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Government of India  
Directorate of Procurement  
Tender Enquiry Cell  
Air HQ (Vayu Bhawan), Rafi Marg,  
New Delhi – 110011

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**REQUEST FOR PROPOSAL (RFP) NO. AIR HQ /DPUR//2025005 dated 07 Aug 2020**

**INVITATION OF BIDS FOR PROCUREMENT OF  
AIR FIELD CRASH FIRE TENDER QTY- 41  
(GLOBAL TENDER ENQUIRY BASIS UNDER TWO BID SYSTEM)**

1. Online bids on GTE basis under Two Bid System **are invited by the Directorate of Procurement, Tender Enquiry Cell** from for and on behalf of the President of India for supply of items listed in Part II of this RFP from technically sound and financially capable Original Equipment Manufacturers. In case the Bidder is not the OEM, the agreement certificate with the OEM for sourcing the equipment/spares shall be mandatory. The tender can be viewed at [www.eprocure.gov.in](http://www.eprocure.gov.in).

2. The address and contact number for sending physical documents as explicitly asked for in this RFP are given below:-

- (a) **Bids to be addressed to:-** Director General (Aircraft)
- (b) **Postal Address for sending Bids:-** Directorate of Procurement, Air Headquarters (Vayu Bhawan), Rafi Marg, New Delhi – 110011 (INDIA).
- (c) **Name/designation of the contact (For queries/clarifications).**
- (i) **For Commercial Issues.**  
Gp Capt Procurement TE Cell (I&W)/Gp Capt Procurement TE Cell  
Contact Nos. 011-23060054. 011 -23010231, 23060231Extn 5769/5282  
Fax No . 011 -23017664. e-Mail.info.282@gov.in
- (ii) **For Technical issues.**  
(aa) Directorate of MT, Air HQ (RKP)  
Tele. 011- 23010231. Extn. 5153, 5414.  
Fax No. 011- 26171279. e-Mail. Stallion123@gov.in

3. This RFP is divided into five parts which are as follows.

(a) **Part I** Contains General information and instructions for the bidders about the RFP such as the time and place of submission and opening of tenders, validity period of tenders, etc.

(b) **Part II.** Contains essential details of the items required, such as the Schedule of Requirements (SOR), Technical Specifications, Delivery Period, Mode of Delivery and Consignee details.

- (c) **Part III.** Contains Standard Conditions of the RFP which will form part of the Contract with the successful Bidder.
- (d) **Part IV.** Contains special conditions applicable to this RFP and which will also form part of the contract with successful Bidder.
- (e) **Part V.** Contains Evaluation Criteria and format for Price Bids.

4. This RFP is being issued without prejudice and with nil financial commitments. The Buyer reserves the right to change or vary any part thereof at any stage. Buyer also reserves the right to withdraw the RFP, should it become necessary at any stage.

5. This Tender shall comply with the “**Public Procurement (Preference to Make in India) Order, 2017**” issued by DIPP and “**Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012**” issued by MoSME.

6. This RFP shall be governed by the India laws, both substantive and procedural, for the time being in force and shall be subject to the exclusive jurisdiction of Delhi Courts in India.

Yours faithfully,

Sd/-  
(Sanjay Saxena)  
Gp Capt  
GP Capt Proc TE Cell (I&W)  
For and on behalf of the President of India

## PART I - GENERAL INFORMATION

1. **Critical dates.** The critical dates with respect to the tender ref AIR HQ /DPUR// 2025012 dated 07 Aug 2020 are as tabulated.

<b>CRITICAL DATE SHEET</b>			
<b>SI NO</b>	<b>Item</b>	<b>Date</b>	<b>Time</b>
(a)	Published date	07 Aug 2020	1200 Hrs
(b)	Bid document download	07 Aug 2020	1200 Hrs
(c)	Clarification start date	07 Aug 2020	1200 Hrs
(d)	Pre-bid meeting	27 Aug 2020	1030 Hrs
(e)	Clarification End date	31 Aug 2020	1000 Hrs
(f)	Bid submission Start	21 Sep 2020	1000 Hrs
(g)	Bid submission End	29 Sep 2020	1000 Hrs
(h)	Opening of Technical Bids (Online)	01 Oct 2020	1000 Hrs
(j)	Opening of Technical Bids (Online)	01 Oct 2020	1145 Hrs
(k)	Commercial bid opening	Will be intimated in due course after Technical evaluation	

**Note:** In case of any mismatch between the dates/times given here in RFP and the dates/times shown online on CPPP website, the dates/times shown on website shall only be valid.

2. **Manner of submission of Online Bids.**

(a) **The Bids should be duly scanned and uploaded online (CPPP) only. The bids along with the following documents are to be uploaded online:-**

(i) **Technical Bids. All technical documentation, brochures etc should be scanned and uploaded.**

(ii) Complete RFP along with all Appendices are to be signed as "Accepted" and uploaded along with the technical bid. In case of any deviation it should be indicated clearly.

(iii) Agency agreement with foreign manufacturer/OEM for specific product, if any (Scanned and uploaded).

(iv) PAN No, GST/Regn (Scanned and uploaded).

(v) Technical Compliance Matrix and Summary of standard terms and conditions. The bidder shall certify for acceptance of all the Technical and commercial conditions of the RFP as per **Appendix 'B' & 'C'**.

(vi) EMD/'EMD exemption' to be uploaded online.

(vii) Operation and Maintenance manual are to be scanned and uploaded along with the RFP.

(b) The Commercial bids are to be uploaded as per **BOQ, "online" (CPPP) only.**

(c) The Bids are to be submitted 'online' by the bidder, duly digitally signed by the legal owner of the firm or the person authorized by him to do so.

(d) It is important to note that **No (R) No Commercial Bids are to be submitted in physical form in tender box.** The Buyer reserves the rights to reject the 'Commercial Bids' received in physical form.

3. **Manner of Submission of Mandatory Physical Documents.** The following documents may be **submitted physically** in the sealed **Tender Box No. 2, Air HQs (Vayu Bhawan), Rafi Marg, New Delhi, Pin-110011** prior to bid submission closing date.

(a) **Original EMD.** Any firm claiming exemption should enclose proof of the same, along with enclosing it with the Technical Bid.

(b) **Technical Bids including all technical Documents and brochures etc which have been uploaded in CPP Portal Online as technical bid [as mentioned in para 2 (a)] are also to be submitted in physical form.**

(c) Complete RFP along with all Appendices are to be signed as "Accepted" and uploaded along with the technical bid and dropped physically in the tender box. In case of any deviation it should be indicated clearly.

4. **Time and date for opening of bids.** **As per Critical Date Sheet.**

(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. **Location of the tender box.** Tender Box marked as ACAS (Procurement), Box No-2, Air HQ (Vayu Bhawan) Rafi Marg, and New Delhi -110 011. Following guidelines may be followed while submitting the requisite physical document as indicated in the RFP. **No commercial bids are to be dropped in the Tender Box.**

(a) The physical receipt of specified documents shall be mandatory prior to **bid submission end date & time** mentioned at Critical Date Sheet.

(b) The mandatory physical documents dropped in the wrong tender Box will be rendered invalid.

(c) The envelope containing the requisite physical documents should be addressed to DG (AC), Tender Box No.2, Air HQ (Vayu Bhawan), Rafi Marg, New Delhi, Pin-110011. **PLEASE SUPERSCRIBE YOUR FIRM'S NAME, ADDRESS, RFP NO. AND DATE OF TENDER OPENING ON SEALED COVER.** It may be sent **by post/speed post/courier.** However, it is the sole responsibility of the bidder to ensure requisite physical documents are received in the buyer's office prior to bid submission end date & time. The buyer by no means will be responsible for any delay in receipt of requisite documents.

(d) No post-bid clarification on the initiative of the bidder will be entertained.

6. **Opening and verification of documents.** The physical verification of the specified documents as asked for in physical form in the RFP will be done at Tender Opening Room near Reception at Air Headquarters (Vayu Bhawan) Rafi Marg New Delhi- 110011 on the day of online opening of the Technical Bids as mentioned in the critical date sheet. The Bidders may depute their representatives, duly authorized in writing, to attend the event on the due date and time. Details of the representatives are to be forwarded to Dte of Procurement, Air HQ (VB) by FAX (followed by an ink signed copy) Five days before the due date of tender opening (**as per Appendix 'J'**), to facilitate security clearance and entry to Tender Opening Room. It may be noted that this event will not be postponed due to absence of your representative(s). Bidders are to ensure that their representatives are in possession of copy of advance intimation letter

sent to Dte of Procurement authorizing them to participate in the tender opening. Bidders are not required to attend online opening of Technical/Commercial Bids at Air HQs. Same can be seen online by bidders from any place.

7. **Opening of Bids in Two Bid System.**

(a) Only the Technical Bids would be opened **as per Critical Date Sheet** mentioned in this tender document. The evaluation of Technical Bids received online will be carried out by a Board of Officers off-line. Firms found 'Qualitative Requirement Compliant' at TEC stage will be uploaded notified on the Central Public Procurement Portal (<https://eprocure.gov.in/eprocure/app>).

(b) The online Commercial Bids of only those Bidders whose Technical Bids meet all the stipulated (Technical) requirements shall be opened. The date of opening will be intimated to the Bidders through Central Public Procurement Portal (<https://eprocure.gov.in/eprocure/app>). **The Bidders are advised to submit the compliance Statement in the format as per Appendix-B & C alongwith Technical Bid.**

8. **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 before clarification End Date/Time as given in critical Dates in Para 1 of this part. Queries shall be uploaded by Bidders online on CPPP against this specific Tender and clarification shall also be provided online/in writing by Buyer.

9. **Modification and withdrawal of Bids.** The Bidder may modify (resubmit) his bid on line after submission, as per the provisions available on the portal. No bid shall be modified after the deadline for submission of bids.

(a) If bidder desires to withdraw before bid submission closing date / time, he may do so **online** in the portal. EMD (in case) submitted in physical form shall be returned offline.

(b) No bid may be withdrawn in the interval between the deadline for submission of bids and expiry of the period of the specified bid validity. Withdrawal of bid during this period will result in bidder's forfeiture of bid security.

10. **Clarification Regarding Contents of the Bids.** During evaluation and comparison of bids, the buyer may, at its discretion, ask the bidder for clarification of his bid. The request for clarification will be given in writing and no change in prices or substance of the bid will be sought, offered or permitted. No post-bid clarification on the initiative of the bidder will be entertained.

11. **Bids are liable to be rejected for the following reasons.**

(a) Non submission of 'online bids' (Both technical and commercial).

(b) Canvassing by the Bidder in any form, unsolicited letter and post-tender correction may invoke summary rejection with forfeiture of EMD. Conditional Bids will not be accepted.

12. **Validity of bids.** The Bids should remain valid for **12 months** from the last date of submission of Bids

13. **Pre Bid Conference**. A pre-bid conference to resolve and clarify all technical issues will be held at Air HQ (VB), New Delhi. The date of **pre-bid meeting will be 27 Aug 2020 at 1030 Hrs.** All prospective bidders may contact following officer for pre-bid meeting along with the requisite details attached at **Appendix 'J'** for necessary security clearance. Queries/clarification for pre-bid meeting and filled bio- data form as per Appendix 'J' should be sent via FAX/e-mail 03 days prior to the meeting.

**Gp Capt Proc TE Cell (I&W), Directorate of Procurement, Tender Enquiry Cell,  
Air Head Quarters, Vayu Bhawan, Rafi Marg, New Delhi. 110011.  
Tele: 011-23010231 Extn: 5769 Fax No: - 011-23017664. E-mail:info.282@gov.in**

14. **Earnest Money Deposit.**

(a) **For Indigenous Bidders.** Bidders are required to submit Earnest Money Deposit (EMD) for an amount of **INR 4,00,00,000/- (Rs Four Crore Only)** along with their bids. The EMD may be submitted in the form of an Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the public sector banks or a private sector bank authorized to conduct government business (viz ICICI Bank Ltd/Axis Bank Ltd/HDFC Bank Ltd) as per Form DPM-13 (Available in MoD website and can be provided on request). The EMD should be drawn in favour of CDA (AF), West Block-V, RK Puram, New Delhi-110066. EMD is to remain valid for a period of forty-five days beyond the final bid validity period. EMD of the unsuccessful bidders will be returned to them at the earliest after expiry of the final bid validity and latest on or before the 30th day after the award of the contract. The Bid Security of the successful bidder would be returned, without any interest whatsoever, after the receipt of Performance Security from them as called for in the contract. EMD is not required to be submitted by those Bidders who are registered with the Central Purchase Organization (e.g. DGS&D), National Small Industries Corporation (NSIC) or any department of MoD or MoD itself for the same item/range of products, goods or services for which the tenders have been issued. Firms registered with units/Establishments of Army, Air Force, navy or DRDO Labs which do not qualify to be part of Central Purchase Organisations will not be exempted from EMD. The bidder is required to attach the copy of proof for exemption of EMD with their offer. The EMD will be forfeited if the bidder withdraws or amends impairs or derogates from the tender in any respect within the validity period of their tender.

(b) **For Foreign Bidders.** Bidders are required to submit Earnest Money Deposit (EMD) for an amount equivalent **INR 4,00,00,000/- (Rs Four Crore Only)** **in the respective currency** along with their bids. The EMD may be submitted in the form of Bank Guarantee in the prescribed format by an Indian Public Sector Bank or a Private Sector bank authorized to conduct government business or a First Class International bank of repute located abroad in favour of PCDA, G-Block Hutments, DHQ PO, New Delhi-110011. EMD is to remain valid for a period of forty-five days beyond the final bid validity period. EMD of the unsuccessful bidders will be returned to them at the earliest after expiry of the final bid validity and latest on or before the 30th day after the award of the contract. The Bid Security of the successful bidder would be returned, without any interest whatsoever, after the receipt of Performance Security from them as called for in the contract. EMD is not required to be submitted by those Bidders who are registered with the Central Purchase Organization (e.g. DGS&D), National Small Industries Corporation (NSIC) or any department of MoD or MoD itself the same item/range of products, goods or services for which the tenders have been issued. Firms registered with units/Establishments of Army, Air Force, navy or DRDO Labs which do not qualify to be part of Central Purchase Organisations will not be exempted from EMD. The bidder is required to attach the copy of proof for exemption of EMD with their offer. The EMD will be forfeited if the bidder withdraws or amends impairs or derogates from the tender in any respect within the validity period of their tender.

15. **Capacity verification of bidders.** The bidders who are not registered with DGAQA/Air HQ(VB) are required to submit necessary documents along with their Tech Bids to verify their capacity in terms of infrastructural facilities, manpower, technical competence and financial standing. If required and considered necessary, a delegation of representatives of the Air HQ shall be deputed to visit the plant /factory of the vendors to assess their capability/capacity, including scope for carrying out up-gradation, refurbishment, etc. The format for assessment of capacity to be submitted along with Tech Bids is placed at Appendix 'H'.

## **PART II - ESSENTIAL DETAILS OF ITEMS REQUIRED**

1. **Schedule of Requirement.** The detail of item required is attached as Appendix 'A' of this RFP. Bidders before tendering their offer is to ensure that item offered is correctly understood and where required requisite clarifications obtained and forwarded along with the offer. (Kindly append the IPC / Drawing; Major / Minor Assembly details. If necessitated, a digital photo of offered item be attached/e-mailed). When the offered item is under different part number, kindly categorically confirm that offered item is 'Fit in Form and Function' and subjected to Specialists' acceptance at Buyer's end.

2. **Technical Details.** The Airfield Crash Fire Tender (ACFT) will be supplied as per technical specification attached as Appendix 'B' to this RFP. Bidders are advised to submit Technical Compliance Matrix as given in Appendix 'B'.

3. **Delivery Period (DP).** Delivery period for supply of **Qty 41 Air Field Crash Fire Tender(ACFT)** would be as mentioned below from the effective date of contract. Please note that Contract can be cancelled unilaterally by the Buyer in case items are not received within the contracted delivery period. Extension of contracted delivery period will be at the sole discretion of the Buyer, with applicability of LD clause. The stores are considered to have been delivered only when these are handed over to the consignee after due inspection by the designated inspecting agency within valid Delivery Periods. The stores are to be commissioned and commissioning report is to be signed by both sides.

(a) **Factory Acceptance Trial (FAT) of Prototype.** The seller shall offer one ACFT as per accepted technical specifications and other terms and conditions to the **Inspection Agency** within **08 (eight) months** from effective date of contract. In case of foreign bidder, Letter of Credit will be opened by the buyer within 45 days of receipt of readiness. The inspection agency shall carry out inspection of the offered ACFT within **30 days** (in case of indigenous seller) and within **60 days** (in case of Foreign seller), of issue of inspection call by the seller. **Any modifications in the prototype as observed / suggested during the inspection shall be rectified by the seller within 30 days from intimation to seller as given by Inspection Agency.** The Inspection agency shall accord Bulk Production Certificate (BPC) to the seller for delivery of bulk quantities within the scheduled delivery period.

(b) **Bulk Supplies:** The total delivery period for bulk supplies of balance Qty-40 ACFT shall be 24 (twenty four) months from the date of issue of BPC. However the CFTs are to be delivered as follows:-

(i) First Qty- 20 ACFT should be delivered within 12 months from the date of issue of BPC.

(ii) Balance Qty- 20 ACFT should be delivered within 24 months from the date of issue of BPC.

**Note** – Contract can be cancelled unilaterally by the Buyer in case items are not delivered within the contracted delivery period. The extension of delivery period cannot be taken for granted as matter of right and **Extension of contracted delivery period will be at the sole discretion of the Buyer, with applicability of LD clause.**

4. **Terms of Delivery (INCOTERMS 2019 for Delivery and Transportation).** Unless otherwise specifically agreed to by the Buyer and the Seller and incorporated in the contract, the Applicable Rules & Regulations for Transportation of Goods from Foreign Countries will be as per the current International Commercial Terms (INCOTERMS 2019) issued by International



Chamber of Commerce, Paris. The terms of delivery for the subject procurement shall be on CIF **Mumbai Port**. The ACFT will also be delivered by Seller to the **consignee locations** as defined in Para 6 under his own arrangements. Thereafter, buyer will transport the ACFT to the **ultimate consignees** within two months of receipt of ACFT at consignees mentioned at Para 6. After the positioning of ACFT at ultimate consignee by buyer, the commissioning of ACFT will be done by Seller at the **ultimate consignee** locations at the earliest but not later than 20 days of receipt of intimation for commissioning. The Commissioning shall be treated as complete on signing of commissioning report by both parties i.e., the seller and unit.

5. **Terms of Delivery.** The terms of delivery for indigenous bidders includes, delivery of ACFT at consignee units as shown in Para 6 below. The cost of transportation, loading-offloading, commissioning and training will be borne by the seller. ACFT are to be delivered at consignee unit as mentioned below after issue of Inspection note by the Inspection agency within delivery period. Thereafter, buyer will transport the ACFT to the **ultimate consignees** within 2 months of receipt of ACFT at consignees mentioned at Para 6. After the positioning of ACFT at ultimate consignee by buyer, the commissioning of ACFT will be done by Seller at these **ultimate consignee** locations at the earliest but not later than 20 days of receipt of intimation for commissioning. The Commissioning shall be treated as complete on signing of commissioning report by both parties i.e., the seller and unit.

6. **Consignee Details.**

<b>Consignee</b>	<b>Qty</b>
27 ED, Air Force Station, Palam New Delhi	20
23 ED, Air Force Station, Avadi, Chennai	05
57 ASP, Air Force Station, Vadodara, Gujarat	09
51 ASP, Air Force Station, Digaru, Assam	07
Total	41

### **PART III - STANDARD CONDITIONS OF RFP**

The Bidder is required to give confirmation of their acceptance of the Standard Conditions of the Request for Proposal mentioned below which will automatically be considered as part of the Contract concluded with the successful Bidder (i.e. Seller in the Contract) as selected by the Buyer. Failure to do so may result in rejection of the Bid submitted by the Bidder.

1. **Law.** The Contract shall be considered and made in accordance with the laws of the Republic of India. The contract shall be governed by and interpreted in accordance with the laws of the Republic of India.

2. **Effective Date of the Contract.** Normally the contract shall come into effect on the date of signatures of both the parties on the contract except when some other effective date is mutually agreed to and specifically indicated /provided in the contract. The deliveries and supplies and performances of the services shall commence from the effective date of the contract.

3. **Arbitration.** 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 construction or performance, which cannot be settled amicably, may be resolved through arbitration. The standard clause of arbitration is as per Forms DPM-7, DPM-8 and DPM-9 (Available in MoD website and can be provided on request).

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 Contracts or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of the present Contract or any other Contract with the Government of India for showing or forbearing to show favour or disfavour to any person in relation to the present Contract or any other Contract with the Government of India. Any breach of the aforesaid undertaking by the Seller or any one 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 is the original manufacturer of the stores/provider of the services referred to in this Contract and has not engaged any individual or firm, whether Indian or foreign whatsoever, to intercede, facilitate or in any way to recommended 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 supply 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 LIBOR rate. The Buyer will also have the right to recover any such amount from any contracts concluded earlier with the Government of India.

6. **Access to Books of Accounts.** In case it is found to the satisfaction of the Buyer that the Seller has engaged an Agent or paid commission or influenced any person to obtain the contract as described in clauses relating to Agents/Agency Commission and Penalty for use of undue influence, the Seller, on a specific request of the Buyer, shall provide necessary information/inspection of the relevant financial documents/information.

7. **Non-disclosure of Contract Documents.** Except with the written consent of the Buyer/Seller, other party shall not disclose the contract or any provision, specification, plan, design, pattern, sample or information thereof to any third party.

8. **Liquidated Damages.** 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 this contract, the Buyer may, at his discretion, withhold any payment until the completion of the contract. The Buyer may also deduct from the Seller as agreed, liquidated damages to the sum of 0.5% of the contract price of the delayed/ undelivered stores/ services mentioned above for every week of delay or part of a week, subject to the maximum value of the Liquidated Damages being not higher **than 10%** of the value of delayed stores.

9. **Termination of contract.** The Buyer shall have the right to terminate this Contract in part or in full in any of the following cases.

(a) The delivery of the item is delayed for causes not attributable to Force Majeure for more than 02 month for prototype and **03 months** for bulk supply after the scheduled date of delivery.

(b) The Seller is declared bankrupt or becomes insolvent.

(c) The delivery of material is delayed due to causes of Force Majeure by more than **(6 Months)** provided Force Majeure clause is included in contract.

(d) The Buyer has noticed that the Seller has utilized the services of any Indian/Foreign agent in getting this contract and paid any commission to such individual/company etc.

(e) As per decision of the Arbitration Tribunal.

10. **Notices.** Any notice required or permitted by the contract shall be written in the 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.

11. **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 present Contract or any part thereof.

12. **Patents and other Industrial Propriety Rights.** The prices stated in the present contract shall be deemed to include all amounts payable for the use of patents, copyrights, registered charges, trademarks and payments for any other industrial propriety rights. The Seller shall indemnify the Buyer against all claims from a third party at any time on account of the infringement of any or all the rights mentioned in the previous paragraphs, whether such claims arise in respect of manufacture or use. The Seller shall be responsible for the completion of the supplies including spares, tools, technical literature and training aggregates, irrespective of the fact of infringement of any or all the rights mentioned above.

13. **Amendments.** No provision of the present contract shall be changed or modified in any way (including this provision) either in whole or in part except by an instrument in writing made after the date of this contract and signed on behalf of both the parties and which expressly states to amend the present 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 goods, including advance samples, shall be paid by the parties under the present contract in their respective countries.

(b) **In respect of Indigenous bidders:**

(i) **Goods and Service Tax (GST).** The bidder must indicate applicable GST for supply of goods or services as per the latest applicable rates along with the authority.

(c) **Customs Duty.** As per Ministry of Finance notification No. 19/2019- customs dated 06 Jul 2019, Customs Duty Exemption Certificate (CDEC) will be issued by the buyer for items as mentioned in circular. For items imported other than listed in the notification No. 19/2019 customs dated 06 Jul 2019, customs duty shall be paid by buyer subject to terms and conditions of DPM-09 and its supplement. IGST will be levied on all imports

**Note.** As per guidelines on TDS issued by Ministry of Finance, Department of Revenue vide circular No. 65/39/2018 under reference to F.No.S.31011/11/2018-ST-I-DOR dated 14 Sep 18, under Sec 51 of GST Act 2017 GST TDS will be deducted @2% I/R/O all purchases, supply of Goods or Services or both including contract where total value of such purchases exceeds Rs 2,50,000/- (Rupees Two Lakh Fifty Thousand) excluding GST.

15. **Pre-Integrity Pact Clause.** An "Integrity Pact" would be signed between the Ministry of Defence/Buyer and the Bidder for purchases exceeding Rs.100 crores. This is a binding agreement between the Buyer and Bidders for specific contracts in which the Buyer promises that it will not accept bribes during the procurement process and Bidders promise that they will not offer bribes. Under this Pact, the Bidders for specific services or contracts agree with the Buyer to carry out the procurement in a specified manner. The Format of Pre-Integrity Clause will be as per Form DPM-10 (Available in MoD website, and can be provided on request). The essential elements of the Pact are as follows:

(a) A pact (contract) between the Government of India (Ministry of Defence) (the authority or the "principal") and those companies submitting a tender for this specific activity (the "Bidder");

(b) An undertaking by the Principal that its officials will not demand or accept any bribes, gifts etc., with appropriate disciplinary or criminal sanctions in case of violation;

- (c) A statement by each Bidder that it has not paid, and will not pay, any bribes;
- (d) An undertaking by each Bidder to disclose all payments made in connection with the Contract in question to anybody (including agents and other middlemen as well as family members, etc., of officials); the disclosure would be made either at the time of submission of Bids or upon demand of the Principal, especially when a suspicion of a violation by that Bidder emerges;
- (e) The explicit acceptance by each Bidder that the no-bribery commitment and the disclosure obligation as well as the attendant sanctions remain in force for the winning Bidder until the contract has been fully executed.
- (f) Undertaking on behalf of a Bidding company will be made “in the name and on behalf of the company’s Chief Executive Officer”.
- (g) The following set of sanctions shall be enforced for any violation by a Bidder of its commitments or undertakings:
  - (i) Denial or loss of contracts;
  - (ii) Forfeiture of the Bid security and performance bond;
  - (iii) Liability for damages to the principal and the competing Bidders;
  - (iv) Debarment of the violator by the Principal for an appropriate period of time.
- (h) Bidders are also advised to have a company code of conduct, clearly rejecting the use of bribes and other unethical behaviour and compliance program for the implementation of the code of conduct throughout the company.

## PART IV – SPECIAL CONDITIONS OF RFP

The Bidder is further required to give clause by clause confirmation of their acceptance of Special Conditions of the RFP mentioned below which will automatically be considered as part of the contract concluded with the successful Bidder (i.e. Seller in the contract) as selected by the Buyer. Failure to do so may result in rejection of Bid submitted by the Bidder.

1. **Performance / Warranty Bank Guarantee.**

(a) **Indigenous Seller:** The Bidder will be required to furnish a Performance Guarantee by way of Bank Guarantee through a public sector bank or a private sector bank authorized to conduct government business (ICICI Bank Ltd., Axis Bank Ltd or HDFC Bank Ltd.) for a sum equal to **10%** of the total value of Contract within 30 days of effective date of contract. Performance Bank Guarantee should be valid up to 60 days beyond the date of warranty period. The specimen of PBG is given in Appendix 'E' (Form DPM-15 of Defence Procurement Manual 2009).

(b) **Foreign Seller:** The seller will be required to furnish a performance guarantee by way of a Bank Guarantee from the Seller's Bank through a bank of international repute (as per advise received from SBI, Foreign Division Branch regarding acceptability of the bank guarantee) in favour of the Govt of India/Ministry of Defence. **In case the advice of SBI is that the guarantee is not from a bank of international repute with satisfactory country rating and/or a confirmation of a reputed Indian bank is required to be obtained, then the guarantee will be got confirmed\*** "by an Indian public sector bank or a private sector bank duly authorized by RBI to conduct government business (ICICI Bank Ltd., Axis Bank Ltd or HDFC Bank Ltd.)" **equal to ten percent** of the total value of contract i.e., for US \$....."Contract, within 30 days of effective date of contract. Performance Bank Guarantee should be valid up to 60 days beyond the date of warranty period. Format of PBG is attached as **Appendix 'E'** to RFP. [\* This would entail additional bank charges to be paid towards confirmation of the Bank Guarantee].

(c) The Performance Bank Guarantee shall be considered open upon receipt by the Buyer's Bank. In case any claims or any other contract obligations are outstanding, the Seller will extend the Performance Bank Guarantee as asked for by the Buyer till such time as the Seller settles all claims and completes all contract obligations. The Performance Bank Guarantee will be subject to encashment by the Buyer, in case the conditions regarding adherence to delivery schedule, settlement of claims and other provisions of the contract are not fulfilled by the Seller.

2. **Payment Terms for Indigenous Seller.** It will be mandatory for the Bidders to indicate their Bank account numbers and other relevant e-payment details so that payments could be made through ECS/EFT mechanism instead of payment through cheque, wherever feasible. A copy of the model mandate form prescribed by RBI to be submitted by Bidders for receiving payments through ECS is at Appendix 'F' (Form DPM-11 of DPM 2009) The payment will be made as per the following terms, on production of the requisite documents.

(a) 95% payment against signed inspection note of designated inspection authority, proof of receipt of stores at consignee, duly supported by photocopy of the Bank Guarantee.

(b) 5% payment on successful commissioning at ultimate consignee locations.

3. **Payment Terms for Foreign Seller:**

(a) The payment will be arranged through **Irrevocable Letter of Credit** as per UCPDC 600. Format of Letter of Credit is given in form DPM 12 of DPM 2009. The payment will be made through LC from Reserve Bank of India/ State bank of India/any other Public Sector bank, as decided by the Buyers paying authority to the Bank of the Foreign Seller (Seller is to provide Bank details in the quote for incorporation in the contract documents). **The seller is required to offer readiness of prototype for FAT within 06 months of date of contract. LC will be opened by the buyer within 45 days on receipt of the Notification of readiness of prototype and PBG from the seller. LC will be valid for a period of three months beyond the contracted delivery period.**

(b) 90% payment will be made against signed inspection note of designated inspection authority, proof of despatch supported by photocopy of the Bank Guarantee.

(c) 5% payment against signed inspection note of designated inspection authority, proof of receipt of store at consignee in good condition.

(d) Balance 5 % payment will be made on successful commissioning at ultimate consignee location.

(e) If the value of the contract is up to US \$ 100,000, payments will be made by Direct Bank Transfer only. DBT payment will be made within 30 days of receipt of clean Bill of landing/ AWB/ Proof of shipment and other documents as are provided for in the contract, but such payment will be subject to the deduction of such amounts as the Seller may be liable to pay under the agreed terms of the contract.

4. **Paying Authority for Indigenous Sellers.** Accounts Officer, O/o CDA, AF, West Block No V, RK Puram, New Delhi 110066 (Fax 011 26102879). The payment of bills will be made on submission of the following documents by the Seller to the Paying Authority along with the bill:-

(a) Ink-signed copy of Commercial invoice / Seller's bill.

(b) Copy of Supply Order/Contract.

(c) CRVs in two copies.

(d) Inspection note.

(e) Claim for statutory and other levies to be supported with requisite documents / proof of payment such as GST challan, Customs duty clearance certificate, Octroi receipt, proof of payment for EPF/ESIC contribution with nominal roll of beneficiaries, etc as applicable. Supplier would require to submit following documents in respect of GST (CGST, SGST and IGST) :-

(aa) GST Invoice.

(ab) GST Payment Receipt/E-receipt/Challan.

(ac) Invoice wise bifurcation of total GST paid for relevant month/time period during which the invoice was issued.

(f) Bank guarantee for advance, if any.

- (g) Guarantee / Warranty certificate.
- (h) Performance Bank guarantee / Indemnity bond where applicable.
- (j) DP extension letter with CFA's sanction, U.O. number and date of IFA's concurrence, where required under delegation of powers, indicating whether extension is with or without LD.
- (k) Details for electronic payment viz Account holder's name, Bank name, Branch name and address, Account type, Account number, IFSC code, MICR code (if these details are not incorporated in supply order/contract).
- (l) Any other document / certificate that may be provided for in the Supply Order / Contract.
- (m) User Acceptance Certificate as applicable.
- (n) Photocopy of PBG.
- (o) Certificate of Quality and current manufacture from OEM

5. **Paying Authority for Foreign Sellers. Office of the PCDA (AF), FPS-III, 'G' Block hutments, New Delhi-110011.** Paid shipping documents are to be provided to the Bank by the Seller as proof of successful delivery and commissioning of the vehicle(s), as per contractual terms 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. Documents will include:

- (a) Clean on Board Airway Bill/Bill of Lading.
- (b) Original Invoice.
- (c) Packing List & Packing Note.
- (d) Certificate of Origin from Seller's Chamber of Commerce, if any.
- (e) Certificate of Quality and current manufacture from OEM.
- (f) Dangerous Cargo certificate, if any.
- (g) Insurance policy of 110% if CIF / CIP / DDP contract
- (h) Certificate of Conformity & Acceptance Test at PDI, if any.
- (j) Physio-sanitary / Fumigation Certificate, if any.
- (k) Performance Bond / Warranty Certificate
- (l) Any other document / certificate that may be provided for in the Supply Order/Contract
- (m) User Acceptance/Commissioning Report, as applicable.

6. **Fall Clause.** Seller is to confirm acceptance of Fall Clause as under:

- (a) The price charged for the stores supplied under the contract by the Seller shall in no event exceed the lowest prices at which the Seller sells the stores or offer to sell stores of identical description to any persons/Organization including the purchaser or any department of the Central government or any Department of state government or any statutory undertaking of the central or state government as the case may be during the period till performance of supply order placed during the currency of the contract is completed.
- (b) If at any time, during the said period, the Seller reduces the sale price, sells or offer to sell such stores to any person/organization including the Buyer or any Depts., of central Govt. or any Department of the State Government or any Statutory undertaking of



the Central or state Government as the case may be at a price lower than the price chargeable under the contract, the seller shall forthwith notify such reduction or sale or offer of sale to the Buyer and the price payable under the contract for the stores of such reduction of sale or offer of the sale shall stand correspondingly reduced.

7. **Risk & Expense Clause.**

(a) Should the stores or any instalment thereof not be delivered within the time or times specified in the Supply Order documents, or if defective delivery is made in respect of the stores or any instalment thereof, the Buyer shall after granting the Seller 45 days to cure the breach, be at liberty, without prejudice to the right to recover liquidated damages as a remedy for breach of Supply Order, to declare the Supply Order as cancelled either wholly or to the extent of such default.

(b) Should the stores or any instalment thereof not perform in accordance with the specifications / parameters provided by the SELLER during the check proof tests to be done in the BUYER's country, the BUYER shall be at liberty, without prejudice to any other remedies for breach of Supply Order, to cancel the Supply Order wholly or to the extent of such default.

(c) In case of a material breach that was not remedied within 45 days, the BUYER shall, having given the right of first refusal to the SELLER be at liberty to purchase, manufacture, or procure from any other source as he thinks fit, other stores of the same or similar description to make good Such default or in the event of the Supply Order being wholly determined the balance of the stores remaining to be delivered there under.

(d) Any excess of the purchase price, cost of manufacturer, or value of any stores procured from any other supplier as the case may be, over the Supply Order price appropriate to such default or balance shall be recoverable from the seller.

8. **Force Majeure clause.**

(a) Neither party shall bear responsibility for the complete or partial non-performance of any of its obligation (except for failure to pay any sum which has become due on account of receipt of goods under the provisions of the present contract), 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 operation, 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 present contract is extended correspondingly for the period of time of action of these circumstances and their consequences.

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

(d) Certificate of a Chamber of Commerce (Commerce and Industry) or other competent authority or organization of the respective country shall be a 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 here to 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.

9. **Specification.** The Seller guarantees to meet the specifications as per Part-II of RFP and to incorporate the modifications to the existing design configuration to meet the specific requirement of the Buyer Services as per modifications/requirements recommended after the Maintenance Evaluation Trials. All technical literature and drawings shall be amended as the modifications by the Seller before supply to the Buyer. The Seller, in consultation with the Buyer, may carry out technical upgradation/alterations in the design, drawings and specifications due to change in manufacturing procedures, indigenisation or obsolescence. This will, however, not in any way, adversely affect the end specifications of the equipment. Changes in technical details, drawings repair and maintenance techniques along with necessary tools as a result of upgradation/alterations will be provided to the Buyer free of cost within **30 days** of affecting such upgradation/alterations.

10. **OEM Certificate.** In case the Bidder is not the OEM, the agreement certificate with the OEM for sourcing the spares shall be mandatory (As per format given in **Appendix 'D'**). However, where OEMs do not exist, minor aggregates and spares can be sourced from authorized vendors subject to quality certification.

11. **Export License.** Foreign Bidders are to confirm at the time of submitting bids that they hold/requisite export license from their Government and Authorization from the manufacturing plant, in case they are not the OEM, to export the military / non-military goods to India.

12. **Earliest Acceptable Year of Manufacture:** Current production (i.e. not manufactured before one year from the date of delivery.)

13. **Transportation:** The following Transportation clause will form part of the contract:–

(a) **Indigenous Sellers:** Transportation and delivery of Qty-41 Air Field Crash Fire Tender (ACFT) at the consignee units as mentioned at Para 6 Part II of this RFP would be the responsibility of the seller under his own arrangements.

(b) **Foreign Sellers** **CIF**– The stores shall be delivered on **CIF** terms to the Landing Officer; Commandant Embarkation Headquarters Mumbai (port of destination). Seller will bear the costs and freight necessary to bring the goods to the port of destination. The Seller will contract for insurance and pay the insurance premium. Seller is also required to clear the goods for export. Partial Shipment is accepted with the written consent of the buyer. For specified lot delivery, however, intimation of lot wise partial shipment must be submitted by the Seller. The Seller can still utilize the services of the MoD, Govt of India Freight Forwarding Agent details for which will be provided by the Buyer. **The stores are considered to have been delivered only when these are commissioned at the consignee units after due inspection by the designated inspecting agency.** Seller will be required to communicate the following information invariably by FAX/E-mail in all case of import of Defence Stores to the **Landing Officer**:-

- (i) Name of the Shipping.
- (ii) Port of Loading and name of Country.
- (iii) ETA at port of Discharge i.e., CSI Mumbai.
- (iv) Number of Packages and weight.
- (v) Nomenclature and details of major equipment with contract details.
- (vi) Special instructions, if any for stores of sensitive nature requiring special attention.

(vii) The seller will also forward one set of following documents to the landing officer.

- (aa) Photo copy clean on Board Bill of lading.
- (ab) Photo copy Invoice.
- (ac) Photo copy Packing List.
- (ad) Photo copy Insurance policy of 110% if CIF.

(c) The responsibility of transporting ACFT from Mumbai port to consignee mentioned at Para 6 Part II of this RFP, will also be of Seller under his own arrangement.

14. **Packing and Marking.** The following Packing and Marking clause will form part of the Supply Order:–

(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, 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, and with seasoned wood. The packing cases should have hooks 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) Each spare, tool and accessory shall be packed in separate cartons. A label in English shall be pasted on the carton indicating the under mentioned details of the item contained in the carton. A tag in English with said information shall also be attached to six samples of the item. If quantity contracted is less than six then tag shall be affixed to complete quantity contracted of the item. 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 list shall be placed in Case No.1 painted in a yellow colour.

(e) The Seller shall mark each package with indelible paint in the English language as follows:-

- (i) EXPORT
- (ii) Contract No. -----
- (iii) Consignee -----
- (iv) Port / airport of destination -----
- (v) Ultimate consignee -----
- (vi) SELLER -----
- (vii) Package No. -----
- (viii) Gross/net weight : -----
- (ix) Overall dimensions/volume
- (x) The Seller's marking. Blue diagonal band of 4" across the face of Box/Carton/Crate.

(f) If necessary, each package shall be marked with warning inscriptions: <Top>, “Do not turn over”, category of cargo etc. The Blue coloured band two inches thick enlaced diagonally across the visible faces of the carton/ box/ crates for easy identification.

(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 the damage of deterioration during transportation by land, air or sea. In this case the Buyer shall finalize the marking with the Seller.

15. **Quality.** The quality of the stores delivered according to the present contract shall correspond to the technical conditions and standards and specifications enumerated as per RFP. The Seller confirms that the stores to be supplied under this contract shall be new i.e. Current production (i.e. not manufactured before one year from the date of delivery), and shall incorporate all the latest improvements and modifications thereto and spares of improved and modified equipment are backward integrated and interchangeable with same equipment supplied by the Seller in the past; if any. The Seller shall supply an Interchangeability certificate along with the changed part numbers wherein it should be mentioned that item would provide as much life as the original item and is fit in form and function.

16. **Quality Assurance.** The Seller would provide the Standard Acceptance Test Procedure (ATP) within **30 days** from the date of contract to the inspection agency. Buyer reserves the right to modify the ATP. The Seller would be required to provide all test facilities at his premises for acceptance and inspection by buyer.

17. **Inspection Authority.** The Inspection agency for Qty-41 ACFT is **Representative of Dte of MT and Dte of Ops ATS**. However, the buyer reserves the right to undertake PDI at seller’s premise (in case of foreign vendor) and JRI at seller’s premise (in case of Indian vendor). Notwithstanding the ibid, goods on receipt at consignee will be subjected to pre- receipt inspection by the duly constituted board under the aegis of QAS, consignee for ascertaining the correctness of Quality, Quantity and Documents. In case the goods are found deficient in any way, the consignee has the right to reject the goods even if these were inspected and cleared by the inspector at seller’s premise.

18. **Pre-Dispatch Inspection -** The following Pre-dispatch Inspection clause will form part of the contract placed on successful Bidder –

(a). The Buyer’s representatives will carry out Pre-Despatch Inspection (PDI) of the stores/equipment in order to check their compliance with specifications in accordance with its usual standard procedures at firm’s premises. Upon successful completion of such PDI, the Seller and Buyer will issue and sign a Certificate of Conformity as per the specimen at Form DPM-21 of Defence Procurement Manual 2009 (Available in MoD website [www.mod.nic.in](http://www.mod.nic.in))

(b). The Seller shall intimate the Buyer at least 45 days before the schedule date of PDI. The time required for completing visa formalities in case of foreign supplier should not be included in this notice. The Buyer will send his authorised representative (s) to attend the PDI.

(c) The list of Buyer’s representatives together with their particulars including name, title, date and place of birth, passport numbers including date of issue and date of expiry, address etc. must be communicated by the Buyer at least 90 (No. of days) in advance to apply for the necessary authorisations and clearances to be granted.

(d) The Buyer reserves the right not to attend the PDI or to request for postponement of the beginning of the PDI by a maximum of fifteen (15) days from the date fixed for such

PDI in order to allow his representative (s) to attend such test, in which case he shall inform in writing the Seller within 15 days before the date of beginning of the PDI. Should the Buyer request for such postponement, liquidated damages, if any, shall not apply. In case the Buyer informs the Seller within the period mentioned here in above that he cannot attend the PDI or in case the Buyer does not come at the postponed date requested by him for performance of the PDI as mentioned above, the Seller shall be entitled to carry out said tests alone as scheduled. The certificate of Conformity and the Acceptance Test Report will be signed by the Seller's QA representative alone and such documents bearing the sole signature of the Seller's QA representative shall have the same value and effect as if they have been signed by both the parties. In case Buyer does not elect to attend the PDI, the Buyer shall intimate the Seller in writing that it does not wish to attend the PDI.

(e) The Seller shall provide all reasonable facilities, access and assistance to the Buyer's representative for safety and convenience in the performance of their duties in the Seller's country.

(f) All costs associated with the stay of the Buyer's representative (s) in the country where the PDI is to be carried out, including travel expenses, boarding and lodging, accommodation, daily expenses shall be borne by the Buyer.

19. **Joint Receipt Inspection.** The following Joint Receipt Inspection clause will form part of the contract:-

(a) The Parties agree that the Joint Receipt Inspection (JRI) of delivered goods shall be conducted on arrival in India at location to be nominated by the Buyer. JRI shall be completed within **90 days** of arrival of goods at the Port Consignee. JRI will consist of

(i) Quantitative checking to verify that the quantities of the delivered goods correspond to the quantities defined in this contract and the invoices.

(ii) Complete functional checking of the stores/equipment as per specifications in the contract and as per procedures and tests laid down by Buyer but functional checking of spares shall not be done.

(b) JRI will be carried out by the Buyer's representative(s). The Buyer will invite the Seller with a prior notice of a minimum of fifteen (15) days to attend the JRI for the delivered goods. The Seller shall have the right not to attend the JRI. The bio data of the Seller's representative will need to be communicated fifteen (15) days prior to the despatch of goods to the Buyer for obtaining necessary security clearance in accordance with the rules applicable in the Buyer's country.

(c) Upon completion of each JRI, JRI proceedings and Acceptance Certificate will be signed by both the parties. In case the Seller's representative is not present, the JRI proceedings and Acceptance Certificate shall be signed by the Buyer's representative only and the same shall be binding on the Seller. Copy of JRI proceedings and Acceptance Certificate shall be despatched to the Seller within 30 days of completion of the JRI. In case of deficiencies in quantity and quality or defects, details of these shall be recorded in the JRI proceedings, Acceptance Certificate shall not be issued and claims raised as per the Article on Claims in the contract. In case of claims, Acceptance Certificate shall be issued by Buyer's representative after all claims raised during JRI are settled. If the Buyer does not perform the JRI as mentioned above for reasons exclusively attributable to him, the JRI in India shall be deemed to have been performed and the stores/equipment fully accepted.

20. **Franking Clause**. The following Franking clause will form part of the contract:–

(a) **Franking Clause in the case of Acceptance of Goods** “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). **Franking Clause in the case of Rejection of Goods** “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.”

21. **Claims**. The following Claims clause will form part of the contract: –

(a) The claims may be presented either: (a) on quantity of the stores, where the quantity does not correspond to the quantity shown in the Packing List/Insufficiency in packing, or (b) on quality of the stores, where quality does not correspond to the quality mentioned in the contract.

(b) The quantity claims for deficiency of quantity shall be presented within 45 days of completion of JRI and acceptance of goods. The quantity claim shall be submitted to the Seller as per Form DPM-22 of DPM 2009 (Available in MoD website and can be given on request).

(c) The quality claims for defects or deficiencies in quality noticed during the JRI shall be presented within 45 days of completion of JRI and acceptance of goods. Quality claims shall be presented for defects or deficiencies in quality noticed during warranty period earliest but not later than 45 days after expiry of the guarantee period. The quality claims shall be submitted to the Seller as per Form DPM-23 of DPM 2009 (Available in MoD website and can be given on request).

(d) The description and quantity of the stores are to be furnished to the Seller along with concrete reasons for making the claims. Copies of all the justifying documents shall be enclosed to the presented claim. The Seller will settle the claims within 45 days from the date of the receipt of the claim at the Seller’s office, subject to acceptance of the claim by the Seller. In case no response is received during this period the claim will be deemed to have been accepted.

(e) 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 under Seller’s arrangement.

(f) Claims may also be settled by reduction of cost of goods under claim from bonds submitted by the Seller or payment of claim amount by Seller through demand draft drawn on an Indian Bank, in favour of Principal Controller/Controller of Defence Accounts concerned.

(g) The quality claims will be raised solely by the Buyer and without any certification/countersignature by the Seller’s representative stationed in India.

22. **Warranty**. The following Warranty will form part of the contract:–

(a) Except as otherwise provided in the invitation tender, the Seller hereby declares that the goods, stores articles sold/supplied to the Buyer under this contract shall be of the best quality and workmanship and new in all respects and shall be strictly in

accordance with the specification and particulars contained/mentioned in contract. The Seller hereby guarantees that the said goods/stores/articles would continue to conform to the description and quality aforesaid for a period of **18 months from the date of commissioning** of the said goods stores/articles at the consignee and that notwithstanding the fact that the Buyer may have inspected and/or approved the said goods/stores/articles, if during the aforesaid period of **18 months** the said goods/stores/articles be discovered not to conform to the description and quality aforesaid not giving satisfactory performance or have deteriorated, and the decision of the Buyer in that behalf shall be final and binding on the Seller and the Buyer shall be entitled to call upon the Seller to rectify the goods/stores/articles or such portion thereof as is found to be defective by the Buyer within a reasonable period, or such specified period as may be allowed by the Buyer in his discretion on application made thereof by the Seller, and in such an event, the above period shall apply to the goods/stores/articles rectified from the date of rectification mentioned in warranty thereof, otherwise the Seller shall pay to the Buyer such compensation as may arise by reason of the breach of the warranty therein contained. The seller has to provide service/repair at their own cost at any location in India where these ACFT have been deployed as desired by buyer.

(b) Guarantee that they will supply spare parts, if and when required on agreed basis for an agreed price. The agreed basis could be and including but without any limitation an agreed discount on the published catalogue or an agreed percentage of profit on the landed cost.

(c) Warranty to the effect that before going out of production for the spare parts they will give adequate advance notice to the Buyer of the equipment so that the latter may undertake the balance of the lifetime requirements.

(d) Warranty to the affect that they will make available the blue prints of drawings of the spares if and when required in connection with the main equipment.

(e) In case the product or its component becomes unserviceable during the warranty period, the warranty period will extend by those many months/days till the vehicle/spare is made serviceable by vendor.

23. **Product Support.** The following Product Support clause will form part of the contract placed on successful Bidder –

(a). The Seller agrees to provide Product Support for stores, assemblies/subassemblies, fitment items and consumables, Special Maintenance Tools(SMT)/Special Test Equipments (STE) subcontracted from other agencies/manufacturer by the Seller for a maximum period of **15 Years for chassis and mounted equipment excluding 18 Months of warranty period after the delivery of Qty-41 Complete Vehicle ACFT Large.** In the event of failure to adhere to this clause, **the firm may be liable to be blacklisted / disqualified/deregistered.**

24. **Technical Literature.** The following literature/manuals in English along in both hard and soft copy shall be provided (one set with each equipment/ACFT). In addition 10 sets of literature in both hard and soft copy are to be provided for inspection and training purpose. All manuals should be in English language:

(a) **Operation Manual.** This manual should contain technical description of the equipment with lay out drawings, illustration and performance capabilities with instruction to used for commissioning the equipment for use, and use operation with limitations and precautions to be observed normal maintenance and field repairs, lubrication schedule

with grades of lubricants to be used, fault finding guide, storage instructions and warning plates against possible wrong use.

(b) **Parts Manual.** This manual shall contain fully exploded and illustrated details of the entire Chassis, superstructure and all carried sub-assemblies, suitably grouped for easy identification of each and separately demandable spare for replacement as required, will include details of brought out items with part numbers of source of supply.

(c) **Workshop Repair Manual.** The manual shall contain fully illustrated instructions on repair and overhaul of all items supplied against this specification including proprietary items fitted/supplied with details of fitment tolerances, special tools to be used, procedure for dismantling major assemblies. A complete set of general arrangement drawings showing layout of equipment, piping and fluid flow controls, electrical and structural design shall be submitted along with the ACFT. Price list for complete range of spares/components for Chassis and Superstructure with current price list for future requirement of FOB basis for imported spares and Ex-factory for indigenous spares as the case may be. The following documents in three copies {Hard as well as in soft copies (CDs)} each are to be issued free of cost with ACFT along with a copy to Air HQ (DMT).

(d) **Maintenance/Overhaul service Manual:** It shall contain complete information for periodical maintenance & Overhaul of Chassis and refuelling equipment (Periodicity and scope of maintenance activities) and process of removal and re-fitting of components in detail.

(e) Computer Based Training (CTB) package on maintenance and repair of equipment

(f) Charts containing exploded view of sub assemblies.

25. **Supply Status.** The Seller is required to furnish a monthly progress on delivery of CFTs to the Dte of Procurement, Air HQ (VB) and Dte of MT, Air HQ (RKP) till supplies are completed.

26. **Additional Requirement (Past Performance).** The following parameters are to be complied by the bidders:-

(a) The seller should have supplied some Qty of ACFT as per given details in the technical specification of the Tender during recent past to IAF or any other government organization/PSU or private civil aviation companies. The seller should provide copy of such supply order, copy of invoice, telephone number, mobile number and performance certificate along with the technical Bids.

(b) The Annual turnover of the participating bidders should not be less than Rs. 50.00 Crores per annum or Equivalent in foreign currency, during the last two years.

(c) Failing to comply with above parameters may disqualify the seller from consideration.

27. **Applicable Law.** This RFP shall be governed by the Indian laws, both substantive and procedural, for the time being in force and shall be subject to the exclusive jurisdiction of Delhi Courts in India.

28. **Repeat Order Clause.** The contract will have a Repeat Order Clause, wherein the Buyer can order upto 50% quantity of the items under the present contract within six months from the date of supply/successful completion of this contract, the cost, terms & conditions remaining the same. The Bidder is to confirm acceptance of this clause. It will be entirely the discretion of the Buyer to place the Repeat order or not.



## **PART V – EVALUATION CRITERIA & PRICE BID ISSUES**

1. **EVALUATION CRITERIA.** The broad guidelines for evaluation of Bids will be as follows.
- (a) Only those Bids will be evaluated which are found to be fulfilling all the eligibility and qualifying requirements of the RFP, both technically and commercially.
- (b) In respect of Two-Bid system, the Technical Bids forwarded by the Bidders will be evaluated by the Buyer with reference to the technical characteristics of the equipment as mentioned in the RFP. The compliance of Technical Bids would be determined on the basis of the parameters specified in the RFP. The Price Bids of only those Bidders will be opened whose Technical Bids would clear the technical evaluation.
- (c) The Lowest Bid will be decided upon the lowest price quoted by the particular Bidder as per the Price Format provided as BOQ.xls along with tender documents. The consideration of taxes and duties in evaluation process will be as follows:-
- (i) **For determination of L-1.** Determination of L-1 will be done based on total basic prices i.e. not including levies, taxes and duties levied by Central / State / Local Governments such as GST and Local Taxes on final product.
- (ii) **Not in scope of L-1 determination.** Levies, taxes and duties levied by Central / State / Local Governments such as GST and Local Taxes and any other taxes / duties. However they need to be clearly mentioned in the bid.
- (d) In cases where only Indian Bidders are competing, L-1 bidder will be determined by excluding levies, taxes and duty levied by Central / State / