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भारत सरकार/Govt. of India

रक्षा मंत्रालय/Ministry of Defence

रक्षा अनुसंधान तथा विकास संगठन  
Defence Res. & Dev. Organization

गैस टरबाइन अनुसंधान स्थापन

Gas Turbine Research Establishment

पत्र पेटी सं. 9302 Post Box No. 9302

सी.वी.रामन नगर C.V. Raman Nagar

बेंगलूर/BANGALORE - 560 093

मिसिलसं./FileNo.GTRE/MMG/FEBM/3508/18

दिनांक/Date: 25<sup>th</sup> Nov 2019

**Online Invitation of Bids for**  
**“CNC ELECTRON BEAM WELDING MACHINE”**

To

M/s. -----

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1. Online bids are invited for supply of items listed in Part V of this RFP as per Two Bid System. The online bids (both Techno-commercial & Price Bid) should be uploaded by the bidder before the due date and time. The documents to be downloaded from CPPP site <http://eprocure.gov.in/eprocure/app..>
2. The address and contact numbers for sending EMD or seeking clarifications regarding this RFP are given below:
  - a). Queries to be addressed to : Director, GTRE
  - b). Postal address for sending the EMD : P.B. No. 9302, C.V. Raman Nagar, Bangalore – 93
  - c). Name & designation of the contact Officer : Mr. Manoj Kumar, SO (Commercial)  
Mr. Manjunath a, Sc ‘F’ (Technical)
  - d). Telephone number(s) of the contact Officer : 080-25040267/443 (Commercial)  
080-25040948/946 (Technical)
  - e). Fax number (s) : 080-25241507
  - f). E-mail ID of Contact Officer : [mmgfe@gtre.drdo.in](mailto:mmgfe@gtre.drdo.in) (Commercial)  
[manjunath@gtre.drdo.in](mailto:manjunath@gtre.drdo.in) (Technical)

3. This RFP is divided into VII parts as follows:
- a) **Part I** contains **General Information and Instructions for the Bidders** about the RFP such as date & time for offline submission of tender, opening of tenders, validity period of tender etc.
  - b) **Part II** contains **Standard Terms and Conditions of RFP**, which will form part of the Contract/ Supply Order (herein after referred as the Contract) with the successful Bidder(s).
  - c) **Part III** contains **Special Terms and Conditions** applicable to this RFP and which will also form part of the Contract with the successful Bidder(s).
  - d) **Part IV** Contains **Pre- Qualification Criteria**.
  - e) **Part V** contains **Details of the Store(s)/Service(s) Required** e.g. Technical Specifications, Delivery Period, Mode of Delivery, Consignee details etc.
  - f) **Part VI** contains **Evaluation Criteria of Bids**.
  - g) **Part VII** contains **Format of Price Bid**. Price bid needs to be printed on one side of paper only.
4. This RFP is being issued with no financial commitment and the Buyer reserves the right to change or vary any part thereof or foreclose the procurement case at any stage. The Buyer also reserves the right to disqualify any vendor, should it be necessary, at any stage on grounds of National Security.
5. You may contact The Director Gas Turbine Research Establishment, Bangalore for any grievance related to bidding condition, bidding process and/or rejection of bid. With regard to bidding condition, this shall be done in writing at least seven days in advance of the stipulated date of submission of bid.

Yours sincerely,



for Director  
for & on behalf of the President of India



## **Part I (A) – General Information and Instructions**

1. **Last Date and Time for Online submission the Bids:** 9<sup>th</sup> Jan 2020 at 1200 Hrs.

The Vendor should submit the bids (both techno-commercial & price bids) before due date & time. The responsibility to ensure this lies with the bidders.

2. **Location of the Tender Box:** Online submission only.

[URL:https://eprocure.gov.in/eprocure/app](https://eprocure.gov.in/eprocure/app))

3. **Manner of Depositing the Bids:** Online submission only.

4. **Time and Date for Opening of Bids:** 10<sup>th</sup> Jan 2020 at 1300 Hrs.

If due to any exigency, the due date for opening of the bids is declared a closed holiday, the bids will be opened on the next working day at the same time or on any other day/time, as intimated by the Buyer.

5. **Place of Opening of the Bids:** Bids will be opened online. The vendor can see their bid status online after logging through CPPP with valid DSC.

6. **Marking of Bids:** Bids must be clearly marked with Tender Reference No.

7. **Procedure for Submission of Bid:**

a) **Two Bid System:** As per standard online e-procurement procedure system.

8. **Forwarding of Bids** – Bids should be submitted by bidders through online only, under their original memo/letter pad inter alia furnishing details like GST number, Bank address with EFT account if applicable etc. and complete postal and e-mail addresses, Telephone No. & FAX No. of their office failing which the bid would not be considered..

9. **Clarification Regarding Contents of the RFP:** A prospective bidder who requires clarification regarding the contents of the bidding documents shall notify to the Buyer in writing about the clarifications sought not later than 14 (fourteen) days prior to the date of opening of the Bids..

10. Indian firms need to quote only in Indian Rupees. An Indian firm can quote in FE on behalf of their OEM only if they are a 100% subsidiary of the OEM The firms claiming to be: A 100% subsidiary would be required to produce documentary evidence in support of their claim along with their Techno-Commercial bid failing which their bid would be disqualified.

11. **Validity of Bids:** The Bids should remain valid for **180 days** from the last date of submission of the bids.

12. **Modification and Withdrawal of Bids:** A bidder may re-submit or withdraw their bids prior to deadline prescribed for submission of bids. No bid shall be modified after the deadline for submission of bids. No bid may be withdrawn in the interval between the deadline for submission of bids and expiration of the specified period of bid validity.

13. **Earnest Money Deposit:** Bidders are required to submit Earnest Money Deposit (EMD), in favour of The Director Gas Turbine Research Establishment, Bangalore in **INR only** for an amount of **Rs. 41,10,000.00 (INR Forty One Lakh Ten Thousand Only)** along with their bids.
- a) The EMD shall be uploaded along with Techno-commercial bid and the hardcopy of the same should reach to this Establishment by post with clearly mentioned “Tender Ref.” No. & “Due Date” on the envelop, not later than 10 days from the date of opening of the techno-commercial bids, lest your quotation will be treated as rejected.
  - b) The EMD may be submitted by **Indigenous Bidder** in the form of :
    - Account Payee Demand Draft,
    - Fixed Deposit Receipt (FDR),
    - Banker's Cheque or
    - Bank Guarantee.
  - c) In case of **Foreign Bidder**, EMD is to be submitted in the form of appropriate Bank Guarantee from First Class Bank of International repute.
  - d) EMD is to remain valid for a period of forty-five days beyond the final bid validity period.
  - e) EMD of the unsuccessful bidders will be returned to them, without any interest whatsoever, at the earliest after expiry of the final bid validity and latest on or before the thirtieth day after the award of the Contract.
  - f) EMD of the successful bidder would be returned without any interest whatsoever after the receipt of Security Deposit from them as called for in the Contract.
  - g) **EMD is NOT required Or Waived off for those bidders who are registered with:-**
    - DRDO, Ministry of Defence,
    - DPSU's & Other Government Organizations.
  - h) **Such bidders would be required to furnish the relevant documents in their Techno Commercial bid in support of their claim**
  - i) **The EMD will be forfeited if the Bidder withdraws amends, impairs or derogates from the tender in any respect within the validity period of their tender.**
14. **Clarification Regarding Contents of the Bids:** During evaluation of bids, the Buyer may, at his discretion, ask the bidder for clarification on his Bid. The request for clarification will be given in writing. No clarification on the initiative of the bidder will be entertained after opening of bid.
15. **Rejection of Bids:** Canvassing by the Bidder in any form, unsolicited letter and post tender correction may invoke summary rejection with forfeiture of EMD. Conditional tenders will be rejected. Non-compliance of applicable General Information will disqualify your Bid.
16. **Unwillingness to Quote:** Bidders unwilling to quote should ensure that intimation to this effect reaches before the due date and time of opening of the Bid, failing which the defaulting Bidder may be de-registered for the range of items in this RFP, as per the policy in vogue.
17. Bidders must submit Quotation pertaining to themselves only except in cases covered under Para 10 above.
18. Bids of debarred/blacklisted firms will not be considered for evaluation
19. **GOI / Ministry of Defence reserves the right to cancel the procurement process at any stage and accept or reject any bid, fully or practically, without assigning any reasons.**



## **Part I (B)- Instruction for Online Bid Submission**

1. The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.
2. More information useful for submitting online bids on the CPP Portal may be obtained at <https://eprocure.gov.in/eprocure/app>.

### **REGISTRATION**

1. Bidders are required to enroll on the e-procurement module of the Central Public Procurement Portal ([URL:https://eprocure.gov.in/eprocure/app](https://eprocure.gov.in/eprocure/app)) by clicking on the link “Online bidder Enrollment” on the CPP Portal which is free of charge.
2. As part of the enrollment process, the bidders will be required to choose a unique username and assign a password for their accounts.
3. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
4. Upon enrollment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhraetc), with their profile.
5. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC to others which may lead to misuse.
6. Bidders then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

### **SEARCHING FOR TENDER DOCUMENTS**

1. There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
2. Once the bidders have selected the tenders they are interested in, they may download the required documents / TENDER SCHEDULES. These tenders can be moved to the respective ‘My tenders’ folder. This would enable the CPP Portal to intimate the bidders through SMS / E-mail in case there is any corrigendum issued to the tender document.
3. The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

## **PREPARATION OF BIDS**

1. Bidder should take into account any corrigendum published on the tender document before submitting their bids.
2. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents- including the names and contents of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
3. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF / JPG formats. Bid documents may be scanned with 100 dpi in black and white option which helps in reducing size of the scanned document.
4. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc. ) has been provided to the bidders. Bidders can use “My space” or “Other Important Documents” area available to them to upload such documents. These documents may be directly submitted from the “My Space” or “Other Important Documents” area available to them to upload such documents. These documents may be directly submitted from the “My Space” area while submitting a bid , and need not be uploaded again and again. This lead to reduction in the time required for bid submission process.

## **SUBMISSION OF BIDS**

1. Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
2. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
3. Bidder has to select the payment option as “offline” to pay the tender fee / EMD as applicable and enter details of the instrument.
4. Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, not later than 10 days from the date of opening of the techno-commercial bid. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
5. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.

