

**Attachment: Contract Agreement**

## Contract Agreement

*[The successful Bidder shall fill in this form in accordance with the instructions indicated]*

THIS AGREEMENT made

the *[ insert: **number** ]* day of *[ insert: **month** ], [ insert: **year** ]*.

BETWEEN

- (1) *[ insert complete name of Purchaser ], a [ insert description of type of legal entity, for example, an agency of the Ministry of .... of the Government of { insert name of Country of Purchaser }, or corporation incorporated under the laws of { insert name of Country of Purchaser } ] and having its principal place of business at [ insert address of Purchaser ] (hereinafter called “the Purchaser”), of the one part, and*
- (2) *[ insert name of Supplier], a corporation incorporated under the laws of [ insert: country of Supplier] and having its principal place of business at [ insert: address of Supplier ] (hereinafter called “the Supplier”), of the other part :*

WHEREAS the Purchaser invited bids for certain Goods and ancillary services, viz., *[insert brief description of Goods and Services]* and has accepted a Bid by the Supplier for the supply of those Goods and Services

The Purchaser and the Supplier agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other contract documents.
  - (a) the Letter of Acceptance
  - (b) the Letter of Bid
  - (c) the Addenda Nos. \_\_\_\_\_ (if any)
  - (d) Special Conditions of Contract
  - (e) General Conditions of Contract
  - (f) the Specification (including Schedule of Requirements and Technical Specifications)
  - (g) the completed Schedules (including Price Schedules)

- (h) any other document listed in GCC as forming part of the Contract
3. In consideration of the payments to be made by the Purchaser to the Supplier as specified in this Agreement, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
  4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Union of India *[insert the name of the Contract governing law country]* on the day, month and year indicated above.

For and on behalf of the Purchaser

Signed: *[insert signature]*  
in the capacity of *[ insert title or other appropriate designation ]*  
in the presence of *[insert identification of official witness]*

For and on behalf of the Supplier

Signed: *[insert signature of authorized representative(s) of the Supplier]*  
in the capacity of *[ insert title or other appropriate designation ]*  
in the presence of *[ insert identification of official witness]*

## Performance Security

### Option 1: (Bank Guarantee)

*[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]*

*[Guarantor letterhead or SWIFT identifier code]*

**Beneficiary:** *[insert name and Address of Purchaser ]*

**Date:** *\_ [Insert date of issue]*

**PERFORMANCE GUARANTEE No.:** *[Insert guarantee reference number]*

**Guarantor:** *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *\_ [insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the supply of *\_ [insert name of contract and brief description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (*[insert amount in words]*),<sup>1</sup> such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the .... Day of ....., 2...<sup>2</sup>, and any demand for payment under it must be received by us at this office indicated above on or before that date.

<sup>1</sup> *The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, and denominated either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Beneficiary.*

<sup>2</sup> *Insert the date twenty-eight days after the expected completion date as described in GC Clause 18.4. The Purchaser should note that in the event of an extension of this date for completion of the Contract, the Purchaser would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Purchaser might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six*



This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

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*[signature(s)]*

***Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.***

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*months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."*

## Advance Payment Security

*[Guarantor letterhead or SWIFT identifier code]*

**Beneficiary:***[Insert name and Address of Purchaser]*

**Date:** *[Insert date of issue]*

**ADVANCE PAYMENT GUARANTEE No.:** *[Insert guarantee reference number]*

**Guarantor:** *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of *[insert name of contract and brief description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum *[insert amount in figures]* () *[insert amount in words]* is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* () *[insert amount in words]*<sup>1</sup> upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

- (a) has used the advance payment for purposes other than toward delivery of Goods;  
or
- (b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

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<sup>1</sup> *The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Purchaser.*

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number *[insert number]* at *[insert name and address of Applicant's bank]*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, has been certified for payment, or on the *[insert day]* day of *[insert month]*, 2 *[insert year]*, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No.758, except that the supporting statement under Article 15(a) is hereby excluded.

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*[signature(s)]*

***Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.***

## Consignee Receipt Certificate (for 60% payment)

No.

Date

To,

*Supplier*

This is to certify that the Goods as detailed below have been received duly inspected in good condition in accordance with the conditions of the contract and amendment if any.

Project Name	Technology Centre system Programme
Purchaser	<b>As per GCC 8.1 of SCC on behalf of “The Development Commissioner (MSME), Ministry of Micro Small and Medium Enterprises, Government of India”</b>
Contract No. & Date	:
Description of Goods (Lot No.)	:
Quantity supplied in Numbers	:
Quantity supplied in Words	:
Name of Supplier	:
Invoice No. and Date	:
Date of delivery at Consignee destination site	:
Consignee full Address:	Signature of Designated Consignee :  Name : Designation : Seal : Contact No. : Fax No.:

Copy To:

Office of Development Commissioner, Micro Small and Medium Enterprises, Ministry of  
Micro Small and Medium Enterprises, Government of India

## Final Acceptance Certificate

No.

Date

To  
Supplier

Project Name	Technology Centre Systems Programme
Purchaser	As per GCC 8.1 of SCC on behalf of “The Development Commissioner (MSME), Ministry of Micro Small and Medium Enterprises, Government of India”
Contract No. & Date	:
Description of Goods (Lot No.)	:
Quantity supplied in Numbers	:
Quantity supplied in Words	:
Name of Supplier	:
Invoice No. and Date	:
Installation Date	
Commissioning Date	
Completion of Training Date	
Date of Final Acceptance including completion of all related services except Annual maintenance services	:

Copy To:

Office of Development Commissioner, Micro Small and Medium Enterprises, Ministry of  
Micro Small and Medium Enterprises, Government of India

Consignee full Address:

Signature of Designated Consignee :

Name :

Designation :

Seal :

Contact No. :

Fax No.:

## **Consignee's responsibilities for commissioning of equipment.**

On signing of the Contract , the consignee shall take the following actions:

- a) Decide the site location for installation or fixing or keeping the equipment and make it fit for the purpose.
- b) Follow up with the Supplier for sending the Foundation Drawings if necessary or the requirements for installation and proving tests of the equipment.
- c) Construct the foundation for installation of the equipment in accordance with the foundation drawings received in advance from the supplier wherever necessary. For simple equipment, which does not need a foundation, the necessary Testing Rack or Table for fixing the equipment and its proving tests shall be prepared / constructed.
- d) The facilities required for operation of the equipment, e.g. power connection, water connection and/or compressed air etc. (as necessary) shall be made available near the equipment.
- e) All utilities like power, water, compressed air etc. shall be made available by Consignee within five (5) meter of the location where the machine is to be installed.

## **Supplier's responsibilities for commissioning of equipment.**

On signing of the Contract, the supplier shall furnish the following (3 hard copies and soft copy) within 30 days:

- a). Shall furnish the detailed layout plan and foundation drawings if necessary and the requirement for installation and proving tests of the equipment.
- b). Furnish Installation and Commissioning manual
- c). Quality test record , electrical circuit diagram, power requirement etc.

Following documents shall be furnished before or along with the supply of the goods

- a. Operation and Programming instruction
- b. Software instruction Manual, if required
- c. Maintenance/repair charts and preventive maintenance, trouble shooting and safety manuals
- d. Lubrication chart & parameter list, coolant maintenance guidelines
- e. Instruction manual for supplied coolant
- f. Training Manual
- g. Spare parts manual
- h. Lifting instructions.
- i. Other relevant documents.