6. The server time (which is displayed on the bidders' dashboard) will be considered as the standard time referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
7. All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
8. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
9. Upon the successful and timely submission of bids (i.e, after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
10. The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

#### **ASSISTANCE TO BIDDERS**

- 1) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
- 2) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk.

**Toll Free No. : 1800 3070 2232**

- 3) **For any technical related queries please call the Helpdesk. The 24x7 Help Desk Number 0120-4200462, 0120-4001002**

**Note:-** Bidders are requested to kindly mention the URL of the Portal and Tender Id in the subject while emailing any issue along with the Contact details. For any issues/ clarification relating to the tender(s) published kindly contact the respective Tender Inviting Authority.

Tel : 0120-4200462, 0120-4001002.

Mob : 91 8826246593

E-Mail : [support-eproc@nic.in](mailto:support-eproc@nic.in)

#### **4) For any policy related matter/ clarifications**

Please contact Dept. of Expenditure, Ministry of finance.

E-mail:- [cPPP-doe@nic.in](mailto:cPPP-doe@nic.in)

## Part II – Standard Terms and Conditions

The Bidder is required to give confirmation of their acceptance of the Standard Terms and Conditions of the RFP mentioned below which will automatically be considered as part of the Contract concluded with the successful Bidder as selected by the Buyer. Failure to do so may result in rejection of the Bid submitted by the Bidder.

1. **Effective Date of the Contract:** In case of placement of a supply order, the date of acceptance of the Supply Order would be deemed as effective date or as agreed by both the parties. In case a contract is to be signed by both the parties, the Contract shall come into effect on the date of signatures of both the parties on the Contract (Effective Date) or as agreed during negotiations. The deliveries and supplies and performance of the services shall commence from the effective date of the Contract.
2. **Law:** The Contract shall be considered and made in accordance with the laws of the Republic of India and shall be governed by and interpreted in accordance with the laws of the Republic of India.
3. **Arbitration:** This clause defines the mechanism of dispute resolution and an alternate to litigation. The disputing parties hand over their power to decide the dispute to the arbitrator(s). The standard text of this clause is as under:

All disputes or differences arising out of or in connection with the Contract shall be settled by bilateral discussions. Any dispute, disagreement or question arising out of or relating to the Contract or relating to product or performance, which cannot be settled amicably, shall be resolved by arbitration in accordance with either of the following provisions:

- a) For Central and State PSEs: The case of arbitration shall be referred to the Department of Public Enterprises for the appointment of sole arbitrator by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to arbitration under this clause.
- b) For Defence PSUs: The case of arbitration shall be referred to the Secretary Defence (R&D) for the appointment of arbitrator(s) and proceedings.
- c) For other Firms: Any dispute, disagreement or question arising out of or relating to the Contract or relating to product or performance, which cannot be settled amicably, shall be resolved by arbitration in accordance with either of the following provisions:

The case of arbitration may be referred to respective CFA or a person appointed by him who will be sole arbitrator and the proceedings shall be conducted in accordance with procedure of Indian Arbitration and Conciliation Act, 1996.

Or

The case of arbitration may be referred to International Centre for Alternative Dispute Resolution (ICADR) for the appointment of arbitrator and proceedings shall be conducted in accordance with procedure of Indian Arbitration and Conciliation Act, 1996.

Or

The case of arbitration may be conducted in accordance with the rules of Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with the said rules in India. However, the arbitration proceedings shall be conducted in India under Indian Arbitration and Conciliation Act, 1996.



4. **Penalty for Use of Undue influence:** The Seller undertakes that he has not given, offered or promised to give, directly or indirectly, any gift, consideration, reward, commission, fees, brokerage or inducement to any person in service of the Buyer or otherwise in procuring the Contract or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of the Contract or any other contract with the Government of India for showing or forbearing to show favour or dis-favour to any person in relation to the Contract or any other contract with the Government of India. Any breach of the aforesaid undertaking by the Seller or anyone employed by him or acting on his behalf (whether with or without the knowledge of the Seller) or the commission of any offers by the Seller or anyone employed by him or acting on his behalf, as defined in Chapter IX of the Indian Penal Code, 1860 or the Prevention of Corruption Act, 1986 or any other Act enacted for the prevention of corruption shall entitle the Buyer to cancel the contract and all or any other contracts with the Seller and recover from the Seller the amount of any loss arising from such cancellation. A decision of the Buyer or his nominee to the effect that a breach of the undertaking had been committed shall be final and binding on the Seller. Giving or offering of any gift, bribe or inducement or any attempt at any such act on behalf of the Seller towards any officer/ employee of the Buyer or to any other person in a position to influence any officer/employee of the Buyer for showing any favour in relation to this or any other contract, shall render the Seller to such liability/ penalty as the Buyer may deem proper, including but not limited to termination of the contract, imposition of penal damages, forfeiture of the Bank Guarantee and refund of the amounts paid by the Buyer.
5. **Agents / Agency Commission:** The Seller confirms and declares to the Buyer that the Seller has not engaged any individual or firm, whether Indian or foreign whatsoever, to intercede, facilitate or in any way to recommend to the Government of India or any of its functionaries, whether officially or unofficially, to the award of the contract to the Seller; nor has any amount been paid, promised or intended to be paid to any such individual or firm in respect of any such intercession, facilitation or recommendation. The Seller agrees that if it is established at any time to the satisfaction of the Buyer that the present declaration is in any way incorrect or if at a later stage it is discovered by the Buyer that the Seller has engaged any such individual/firm, and paid or intended to pay any amount, gift, reward, fees, commission or consideration to such person, party, firm or institution, whether before or after the signing of this contract, the Seller will be liable to refund that amount to the Buyer. The Seller will also be debarred from entering into any contract with the Government of India for a minimum period of five years. The Buyer will also have a right to consider cancellation of the Contract either wholly or in part, without any entitlement or compensation to the Seller who shall in such an event be liable to refund all payments made by the Buyer in terms of the Contract along with interest at the rate of 2% per annum above (i) Prime Lending Rate of State Bank of India for Indian bidders, and (ii) London Inter Bank Offered Rate (LIBOR) for the foreign bidders. The applicable rates on the date of opening of tender shall be considered for this. The Buyer will also have the right to recover any such amount from any contracts in vogue with the Government of India.

Or

The seller confirms and declares in the Techno-Commercial bid that they have engaged an agent, individual or firm, for performing certain services on their behalf. The seller is required to disclose full details of any such person, party, firm or institution engaged by them for marketing of their equipment in India, either on a country specific basis or as a part of a global or regional arrangement. These details should include the scope of work and responsibilities that have been entrusted with the said party in India. If there is non-involvement of any such party then the same also be communicated in the offers specifically. The information is to be submitted as per the format at DRDO. SA.01. Without prejudice to the obligations of the vendor as contained in various parts of this document, appointment of an Agent by vendors will be subjected to the following conditions:

- a) Details of all Agents will be disclosed at the time of submission of offers and within two weeks of engagement of an Agent at any subsequent stage of procurement.
- b) The seller is required to disclose termination of the agreement with the. Within two weeks of the agreement having been terminated.
- c) Buyer/MoD reserves the right to inform the Seller at any stage that the Agent so engaged is not acceptable whereupon it would be incumbent on the Seller either to interact with Buyer/ MoD directly or engage another Agent. The decision of Buyer/MoD on rejection of the Agent shall be final and be effective immediately.
- d) All payments made to the Agent 12 months prior to tender submission would be disclosed at the time of tender submission and thereafter annual report of payments would be submitted during the procurement process or upon demand of the Buyer /MoD.
- e) The Agent will not be engaged to manipulate or in any way to recommend to any functionaries of the Govt. Of India, whether officially or unofficially, the award of the contract to the Seller or to indulge in corrupt and unethical practices.
- f) The contract with the Agent will not be a conditional contract wherein payment made or penalty levied is based, directly or indirectly, on success or failure of the award of the contract.
- g) On demand, the Seller shall provide necessary information/inspection of the relevant financial documents/information, including a copy of the contract(s) and details of payment terms between the seller and the Agent engaged by him.
- h) If the equipment being offered by the Seller has been supplied/contracted with any organization, public/private in India, the details of the same may be furnished in the technical as well as commercial offers. The sellers are re required to give a written undertaking that they have not supplied/is not supplying the similar system or subsystems at a price lower than that offered in the present bid to any other Ministry/Department of the Government of India and if the similar system has been supplied at a lower price, then the details regarding the cost, time of supply and quantities be included as part of the commercial offer. In case of non disclosure, if it is found at any stage that the similar system or subsystem was supplied by the Seller to any other Ministry/Department of the Government of India at a lower price, then that very price will be applicable to the present case and with due allowance for elapsed time, the difference in the cost would be refunded to the Buyer, if the contract has already been concluded. Following details are also to be submitted in the Techno-Commercial bid:

Name of the Agent

Agency Agreement between the seller and the agent giving details of their contractual obligation.

PAN Number, name and address of bankers in India and abroad in respect of Indian agent

The nature of services to be rendered by the agent and

Percentage of Commission payable to the agent

6. **Access to Books of Accounts:** In case it is found to the satisfaction of the Buyer that the Bidder/Seller has violated the provisions of use of undue influence and/or employment of agent to obtain the Contract, the Bidder/Seller, on a specific request of the Buyer, shall provide necessary information/inspection of the relevant financial documents/information/Books of Accounts.
7. **Handling of Classified Information by Indian Licensed Defence Industry:** Any classified document/information equipment being shared with Indian Licensed Defence Industries will be protected / handled to prevent unauthorized access as per provisions of Chapter 5 of Security Manual for Indian Licensed Defence Industries issued by MoD (Department of Defence Production).
8. **Withholding of Payment:** In the event of the Seller's failure to submit the Bonds, Guarantees and Documents, supply the stores/goods and conduct trials, installation of equipment, training, etc. as specified in the Contract, the Buyer may, at his discretion, withhold any payment until the completion of the Contract.
9. **Liquidated Damages:** The Buyer may deduct from the Seller, as agreed, liquidated damages at the rate of **0.5% per week** or part of thereof, of the basic cost of the delayed stores which the Seller has failed to deliver within the period agreed for delivery in the contract. LD can also be levied on the seller on the basic cost of the stores supplied partially within the scope of the order/contract that could not be put to use due to late delivery of the remaining stores. **The maximum quantum of LD would be 10% of the total order value** (excluding taxes & duties).
10. **Termination of Contract:** The Buyer shall have the right to terminate the Contract in part or in full in any of the following cases:-
  - a) The store is not received/rendered as per the contracted schedule(s) and the same has not been extended by the Buyer.

Or

The delivery of the store is delayed for causes not attributable to Force Majeure for more than 06 months after the scheduled date of delivery and the delivery period has not been extended by the Buyer.

  - b) The delivery of store/ service is delayed due to cause of Force Majeure by more than 06 months provided Force Majeure clause is included in the contract and the delivery period has not been extended by the Buyer.
  - c) The Seller is declared bankrupt or becomes insolvent.
  - d) The Buyer has noticed that the Seller has violated the provisions of Para 4 and/or Para 5 above to obtain the Contract.
  - e) As per decision of the Arbitration Tribunal.
11. **Notices:** Any notice required or permitted by the Contract shall be written in English language and may be delivered personally or may be sent by FAX or registered pre-paid mail/ airmail, addressed to the last known address of the party to whom it is sent.
12. **Transfer and Sub-letting:** The Seller has no right to give, bargain, sell, assign or sublet or otherwise dispose of the Contract or any part thereof, as well as to give or to let a third party take benefit or advantage of the Contract or any part thereof without written consent of the Buyer.

13. **Amendments:** No provision of the Contract shall be changed or modified in any way (including this provision) either in whole or in part except when both the parties are in written agreement for amending the Contract.

14. **Taxes and Duties**

a) **In respect of Foreign Bidders :** All taxes, duties, levies and charges which are to be paid for the delivery of stores/services, including advance samples, shall be paid by the parties under the Contract in their respective countries. However, the corporate/ individual income tax, if applicable, will continue to be paid by the concerned party/ individual. DRDO is a public funded research institution and has been exempted from the payment of Customs Duty, as per the description of stores and conditions thereon, under Customs Notification No. 51/96 as amended. However, if required, Basic Custom Duty and applicable cess is to be paid as per prevailing notification. [Applicable where INCOTERM is DDP (destination)].”

b) **In respect of Indigenous Bidders**

**GST :** All taxes and duties are concessional at the prevailing rate as per guiding principles conveyed by the Min. of Finance, Dept. of Revenue Notification No.47/2017 – Integrated Tax (Rate) dated 14 Nov 2017.

**Note:** GST concession certificate will be provided by GTRE.

15. **Denial Clause.**

Variations in the rates of statutory levies within the original delivery schedule will be allowed if taxes are explicitly mentioned in the contract/ supply order and delivery has not been made till the revision of the statutory levies. Buyer reserves the right not to reimburse the enhancement of cost due to increase in statutory levies beyond the original delivery period of the supply order/ contract even if such extension is granted without imposition of LD.

16. **Undertaking from the Bidders:**

And undertaking will be obtained from the Bidder/firm/company/vendor that in the past they have never been banned/debarred for doing business dealings with Ministry of Defence/Govt. of Indian/ any other Govt. Organization and that there is no enquiry going on by CBI/ED/any other Govt. agency against them.

### Part III – Special Terms and Conditions

The Bidder is required to give confirmation of their acceptance of Special Terms and Conditions of the RFP mentioned below which will automatically be considered as part of the Contract concluded with the successful Bidder as selected by the Buyer. Failure to do so may result in rejection of Bid submitted by the Bidder.

1. **Performance cum Warranty Bond (PCWB)**

a) **Performance / Security Bond for execution of Order:** The seller shall furnish a Performance / Security Bond in the form of **Bank Guarantee equivalent to 10% of the Order Value valid for a period of 525 days (i.e. Delivery Period 465 days + 60 days to cover Delivery Period obligations)**. The BG to be furnished from an internationally recognized first class bank & the same has to be duly authenticated and endorsed by State Bank of India or any other Indian Nationalized Bank in favour of The Director, GTRE, Bengaluru within 15 days from the date of Purchase Order.

b) **BG for Warranty Bond to cover Warranty Period:** The seller shall furnish a BG towards Warranty Bond upon completion of Acceptance, Installation, Commissioning & Training activities w.r.t. instant supply at GTRE **for a period of 26 Months (i.e. 24 Months for the warranty period + 02 months to cover warranty obligations)**. The BG to be furnished from an internationally recognized first class bank & the same has to be duly authenticated and endorsed by State Bank of India or any other Indian Nationalized Bank in favour of The Director, GTRE, Bengaluru within 15 days from the date of completion of Acceptance, Installation, Commissioning & Training activities at GTRE.

**Note:** On receipt of Bank Guarantee (BG) towards Warranty Bond, BG submitted towards Performance / Security Bond will be returned to the firm. In case of non-submission of BG towards Warranty, Performance / Security Bond BG already submitted by you will be required to be converted to warranty bond BG on renewal for a period of **26 Months (i.e. 24 Months for the warranty period + 02 months to cover warranty obligations)**.

2. **Free Issue of Material (FIM):** Bank Guarantee to be furnished by the firm for **Rs. 75,000.00** for free issue of GTRE raw materials to be sent for PDI & Prove out at vendors place. The BG to be furnished from an internationally recognized first class bank & the same has to be duly authenticated and endorsed by State Bank of India or any other Indian Nationalized Bank in favour of The Director, GTRE, Bengaluru.

3. **Permissible Time Frame for Submission of Bills:** Seller shall submit the bill(s) along with the relevant documents within 30 days from the completion of the activity/supply.

4. **Payment Terms: Stage wise Payments will be made as per details tabulated below.**  
**For Foreign Bidders:**

Sl. No.	Stages of payments	Mode of Payment
1.	1 <sup>st</sup> Stage	<b>30% of the Order Value:</b> Shall be paid as an advance payment through Wire Transfer / DBT against submission of Bank Guarantee / Standby Letter for 110% of advance made. BG / Standby Letter of Credit shall be issued by an internationally recognized First Class Bank within 15 days from the date of purchase order. The Original BG / SLC shall be duly authenticated and endorsed by SBI, India or any Indian Nationalized Bank in favour of The Director (GTRE), (Bangalore).



2.	2 <sup>nd</sup> Stage	<p><b><u>50% of the Order Value:</u></b></p> <ul style="list-style-type: none"> <li>• Shall be made to the supplier against proof of successful receipt of the consignment at Chennai Sea-Port. Payment shall be released to the beneficiary thru Usance Letter of Credit against shipping documents mentioned as per Sl. No. 14 Part III (Acceptance Criteria) &amp; Sl. No. 2 Part V of RFP (Product/ service details and specification).</li> <li>• LC will be opened for 90 days with Bank charges outside India to seller's account. All bank charges for LC validity extension beyond 90 days shall be to seller's Account.</li> </ul>
3.	3 <sup>rd</sup> Stage	<p><b><u>Balance 20% of the Order Value:</u></b> Shall be made through Direct Bank Transfer (DBT) to the supplier after Successful Completion of Installation, Commissioning, Training activities at GTRE &amp; on submission of Bank Guarantee towards Warranty Period valid for period of 26 Months.</p>

**For Indigenous Bidders:**

Sl. No.	Stages of payments	Mode of Payment
1.	1 <sup>st</sup> Stage	<p><b><u>30% of the Order Value:</u></b> Shall be paid to the supplier as an advance payment through CDA (R&amp;D) against submission of Bank Guarantee for 110% of advance amount. BG shall be issued by recognized First Class Bank within 15 days from the date of purchase order. The Original BG shall be duly authenticated and endorsed by SBI, India or any Indian Nationalized Bank in favour of The Director (GTRE), (Bangalore).</p>
2.	2 <sup>nd</sup> Stage	<p><b><u>50% of the Order Value:</u></b> Shall be made through CDA (R&amp;D) on receipt, inspection &amp; acceptance of the consignment at GTRE in good condition</p>
3.	3 <sup>rd</sup> Stage	<p><b><u>Balance 20% of the Order Value:</u></b> Shall be made through CDA (R&amp;D) after Successful Completion of Installation, Commissioning, Training activities at GTRE &amp; on submission of Bank Guarantee towards Warranty Period valid for period of 26 Months.</p>

5. **Advance Payments Mobilization:** Mobilization of advance payment of 30% of the basic Contract value (made at Stage I) may be made to the vendor against submission of Bank Guarantee, in favour of The Director GTRE, Bangalore, of the 110% of advance payment from first class bank of International repute. In case of termination of the Contract/Extension of delivery period due to default of the Seller or where advance taken has not been/ could not be used for the purpose of order execution, Mobilization advance would be deemed as interest bearing advance, compounded quarterly, at the rate of 2% above LIBOR (for Foreign Bidders) / SBI (for Indigenous Bidders) rate. The rates as applicable on the date of receipt of advance will be considered for this.

**Note:**

(a) Advance given would become interest bearing in case of termination of order / contract due to supplier default or if it is used by the supplier for the purposes other than this contract as per the terms stated in the RFP.

b) Delivery period (DP) extension for the default of the Seller would make advances paid interest bearing and shall be recovered from the payment due to supplier.

6. **Mode of Payment:**

- a) **For Indigenous Sellers:** It will be mandatory for the Bidders to indicate their bank account numbers and other relevant e-payment details to facilitate payments through ECS/EFT mechanism instead of payment through cheque, wherever feasible.

- b) **For Foreign Sellers:** The payment will be arranged through Direct Bank Transfer (DBT)/ Letter of Credit (LC) from Reserve Bank of India/ State bank of India/ any other Public Sector Bank, as decided by the Buyer, to the Bank of the Foreign Seller as per mutually agreed terms and conditions. The Letter of Credit will preferably be opened with validity of 90 days from the date of its opening, on extendable basis by mutual consent of both the parties. Letter of Credit opening charges in India will be borne by the Buyer. However, the LC extension charges in & outside India, will be borne by the party responsible for the extension.

7. **Documents to be furnished for claiming Payment:**

a) **Indigenous Sellers:** The payment of bills will be made on submission of the following documents by the Seller to the Buyer:

- i) Ink-signed copy of Contingent Bill.
- ii) Ink-signed copy of Commercial Invoice / Seller's Bill.
- iii) Bank Guarantee for Advance, if applicable.
- iv) Guarantee/ Warranty Certificate.
- v) Details for electronic payment viz. Bank name, Branch name and address, Account Number, IFS Code, MICR Number (if these details are not already incorporated in the Contract).
- vi) Original copy of the Contract and amendments thereon, if any.
- vii) Self certification from the Seller that the CST/VAT received under the contract would be deposited to the concerned taxation authority. In this regard, extant Government orders will be applicable as communicated By DRDO HQ.
- viii) Any other document/ certificate that may be provided for in the Contract.

b) **Foreign Sellers:** In case of payment through Direct Bank Transfer (DBT)/Letter of Credit (LC), paid shipping documents are to be provided to the Bank by the Seller as a proof of dispatch of goods as per contractual terms /LC conditions so that the Seller gets payment from LC. The Bank will forward these documents to the Buyer for getting the goods/stores released from the Port/Airport. However, where the mode of payment is DBT, the paid shipping documents are to be provided to the paying authority by the Buyer.

Documents will include:

- i) Clean on Board Airway Bill/Bill of Lading
- ii) Original Invoice
- iii) Packing List
- iv) Certificate of Origin from Seller's Chamber of Commerce, if any.
- v) Certificate of Quality and year of manufacture from OEM.
- vi) Dangerous Cargo Certificate, if applicable.
- vii) Insurance Policy of 110% value in case of CIF/ CIP contract
- viii) Certificate of Conformity and Acceptance Test at PDI, if any.
- ix) Phyto-sanitary/ Fumigation Certificate, if any.
- x) Any other documents as provided for in the Contract.

8. **Exchange Rate Variation (ERV) Clause:** This clause will be applicable only in case the delivery period exceeds 12 months from the Effective Date of the Contract which involves import content (foreign exchange).

- a) Detailed time schedule for procurement of imported material and their value at the FE rates adopted for the contract is to be furnished by the Bidder as per the format given below.

Year Wise and Major Currency Wise Import Content Break Up

Year	Total cost of	FE Content outflow (Equivalent in crores)
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	Material	\$	€	£	Others

b) ERV will be payable/refundable depending upon movement of exchange rate with reference to exchange rate adopted for the valuation of the Contract. Base Exchange rate of each major currency used for calculating FE content of the Contract will be the SBI selling rate of the foreign exchange element on the date of the opening of Price Bids.

c) The base date for ERV would be the Date of opening of Price Bid and variation on the base date will be given upto the midpoint of manufacture unless the Bidder indicates the time schedule within which material will be imported by them. Based on information given above, the cut-off date/dates within the Delivery schedule for the imported material will be fixed for admissibility of ERV.

d) ERV clause will not be applicable under following circumstances:

- i) Cases where delivery periods for imported content are subsequently to be refixed / extended except for reasons solely attributable to the Buyer or Force Majeure.
- ii) Cases where movement of exchange rate falls within the limit of  $\pm 2\%$  of the reference exchange rate adopted for the valuation of the contract.

e) The impact of notified ERV shall be computed on a yearly basis for the outflow as mentioned by the Bidder in their tender and shall be paid / refunded before the end of the financial year based on certification by the buyer.

#### 9. **Force Majeure Clause:**

a) Neither party shall bear responsibility for the complete or partial non-performance of any of its obligations, if the non-performance results from such Force Majeure circumstances as Flood, Fire, Earth Quake and other acts of God as well as War, Military operations, blockade, Acts or Actions of State Authorities or any other circumstances beyond the parties control that have arisen after the conclusion of the present contract.

b) In such circumstances the time stipulated for the performance of an obligation under the Contract is extended correspondingly for the period of time commensurate with actions or circumstances and their consequences.

c) The party for which it becomes impossible to meet obligations under the Contract due to Force Majeure conditions, is to notify in written form to the other party of the beginning and cessation of the above circumstances immediately, but in any case not later than 10 (Ten) days from their commencement.

d) Certificate of a Chamber of Commerce (Commerce and Industry) or other competent authority or organization of the respective country shall be considered as sufficient proof of commencement and cessation of the above circumstances.

e) If the impossibility of complete or partial performance of an obligation lasts for more than 6 (six) months, either party hereto reserves the right to terminate the Contract totally or partially upon giving prior written notice of 30 (thirty) days to the other party of the intention to terminate without any liability other than reimbursement on the terms provided in the agreement for the goods received.

10. **Export License:** The Bidder is required to furnish full details and formats of End Use Certificate required for obtaining export clearance from the country of origin. This information will be submitted along with Techno-Commercial bid. In the absence of such information, it

would be deemed that no document is required from the Buyer for export clearance from the country of origin.

11. **Terms of Delivery:**

- a) **For Indigenous Bidder:** The Delivery of goods & Installation Activities shall be on FOR (GTRE) basis.
- b) **For Foreign Bidder:** The price quoted to be FOB/FCA /Ex-works (Gateway Airport/Sea port) basis. Please also quote CIF/CIP destination basis for comparison purpose. If CIP/CIF cost is not available an additional 10% cost over & above FCA/FOB will be loaded on their respective bid for Bid evaluation purpose only.

12. **Packing and Marking Instructions:**

- a) The Seller shall provide packing and preservation of the equipment and spares/goods contracted so as to ensure their safety against damage in the conditions of land, sea and air transportation,
- b) Transshipment, storage and weather hazards during transportation, subject to proper cargo handling. The Seller shall ensure that the stores are packed in containers, which are made sufficiently strong. The packing cases should have provisions for lifting by crane/fork lift truck. Tags with proper marking shall be fastened to the special equipment, which cannot be packed.
- b) The packing of the equipment and spares/goods shall conform to the requirements of specifications and standards in force in the territory of the Seller's country.
- c) A label in English shall be pasted on the carton indicating the under mentioned details of the item contained in the carton. The cartons shall then be packed in packing cases as required.
  - i) Part Number :
  - ii) Nomenclature :
  - iii) Contract annex number :
  - iv) Annex serial number :
  - v) Quantity contracted :
- d) One copy of the packing list in English shall be inserted in each cargo package, and the full set of the packing lists shall be placed in Case No.1 painted in a yellow colour. The Seller shall mark each package with indelible paint in English language as follows:-
  - i) Contract No. \_\_\_\_\_
  - ii) Consignee \_\_\_\_\_
  - iii) Port / airport of destination \_\_\_\_\_
  - iv) Ultimate consignee \_\_\_\_\_
  - v) Package No. \_\_\_\_\_
  - vi) Gross/net weight \_\_\_\_\_
  - vii) Overall dimensions/volume \_\_\_\_\_
  - viii) The Seller's marking \_\_\_\_\_
- f) If necessary, each package shall be marked with warning inscriptions: <Top>, <Do not turn over>, category of cargo etc.
- g) Should any special equipment be returned to the Seller by the Buyer, the latter shall provide normal packing, which protects the equipment and spares/goods from damage or

deterioration during transportation by land, air or sea. In such case the Buyer shall finalize the marking with the Seller.

13. **Inspection and Testing:** The Vendor has to inspect all the items before supplying them for any wear, tear, breakage or any manufacturing defect. Any items found for the same shall not be accepted by GTRE.

13.1 The vendor shall carry out functional tests as mentioned below:-

<b>PRODUCT/ TECHNICAL DETAILS AND SPECIFICATION:</b>	
<b>Item Description</b>	<b>Quantity in Nos.</b>
<b>CNC Electron Beam Welding Machine</b>	01
The proposed EBW machine shall comply with the following technical specifications:	
<b>Welding Chamber and its specifications:</b>	
Chamber body shall be made up of non-magnetic stainless steel Safety devices to prevent persons from being trapped inside the chamber. Motorised run-out platform shall be provided Servicing platform of the chamber roof shall be accessible by means of a ladder. It shall comply with overall scheme of Drg No: GTRE/PFG/EBW/01-2019. Removable contamination protection stainless steel sheets for inner chamber walls shall be provided.	
Internal Dimensions (mm) Length(X): 3300mm or more Width(Y): 1600mm or more Height(Z): 1800mm or more Volume = X*Y*Z= 9.5 m <sup>3</sup> (approx)	
Thickness The thickness of the chamber walls shall be designed to offer structural rigidity and clad with lead for shielding X-ray radiation. The chamber shielding shall ensure radiation levels < 1 µSv/h measured 100mm from walls at maximum voltage and maximum current	
Chamber door The door scheme shall be as shown in Drg. No: GTRE/PFG/EBW/01-2019 The chamber access door shall be opening to the left, motorised and located on the front face. An audio-visual alarm shall be provided during the opening/closing operation. Hand held pendant with controls for tooling and door movements	
Electron Gun positioning EB generator (Gun) position at the chamber roof shall be in the centre along the Y-axis i.e. 800mm and at a distance of 1500mm in the x-axis from the back of chamber wall	
Viewing ports Four viewing ports double shielded with lead glasses fitted with removable glass vapour/spatter shields shall be provided. Two ports in the chamber door and two ports on the operator viewing chamber side.	
Chamber Lighting The welding chamber shall have an illumination system inside for 500lux illumination level at floor level.	
<b>Manipulators:</b> The arrangement of manipulators shall comply with the general arrangement shown in Drg No: GTRE/PFG/EBW/02-2019.	
X-Y work table The worktable shall be mounted onto a trolley inside the vacuum chamber. Provision shall also exist for linear movement of worktable outside the chamber (along x-axis) for enabling trouble-free loading and unloading of jobs. Pancake rotary, tilt rotary and tailstock shall be mounted on the worktable. The worktable shall have the following features: Table size: Length(X) = 1800mm, Width(Y) = 750mm with suitable 'T' slots for the clamping devices Travel in X = ± 650mm Travel in Y = ± 375mm Free height above table surface: 1400mm Table travel speed range: 1.0 – 100 mm/s Positioning repeatability: ±0.03mm	



<p>Speed stability : <math>\pm 1\%</math> ( In accordance with ISO-14744 standard)  Admissible load of the table: Max. 3,000kgf plus weight of rotary manipulators  All manipulators mounted on the table and the table itself can be moved out onto the run-out bed and back into the chamber without any coupling or Un-coupling operation.  Table shall be made up of non-magnetic stainless steel  CNC controlled</p>
<p>Pancake rotary manipulator (Quantity: one)  Rotating axis position: Vertical  Rotating Speed: Continuously adjustable from 0.5 to 30 rpm  Speed stability : <math>\pm 1\%</math> ( In accordance with ISO-14744 standard)  Positional accuracy : <math>0.02^0</math>  Face plate diameter : 600mm with dedicated T Slots  Loading capacity : 1000kg  Height of the table 250mm  CNC controlled  Shall be made up of non-Magnetic stainless steel.  Provision to mount pancake Rotary manipulator and fasten centrally to Y- axis on X-Y Work table and at different locations along X direction shall be provided.  Provision for lifting the device ,shall provide suitable Eye-bolts</p>
<p>Additional face plate(Quantity: one)  An additional faceplate shall be provided with the following features:  Diameter: 1000mm  This face plate shall be able to be fixed on to pancake manipulator and shall be able to be fixed on existing 600mm face plate or without the 600mm face plate.  Shall be made up of non-magnetic stainless steel</p>
<p>600mm diameter Tilting Rotary manipulator with tilting device. (Quantity: one)  This unit can be mounted at choice on the X-Y worktable and shall permit rotation of the work pieces around a vertical axis or horizontal axis and shall be made up of non-magnetic stainless steel. It shall have the following features:  Tilting range: <math>-5^\circ</math> to <math>95^\circ</math> continuously adjustable by motorized system  Resolution: <math>0.001^\circ</math>  Positioning repeatability: <math>\pm 0.05^\circ</math> or better  Maximum positioning speed: <math>180^\circ/\text{min}</math>.  Face plate diameter: 600mm with T-slots  Centre bore of face plate : <math>\text{Ø } 100 \text{ H6 mm}</math>  Shall be CNC controlled  Centre height: 665mm at lowest position  Centre height: 995mm at highest position  Maximum job size held between centers 1200mm in length.  Maximum axial load: 1,000kgf  Maximum radial load: 1,000kgf  Maximum moment: 5000Nm  Operating Speed range: 0.1 – 30 rpm  Speed stability: <math>\pm 1\%</math> (in accordance with ISO-14744)  Positioning repeatability: <math>0.05^\circ</math> or better  Run out <math>&lt; 0.05\text{mm}</math> over the total distance of 1200mm between the centers  Provision for lifting the device, suitable Eye-bolts shall be Provided  Vertical motion:  Vertical stroke: 330mm  Operating Speed range: 0.5-30mm/s  Resolution: 0.001mm  Positioning repeatability: <math>\pm 0.1\text{mm}</math>  Provision to mount Rotary device and fasten centrally to Y- axis on X-Y Work table and at different locations along X Direction shall be provided.</p>
<p>1000mm dia Tilting Rotary manipulator with tilting device.(Quantity: one)  This unit can be mounted at choice on the X-Y worktable and shall permit rotation of the work pieces around a vertical axis or horizontal axis and shall be made up of non-magnetic stainless steel. It shall have the following features:  Tilting range: <math>-5^\circ</math> to <math>95^\circ</math> continuously adjustable by motorized system</p>

Resolution: 0.001°  
 Positioning repeatability: ±0.05° or better  
 Maximum positioning speed: 180°/min.  
 Face plate diameter: 1000mm with T-slots  
 Centre bore of face plate : Ø 100 H6 mm  
 Shall be CNC controlled  
 Centre height: 665mm at lowest position  
 Centre height: 995mm at highest position  
 Maximum job size held between centers 1200mm in length.  
 Maximum axial load: 1,000kgf  
 Maximum radial load: 1,000kgf  
 Maximum moment: 5000Nm  
 Operating Speed range: 0.1 – 10 rpm  
 Speed stability: ±1% (in accordance with ISO-14744)  
 Positioning repeatability: 0.05° or better  
 Run out <0.05mm over the total distance of 1200mm between the centers  
 Provision for lifting the device, suitable Eye-bolts shall be Provided  
 Vertical motion:  
 Vertical stroke: 330mm  
 Operating Speed range: 0.5-30mm/s  
 Resolution: 0.001mm  
 Positioning repeatability: ±0.1mm

Provision to mount Rotary device and fasten centrally to Y- axis on X-Y Work table and at different locations along X Direction shall be provided.

**Tailstock (Quantity: one)**  
 A Tailstock suitable for Tilting Rotary manipulators to be supplied with the following features: Refer Drg. No. GTRE/PFG/EBW/02-2019, Sheet 2 of 2.  
 The tailstock is meant for use along with tilt rotary manipulator for supporting heavier jobs with an axis accuracy of ±0.025mm. Made up of non-magnetic stainless steel shall be provided  
 Height of centre 665mm(lowest position of the rotary device), 850mm, and 995mm(highest position of the rotary device) as per the attached drawing  
 Shall be provided with removable standard revolving (live) centre.  
 A solid steel housing shall carry the tailstock spindle with standard-taper holding device, clampable and adjustable in axial direction by means of a hand wheel.  
 Spindle travel 100mm  
 Provision to mount tailstock and fasten centrally to Y- axis on X-Y Work table and at different locations along X Direction shall be provided.  
 Load: 1000 kg balanced weight when held between centres  
 Provision for lifting the device.

**Chamber Vacuum pumping system:**  
 The welding chamber shall have a separate vacuum pumping system with the following specifications:

**Vacuum pumps**  
 One soft vacuum pump station consisting of roots pumps and rotary vane pump of make Leybold/Pfeiffer/Agilent  
 One high vacuum pump station consisting of oil diffusion pump and mechanical pumps.  
 One polycold cryo system (Brooks or oerlikon make) shall be provided in the vacuum chamber to achieve the required vacuum level.  
 Pump down time at Clean, Dry and Empty (CDE) condition to  $1 \times 10^{-4}$  mbar in approx. 15 minutes.  
 The electron gun region shall be separately pumped and remain under vacuum while work chamber is vented.  
 Suitable noise insulation for the vacuum station should be provided so that the noise level should be less than 70 dB.  
 All the pumps shall be of same make

**Leak detection**  
 Provision shall be given for leak detection in vacuum pumping line with leak detecting ports.  
 The global leak rate allowable for the vacuum chamber shall be  $1 \times 10^{-5}$  std cc/sec max

Individual leak rate allowable shall be  $1 \times 10^{-8}$  std cc/sec max.

#### **Electron Beam Generator and its specifications:**

The Electron gun shall be direct heated triode system. The gun (15kW/150kV) shall be complete with high voltage power supplies, separate pumping unit, beam focussing system, beam-deflection system and sighting via video camera. The detailed specification are as follows:

#### **High Voltage (HV)**

**High voltage power supply** equipped with Switch Mode Power Supply (SMPS) technology with IGBT devices. High voltage cable with oil-free plug-in connectors. Provision for quick change system for filament by means of a second filament cartridge fixture and filament loading device.

Gun type : Triode (directly heated)

Accelerating voltage : 70 – 150 kV (adjustable in steps of 1 kV)

Beam Power : 0 – 15 kW

The following parameter characteristics shall be in accordance with ISO 14744:

Voltage stability : +/- 1%

Voltage repeatability : +/- 1%

Voltage ripple :  $\leq 2\%$  (peak to peak value)

#### **Beam Current (BC)**

Beam current : 0-100 mA (adjustable in steps of 0.1 mA)

The following parameter characteristics shall be in accordance with ISO 14744

Beam current stability : +/- 1%

Beam current repeatability : +/- 1%

Beam current ripple :  $\leq 5\%$  (peak to peak value)

#### **Focus Current (FC)**

Focus current : 0 to 3000 mA (nominal)

The following parameter characteristics shall be in accordance with ISO 14744

Focus current stability : +/- 0.5%

Focus current repeatability : +/- 0.5%

Focus current ripple :  $\leq 5\%$  (peak to peak value)

The focus range (distance between gun face and impingement point on the part to be welded) shall be between 50mm to 1500 mm.

#### **Function Generator**

Static deflection DC: The electron beam can be deflected for positional corrections, in any direction. Maximum X and Y

Deflection angle: +/- 3 degree or better.

Dynamic deflection AC functions: The programmable signals on X and Y channel shall generate sine, square, triangle, circle, ellipse and square wave profiles.

Superimposed deflection: DC deflection shall be superimposed on the AC outputs to provide for centering the circle during welding operation.

#### **Optical Viewing System**

Electron gun beam alignment system shall comprise of video device with a colour CCD/digital camera and motorised / autofocus system designed to achieve a magnification of approximately 10X at shooting distance of 1500 mm.

Provisions for aligning the joint with and without beam using crosswire.

Suitable vapour protection arrangement for optics shall be incorporated.

23" (nominal) Flat screen LED colour monitor with adjustable cross line.

#### **Electron Gun vacuum system**

The electron gun shall have a separate vacuum pumping system with the following specifications:

Operating vacuum level :  $5 \times 10^{-6}$  mbar or better

Duration of pumping : 10 minute max.

Ultimate vacuum level :  $1 \times 10^{-6}$  mbar or better

<p>Pumping system : One Turbo molecular pump. One Backup pump.</p> <p>Other requirements: The entire vacuum components, pumps, valves of the gun &amp; vacuum system shall be from Leybold/Pfeiffer/Agilent makes only. Isolation valve shall be provided to ensure that the vacuum level in the electron gun is maintained when the welding chamber is vented. Vacuum level shall be measured by Pirani/ Penning gauges.</p>
<p><b>General Control system and CNC system:</b></p>
<p><b>PC</b></p> <p>An industrial PC shall be provided for the operator interface in dialog mode. The operating system shall be windows 10 (or latest version) based, for overall management of the machine as under: Management of start-ups modes Management of gun setting, including conditioning and space charge The displays of pump units, power supplies for the gun, mechanical movements etc. Management of faults with history Tracking the duration of use of various components, including cathode counter(hrs),filament, pumps, etc. in order to facilitate the preventive maintenance. Trouble shooting with access to each PLC input/output variable The minimum technical features of the PC shall be as follows: 23" flat screen LED colour monitor 100GB SATA HDD 2GB Ram COM 1,COM 2 Visual graphic Array(VGA) Suitable keyboard and Mouse 2 Ethernet ports USB ports</p>
<p><b>PLC</b></p> <p>The PLC shall be from reputed make like SIEMENS and shall be responsible for complete motion control, all interlocks &amp; logic operations, machine safety, sequencing of the pumping units and the electron gun configurations for use.</p>
<p><b>CNC</b></p> <p>The welding programs shall be managed by SINUMERIK 840DE sl (SIEMENS) or latest version type CNC. The specifications of CNC shall be as follows: Dedicated keypad and screen. A portable electronic hand wheel device shall be incorporated for precise adjustment of the CNC axes. Programming language shall meet relevant standards in vogue such as ISO. Control of mechanical welding axes(X,Y &amp; C) for work table/ Rotary manipulators and the electrical settings for the beam (Accelerating Voltage, Beam Current, Focus Current, Shape and amplitude of deflection/ oscillation).The welding programs shall include all the data required to carry out a full welding cycle. Provisions shall exist for downloading programs from the supervisor PC. The PC's hard disc shall serve as mass storage in the event that a large numbers of programs are used.</p>
<p><b>Control desk</b></p> <p>A control desk and an ergonomic operator chair shall be provided so that the operator can sit and operate the machine. The desk shall accommodate the following: Industrial PC CNC screen The display units for High voltage(HV),beam current(BC) and Focus current(FC) Control buttons of the machine</p>
<p><b>Teach-in and replay</b></p> <p>Add-on software shall be provided to sense the point to point of weld joint</p>

and to determine the path for the beam to follow the joint with and linear and circular interpolation by incorporating the weld parameters

### Beam pulsing

Add-on software shall be provided for beam pulsing

### Tele-diagnostic System

A remote access to allow OEM service staff to carry out an immediate and fast diagnosis of the EB machine.

### 3D-Metal Additive Manufacturing by use of wire

- I. The wire feed unit shall be used for special welding tasks such as to build-up material or to apply alloying material. This unit to be installed within an intermediate housing between the electron beam generator and the generator flange on the chamber. The reel for the wire coil, the wire aligning unit and the wire feed motor shall be attached to the outside of the housing. The wire to be introduced into the vacuum by means of a separately evacuated pressure stage. A tube with a wire guide nozzle to be fixed inside of the chamber. It shall be adjusted to the joint. It shall have the following specifications:
- Speed up to 10kg per hour
  - Wire diameter: 0.8, 1.0 and 1.2 mm
  - Materials: e.g. Titanium, Inconel, Stainless Steels
  - Wire Feed Unit ( to be provided externally)
  - Wire feed rate : 3.5m/min (max)
  - CNC controls: on/off, forward/reverse
- II. Filler Wire spools of St. Steel, Ti-64 and Inconel 718 material with sizes of 0.8mm, 1mm & 1.2mm diameter for each material Qty. 2 nos. (Total 18 Nos.) to be supplied along with the machine. The filler wires shall meet the following standards.
- Ti-64 : AWS A5.16/A5.16M:2007 - ERTi5  
St. Steel : AWS A5.9/A5.9M:2006 - ER347  
Inco-718: AWS A5.14/A5.14M:2009 - ERNiFecr2

### Chiller

Closed-circuit water cooling system shall be provided along with the machine with suitable refrigerant available in India.

### Stabilizer and Isolation Transformer

Three phase servo stabilizer with Isolation transformer as per requirement shall be supplied

### Data Logging:

#### Online data Monitoring and storage

A package for online data monitoring and storage shall be included in the supply scope:

This system shall have required number of channels which shall record the following parameters:

- Accelerating voltage(kV)
- Beam Current (mA)
- Focus current (mA)
- Linear table speed (m/min) (X & Y)
- Rotary welding speed of pancake rotary manipulator, tilt rotary manipulators (rpm)
- Vacuum level in gun & chamber

PC shall be equipped with a software program to record the welding data with a minimum sampling interval of 0.05 seconds. The data recorded for each weld shall be provided in an excel spreadsheet.

Suitable colour laser jet printer shall be supplied.

### Split beam deflection system

Digital beam deflection system with split beam facility of frequency  $\leq 200$  kHz including:

Two pool welding generation of two weld contours at the same time. The individual weld pools can be controlled by different deflection patterns at the same time.

Electron optical viewing Automatic beam alignment pin-hole probe device for an automatic alignment of the electron beam, for adjusting at beam currents of 1 to 2mA.

### Off line Seam Tracking System



<p>Seam tracker is used for correcting automatically possible differences between the preset position of the electron beam and the real position of the joint. The seam tracker should have the following specifications.</p> <p>Maximum deviation : <math>\pm 3.0\text{mm}</math></p> <p>Tracking accuracy : <math>\text{max } \pm 0.15\text{mm}</math></p> <p>Programmable width of scanning raster : <math>\text{max } 5\text{mm}</math></p>
<p><b>Scope of work of Vendor:</b></p> <p>The vendor has to supply all the items to meet the GTRE requirements as specified in section 3.</p> <p>The vendor has to install the Electron Beam Welding Machine and demonstrate the complete functionality of the equipment as per the Acceptance Test plan (Appendix “A”).</p>
<p><b>Scope of work of GTRE</b></p> <ol style="list-style-type: none"> <li>GTRE will provide Electrical power supply with <math>415\text{v } \pm 10\%</math>, <math>50\text{Hz } \pm 5\%</math>, 3 phase and neutral, 4-wire system.</li> <li>The vendor shall indicate the total capacity in KVA rating.</li> <li>Pneumatic supply will be provided, the vendor shall indicate the pressure and flow requirements.</li> <li>Vendor shall indicate the special earthing requirement and the same shall be provided by GTRE</li> <li>Foundation requirements for the machine including drawings shall be communicated to GTRE within two months from the date of purchase order to organise the installation site for the machine.</li> <li>GTRE will provide required materials for machine prove out and training at vendor’s place</li> <li>GTRE shall be provide despatch clearance after Pre Despatch Inspection(PDI)</li> </ol>
<p><b>TOOLING:</b> Tool kit required for changing of filament, gun cable etc. shall be supplied along with the machine.</p>

**14. Acceptance criteria:** Vendor shall demonstrate the machine as per Acceptance Test mentioned below:-

- Machine should confirm to ISO 14744 Part I to VI acceptance inspection of electron beam welding machines and the tolerances specified in the X-Y working table (Column 10) and CNC rotary manipulator (Column 11) sections of specifications whichever is better.
- Machine shall be tested for welding applications with full power at the table surface. The weldability tests shall be done to ensure full penetration levels for the materials indicated below at the maximum gun to work.

Sl. No.	Material	Size (LxB)	Thick	Qty.	Remarks
1	St. Steel	100 x 100	25 mm	2 Nos.	For full penetration trials
2	Inco-718	100 x 100	25 mm	2 Nos.	
3	Ti-64	100 x 100	20 mm	2 Nos.	
4	Ti-64	Blisk test pieces	8 mm	2 Nos.	For Blisk trials

- Welding of test coupons for 15mm, Stainless steel, Titanium, Inconel as per attached GTQAS002 standards

Sl. No.	Material	Size (L x B)	Thickness	Qty.	Remarks
1	St. Steel	100 x 100	15 mm	2 Nos.	For establishing weld parameters
2	Inco-718	100 x 100	15 mm	2 Nos.	
3	Ti-64	100 x 100	15 mm	2 Nos.	
4	St. Steel	100 x 35	15 mm	4 Nos.	For welding as per GTQAS 002 std.
5	Inco-718	100 x 35	15 mm	4 Nos.	
6	Ti-64	100 x 35	15 mm	4 Nos.	

- Chamber vacuum pumping down time to a vacuum level of  $1 \times 10^{-4}$  m bar or less in clean, dry and empty condition should be less than 15 minutes.
- Vacuum level in the gun:  $< 5 \times 10^{-6}$  mbar to be attained within 5 minutes.

Other parameters as per the following:

Accelerating voltage:	
<ul style="list-style-type: none"> <li>Ripple</li> <li>Stabilization</li> <li>reproducibility</li> </ul>	<p>2% ( peak to peak value)</p> <p><math>\pm 1\%</math></p> <p><math>\pm 1\%</math></p>

Beam Current: <ul style="list-style-type: none"> <li>Ripple</li> <li>Stabilization</li> <li>reproducibility</li> </ul>	<5% ( peak to peak value) ±1% ±1%
Lens current: <ul style="list-style-type: none"> <li>Ripple</li> <li>Stabilization</li> <li>reproducibility</li> </ul>	0.5%( peak to peak value) ±5% ±5%
Welding speed: <ul style="list-style-type: none"> <li>Short term stability : <math>V_{max}</math></li> <li><math>V_{min} = 0.1 V_{max}</math></li> <li>Long term stability</li> <li>reproducibility</li> </ul>	2% 5% 1% 1%
Run- out accuracy	±0.05mm over 1200 mm length
Global Helium leak rate	$1 \times 10^{-5}$ std cc/sec max

- f) Engineers from GTRE will perform pre dispatch inspection (PDI) at vendor work. The vendor shall perform testing and demonstration of the machine in the presence of Engineers from GTRE, dispatch clearance will be provided only after satisfactory testing & demonstration.
- g) Two sets of documentation consisting of operator's manual, CNC operating manual and programming handbook in English shall be delivered to GTRE at least one month before the date of PDI.
- h) Radiation levels to be measured in accordance with the ISO 14744 or equivalent.
- i) EBW shall be done as per ARP1317 standards and acceptance shall be as per GTQAS 002. Material will be supplied by GTRE as follows:-

Sl. No.	Material	Size (LxB)	Thick	Qty.	Remarks
1	St. Steel	100 x 100	25 mm	2 Nos.	For full penetration trials
2	Inco-718	100 x 100	25 mm	2 Nos.	
3	Ti-64	100 x 100	20 mm	2 Nos.	
4	Ti-64	Blisk test pieces	8 mm	2 Nos.	For Blisk tirals
5	St. Steel	100 x 100	15 mm	2 Nos.	For establishing weld parameters
6	Inco-718	100 x 100	15 mm	2 Nos.	
7	Ti-64	100 x 100	15 mm	2 Nos.	
8	St. Steel	100 x 35	15 mm	4 Nos.	For welding as per GTQAS 002 std.
9	Inco-718	100 x 35	15 mm	4 Nos.	
10	Ti-64	100 x 35	15 mm	4 Nos.	

- j) EB welding of blisk/representative component as per the Drg No: GTRE/PFG/EBW/05-2019 (enclosed) provided by GTRE. The welding has to be carried out without tilting either the gun or Job.
- K) One set of test pieces and blisk/representative part shall be welded and demonstrated at vendor's place before dispatching of the machine and same shall be repeated at GTRE.
- l) Additive manufacturing system shall be demonstrated as per the drawing Nos. GTRE/PFG/EBW/03-2019 and GTRE/PFG/EBW/04-2019 for St. Steel, Ti-64 and Su-718 materials (Filler material shall be provided by the vendor) at the time of PDI.
- m) Additive manufacturing system shall be demonstrated as per the drawing Nos. GTRE/PFG/EBW/03-2019 and GTRE/PFG/EBW/04-2019 for St. Steel, Ti-64 and Su-718 materials (Filler material shall be provided by vendor) at the time of installation and commissioning at GTRE.
- n) x Additive manufactured demonstration samples shall be subjected to NDT(DPI and Radiography)

- o) Wire feeding during welding process has to be demonstrated.
- p) Material supplied by GTRE for machine acceptance shall be returned to GTRE after welding.

**15. Franking Clause:**

**a) In Case of Acceptance of Store(s):** “The fact that the goods have been inspected after the delivery period and passed by the Inspecting Officer will not have the effect of keeping the contract alive. The goods are being passed without prejudice to the rights of the Buyer under the terms and conditions of the Contract”.

**b) In Case of Rejection of Store(s):** “The fact that the goods have been inspected after the delivery period and rejected by the Inspecting Officer will not bind the Buyer in any manner. The goods are being rejected without prejudice to the rights of the Buyer under the terms and conditions of the contract.”

**16. Claims:**

a) The quantity claims for deficiency of quantity and/ or the quality claims for defects or deficiencies in quality noticed during the inspection shall be presented within 45 days of completion of inspection.

b) The Seller shall collect the defective or rejected goods from the location nominated by the Buyer and deliver the repaired or replaced goods at the same location, within mutually agreed period, under Seller’s arrangement without any financial implication on the Buyer.

**17. Warranty Period:**

a) Warranty shall be offered for the total supplied system for 24 months from the date of commissioning and acceptance at GTRE.

b) Replacement of Spares and Services during Warranty shall be free of Cost to GTRE by the Firm.

c) During Warranty Period the down time shall not be more than 20 Days.

d) Necessary Custom Duty Exemption Certificate (CDEC) shall be provided by GTRE.

**Note:** The Materials dispatched conforms to the quality as per the specifications specified in Scope of Work & warranty for 26 months from the date of commissioning and acceptance by GTRE at GTRE. The defective materials, if found any / shall be replaced free of cost or refund of the purchase price by the supplier. The warranty does not cover for any defect caused by misuse or abuse of the product, damage caused by natural disasters, damage caused by unauthorized modification, defects caused by improper storage of the product or any such act of negligence.

**18. Delivery Period:**

a) Material for trials at vendor place will be sent within 9 months after order acceptance.

b) Invitation for PDI from the vendor shall be within 9 months after order acceptance.

c) Intimation of readiness of machine for PDI and welding trials shall be within 11 months after order acceptance.

d) Despatch clearance of EBW machine by GTRE will be within 15 days after PDI.

e) Pre despatch inspection by GTRE engineers at vendors place shall be for 5 working days.

Despatch of machine from the vendor shall be within 20 days after despatch clearance.

f) Installation, commissioning and training to GTRE personnel shall be completed within 2 months from the date of intimation of receipt of EBW machine at GTRE.

g) Over all machine supply, installation, commissioning and acceptance shall be completed within 16 months from date of order acceptance.

## 19. Installation and Commissioning:

- a) The vendor should provide all the necessary materials such as pads, hardware items etc. necessary for installation of the machine at GTRE.
- b) Vendor shall carry out installation & Commissioning of the machine at GTRE and undertake test/trial as contracted.
- c) All handling equipment, tools, tackles etc. required shall be arranged by the vendor.
- d) Movement of the packed cases from its storage location in GTRE to the installation site, opening the cases, movement of machine to the site and installation shall be performed by the vendor.
- e) Required man power shall be organized by the vendor.
- f) The machine installation drawings indicating the area, layout, total connected load, earthing requirement and kind of floor and such related information to be supplied within two months from the date of ordering.
- g) The machine will be accepted after satisfactory commissioning and tests.

## 20. Training:

- a) Training for Three GTRE personnel in programming, maintenance and machine operation is required to be provided by the manufacturer at their site.
- b) Two engineers from Mechanical discipline and one from Electronics / Electrical background. Training shall cover Operation of the machine, CNC programming, maintenance of mechanical and electronics systems.
- c) The training should coincide with the sample prove out. The duration of training shall not be less than five working days. The training should be free of charge.
- d) Training at GTRE shall be given to two machine operators and one maintenance personnel for 05 working days at installation site at Bangalore, after commissioning.

21. **TOOLING:** Tool kit required for changing of filament, gun cable etc. shall be supplied along with the machine.

#### **PART IV- Pre- Qualification Criteria**

1. Quotation submitted by the Original Equipment Manufacturer (OEM) or OEM authorized vendor only will be accepted and will be considered for further evaluation by GTRE. Authorized vendor shall submit valid authorization letter from the OEM.
2. The vendor should have supplied a minimum of 03 numbers of EBW machines working satisfactorily for reputed aerospace industries in India. The addresses and details of the company (year of supply, commissioning date and customer feedback) where they have supplied shall be mentioned in their offer.



## Part V – Essential Details of Items/Services Required

### 1. Product details and specification:

Sl. No.	Description of the item	U/M	Qty
1.	CNC ELECTRON BEAM WELDING MACHINE Inclusive of Tool Kit to be supplied by the firm as mentioned below: <ul style="list-style-type: none"><li>● Filament alignment / Changing jig</li><li>● Set of Allen Keys</li><li>● Set of Screw Drivers</li><li>● High Vacuum silicon grease</li><li>● Anode removal tools</li></ul>	Nos.	1

### 2. Product/ service details and specification: As per Sl. No. 03 mentioned below:

### 3. Deliverables:

#### 3.1 Hardware/ software deliverables:

Item Description	Quantity in Nos.
CNC Electron Beam Welding Machine	01

#### 3.2 Service deliverables for Installation, Commissioning and Training:

- a) The vendor should provide all the necessary materials such as pads, hardware items etc. necessary for installation of the machine at GTRE.
- b) Vendor shall carry out installation & Commissioning of the machine at GTRE and undertake test/ trial as contracted.
- c) All handling equipment, tools, tackles etc... required shall be arranged by the vendor.
- d) Movement of the packed cases from its storage location in GTRE to the installation site, opening the cases, movement of machine to the site and installation shall be performed by the vendor.
- e) Required man power shall be organized by the vendor.
- f) The machine installation drawings indicating the area, layout, total connected load, earthing requirement and kind of floor and such related information to be supplied within two months from the date of ordering.
- g) The machine will be accepted after satisfactory commissioning and tests.
- h) Training for **Three** GTRE personnel in programming, maintenance and machine operation is required to be provided by the manufacturer at their site.
- i) Two engineers from Mechanical discipline and one from Electronics / Electrical background.
- j) Training shall cover Operation of the machine, CNC programming, maintenance of mechanical and electronics systems.
- k) The training should coincide with the sample prove out. The duration of training shall not be less than **five working days**. The training should be free of charge.
- l) Training at GTRE shall be given to two machine operators and one maintenance personnel for 05 working days at installation site at Bangalore, after commissioning.

**3.3 Documents to be submitted along with Deliverables:**

- a) The vendor shall submit warranty certificate
- b) Machine test charts/reports
- c) The vendor shall submit operating manuals (03 sets hard copy in English language).
- d) Manuals of Bought Out Items of the machine shall be provided - 1 set (in English)
- e) Maintenance and spare parts manual for Mechanical, electrical and control system - 3sets (In English language.)
- f) Original licenses for the software which shall be purchased – 1 set
- g) Diagrams of all mechanical assemblies with parts list – 2 sets (In English)
- h) Electrical and electronic circuit diagrams – 2 sets (In English)
- i) One soft copy of all the manuals and diagrams in pdf format as well as specific programs (PLC and man-machine interface
- j) One reinstallation CD for the PC
- k) Licensed version software CD and replaceable hard disk installed with all the software shall be included
- l) All Calibration certificates shall be provided
- m) The vendor shall submit machine layout drawings showing plan and elevation of overall layout, foundation requirements, auxiliary equipments, utilities location and requirements.
- n) Machine installation drawings and installation instructions.

**4. Documents to be submitted along with techno-commercial bid:**

Vendor must indicate compliance of features of the equipment being quoted in the following format. It shall cover all the 12 points, with authorized signature along with seal in all the pages.

GTRE specification	Vendor’s specification	Remarks

5. Bidders are required to furnish clause by clause compliance of specifications bringing out clearly the deviations from specification, if any. Bidders are advised to submit compliance statement for the technical parameters separately in the following format along with the Techno-Commercial Bid:-

Para of RFP specifications	Specifications of item offered	Compliance to RFP specifications- whether Yes/No	Remarks (In case of non-compliance, deviation from RFP to be specified in unambiguous terms. In case of compliance, catalogue/brochure reference, if available, to be indicated)

For Commercially-Off-The-Shelf (COTS) items, it is mandatory to enclose catalogue/technical brochure to support the claims of compliance.

Please note that the Contract can be cancelled unilaterally by the Buyer in case items are not received within the contracted delivery period. Extension of contracted delivery period with/without LD clause will be at the sole discretion of the Buyer.

6. **Delivery Period:** Total Delivery Period for supply of items/rendering services would be within 16 months from the placement of purchase order.
7. **INCOTERMS for Delivery and Transportation (For Foreign Bidders Only) :** Unless otherwise specifically agreed to by the Buyer and the Seller and incorporated in the Contract, the applicable rules and regulations for transportation of goods from foreign countries will be as per the contemporary version of International Commercial Terms (INCOTERM 2010 evolved by International Chamber of Commerce, Paris).

All foreign bidders to invariably indicate the CIP/CIF Cost in addition to FOB/ FCA/Ex-Works Cost. In cases where CIP/CIF Cost is not indicated by a foreign bidder, their FOB/ FCA Cost would be loaded by 10% to arrive at CIP/CIF Cost for the purposes of evaluation. However, the Buyer may finalize any other term of delivery on the merit of case as per the INCOTERMS 2010 issued by International Chamber of Commerce (ICC).

**Consignee details:**

Name: DIRECTOR

Address: GAS TURBINE RESERCH ESTABLISHMENT  
Government of India, Ministry of Defence,  
R&D Organization  
P.B. No. 9302, C.V. Raman Nagar,  
Bangalore-560 093, India

Contact Officer : MANOJ KUMAR, SO  
Contact details : +91 80 2504 0267/443  
FAX : +91 80 2524 1507  
E-mail : [mmgfe@gtre.drdo.in](mailto:mmgfe@gtre.drdo.in)

## Part VI – Evaluation Criteria of Bids

1. **Evaluation and Acceptance Process:** The bid will be considered and selected based on instructions contained in Part I of the RFP for further evaluation of bids as per sequence given below:
  - a) **Techno-Commercial Bid Evaluation:** Bids will be evaluated based on vendor qualification requirement as per Part IV of RFP, if applicable, and bids of the qualified bidders will be considered for further evaluation as mentioned in Part V of the RFP.
  - b) **Price Bid Evaluation:** The Price bid of those bidders whose Techno-Commercial bid has been accepted will be opened and comparative statement will be prepared. The best acceptable bid will be decided upon the lowest basic price quoted for the line-wise item by the particular Bidder as per the Price Format given at Part VII of the RFP.
2. **Procedure for Cost Comparison:** The basis for comparison of cost in different situations would be as follows:
  - a) If competition is only among Indian bidders, the financial implication should be considered on the basis of FOR prices at destination, after offloading, taxes and duties.
  - b) In import cases, all the foreign quotes will be brought to a common denomination in Indian Rupees by adopting the exchange rate as BC selling rate of the State Bank of India on the date of the opening of Price Bids.
  - c) If competition is among foreign bidders, the basis for comparison should be the landed price at the destination (designated port) in accordance with Para 19 of Part-III of the RFP.
  - d) If competition is amongst Indian and foreign bidders, the CIP/CIF cost quoted by the foreign bidders would be the basis for comparison with the basic cost (FOR) offered by Indian bidders, after off loading the Excise Duty, Custom Duty, GST and other local taxes and levies. The term Indian bidders would also include DPSUs and Indian Ordnance Factories.
  - e) Discount rate to be used under the method is to be the Prime Lending Rate of State Bank of India on the Date of Opening of Price Bids.
  - f) If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price will prevail and the total price will be corrected accordingly.
  - g) If there is a discrepancy between words and figures, the amount in words will prevail for calculation of price.
3. The best acceptable bid will be considered further for placement of the Contract after price negotiation as decided by the Buyer.

**Part VII – Price Bid Format**

As per BOQ format attached

**COMMERCIAL TERMS AND CONDITIONS – GTRE**

Firms are requested to indicate their acceptance for under mentioned

Our Quotation No. \_\_\_\_\_ &amp; Date \_\_\_\_\_

**GTRE/MMG/FEBM/3508/18**

Sl. No.	Description	Standard GTRE Terms Indian Firms	Standard GTRE Terms Foreign Firms	(Mandatory to accept)
1.	Currency	Indian Currency Only	Respective Currency	
2.	GST	Please indicate _____ % of GST	N/A	
3.	Terms of Delivery	FOR GTRE, Bangalore Basis (in INR)	The price quoted FOB/FCA/ Ex-works (Gateway Air port / Sea port) basis. Please also quote CIF/CIP destination basis. If CIP/CIF cost is not available an additional 10% cost over & above FCA/FOB will be loaded on their respective bid for Bid evaluation purpose only.	
4.	Packing & Forwarding Charges	Prices are all Inclusive	As per INCOTERMS 2010	
5.	Freight Charges	Prices are all Inclusive		
6.	Insurance Charges	Prices are all Inclusive		
7.	Validity of Quotation	180 days from the date of tender opening.		
8.	Performance Cum Warranty Bond.	<p><b>a) Performance / Security Bond for execution of Order:</b> The seller shall furnish a Performance / Security Bond in the form of <b>Bank Guarantee equivalent to 10% of the Order Value valid for a period of 525 days (i.e. <u>Delivery Period 465 days + 60 days to cover Delivery Period obligations</u>)</b>. The BG to be furnished from an internationally recognized first class bank &amp; the same has to be duly authenticated and endorsed by State Bank of India or any other Indian Nationalized Bank in favour of The Director, GTRE, Bengaluru within 15 days from the date of Purchase Order.</p> <p><b>b) BG for Warranty Bond to cover Warranty Period:</b> The seller shall furnish a BG towards Warranty Bond upon completion of Acceptance, Installation, Commissioning &amp; Training activities w.r.t. instant supply at GTRE <b><u>for a period of 26 Months (i.e. 24 Months for the warranty period + 02 months to cover warranty obligations)</u></b>. The BG to be furnished from an internationally recognized first class bank &amp; the same has to be duly authenticated and endorsed by State Bank of India or any other Indian Nationalized Bank in favour of The Director, GTRE, Bengaluru within 15 days from the date of completion of Acceptance, Installation, Commissioning &amp; Training activities at GTRE.</p> <p><b>For Detail Pl. Refer Sl. No. 1 of Part III of RFP.</b></p>		



9.	Delivery Period	Supply of items/rendering services should be completed within 16 months from the placement of purchase order. <b>(For details pl. refer Sl. No.18 of part III of RFP).</b>	
10.	Warranty	a) Warranty shall be offered for the total supplied system for <b>24 months from the date of commissioning and acceptance at GTRE.</b> b) Replacement of Spares and Services during Warranty shall be free of Cost to GTRE by the Firm. c) During Warranty Period the down time shall not be more than 20 Days. d) Necessary Custom Duty Exemption Certificate (CDEC) shall be provided by GTRE.	
11.	Payment Terms	Three stage wise Payments will be made as per <b>Sl. No. 4 of part III of RFP.</b>	
12	LD clause	The Buyer may deduct from the Seller, as agreed, liquidated damages at the rate of <b>0.5% per week</b> or part of thereof, of the basic cost of the delayed stores which the Seller has failed to deliver within the period agreed for delivery in the contract. LD can also be levied on the seller on the basic cost of the stores supplied partially within the scope of the order/ contract that could not be put to use due to late delivery of the remaining stores. The maximum quantum of LD would be <b>10% of the total order value</b> (excluding taxes & duties)	
13.	Supply of documents	As per Sl. No. 3(3) & Sl. No. 4 of Part V of RFP.	
14.	Export license.	GTRE to provide EUC, if required for obtaining Export license. The Bidder is required to furnish full details and formats of End Use Certificate (EUC) for obtaining export clearance from the country of origin along with the offer/quotation. <b>Note :- EUC will be issued on GTRE's letter head only</b>	
15.	Earnest Money Deposit (EMD)	Bidders are required to submit Earnest Money Deposit (EMD), in favour of The Director Gas Turbine Research Establishment, Bangalore in INR Only for amount of <b>Rs. 41,10,000/-</b> along with their bids. <b>For more details please Refer Sl. No. 13 of Part I (A) of RFP.</b>	
16.	Special Terms.	It is noted that the Director, GTRE reserves the right to accept/reject our offer in part / full without assigning any reasons and also not be responsible for postal delays. We accept all the above terms & Conditions	
17.	Ordering Information [Order to be placed on]	<b>(Indicate Name and Address of the firm)</b>	
18.	Date: Place:	Signature with name and designation in block letters and company seal	

**Important Note for Information**

- This Form to be completed and submitted along with your Techno Commercial Offer and copy of the same to be provided along with your Price Bid.
- A categorical confirmation of acceptance of all our terms and conditions in to will enable speedy processing of the offer.
- It is also requested to note that no change is acceptable unless and until proper justification is provided.

**Note:**

- N-1 :** All the BG (PCWB / BG) should be valid for a period of 60 days beyond their requirement.
- a. If Bank Guarantee (BG) is executed by International Bank, the same has to duly authenticated and endorsed by State Bank of India or any Indian Nationalized Bank.
- N-2 :** In case defective items need to be shifted to the seller, seller has to bear the charges for shifting of items from GTRE to sellers premises and back from sellers premises to GTRE. In addition to this the seller has to take insurance / submit bank guarantee on the cost of the item valid till the item is returned back to GTRE in working condition.
- N-3 :** In case the item / Services provided are not working during warranty / extended warranty, for a period beyond Turn Around Time (TAT) the warranty/Extended warranty will be extended by a period equal to the idle time / downtime-TAT.
- N-4 :** Payment for warranty /Extended warranty will be paid annually after successful completion of Warranty/ Extended Warranty (If Applicable).
- N-5 :** The vendor has to provide Performance Bank Guarantee (PBG) of 10% of the value of extended warranty before commencement of the Extended warranty Period. 10% payment for 1<sup>st</sup> year warranty will be released only after receipt of Performance Bank Guarantee (PBG) for Extended Warranty. The vendors must enclose copy of Govt. notification supporting the tax structure claimed by them along with their Bid.
- N-6 :** EMD and Tender fees photocopy to be submitted during online submission of Technical Bid for immediate notice at the time of opening the bid.

**EMD Bank Guarantee Format**

(To be executed by a First Class International Bank and advised & Authenticated by State Bank of India or any Indian Nationalized Bank)

Whereas ..... (herein after called the 'Bidder') has submitted their offer dated ..... for the supply of ..... (herein after called the 'Bid') against the Buyer's Request for proposal No. .... KNOW ALL MEN by these presents that WE .....;.....of ..... Having our registered office at ..... are bound unto ..... (herein after called the "Buyer") in the sum of ..... For which payment will and truly to be made to the said Buyer, the Bank binds itself, its successors and assigns by these presents.

Sealed with the Common Seal of the said Bank this ..... day of .....20.....

The conditions of obligations are –

- (1) If the Bidder withdraws or amends, impairs or derogates from the Bid in any respect within the period of validity of this tender.
- (2) If the Bidder having been notified of the acceptance of his tender by the Buyer during the period of its validity.
  - a) If the Bidder fails to furnish the Performance Security for the due performance of the contract.
  - b) Fails or refuses to accept / execute the contract.

WE undertake to pay the Buyer up to the above amount upon receipt of its first written demand, without the Buyer having to substantiate its demand, provided that in its demand the Buyer will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including 45 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

.....

(Signature of the authorized officer of the Bank)

Name and designation of the officer

Seal, name & address of the Bank address of branch

**TENDER ACCEPTANCE LETTER**

**Appendix - C**

(To be given on Company Letter Head)

Date:

To,

\_\_\_\_\_

**Sub: Acceptance of Terms & Conditions of Tender.**

**Tender Reference No:** \_\_\_\_\_

**Name of Tender/Work**

: \_\_\_\_\_

**Dear Sir,**

**1. I / We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely:**

\_\_\_\_\_

**as per your advertisement, given in the above mentioned website(s).**

- 2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents from Page No. \_\_\_\_\_ to \_\_\_\_\_ (including all documents like annexure(s), schedule(s), etc .), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.**
- 3. The corrigendum(s) issued from time to time by your department/ organizations too have also been taken into consideration, while submitting this acceptance letter.**
- 4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.**
- 5. I / We do hereby declare that our Firm has not been blacklisted/ debarred by any Govt. Department/Public sector undertaking.**
- 6. I / We certify that all information furnished by the our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organization shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract , without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.**

**Yours Faithfully,**

**(Signature of the Bidder, with Official Seal)**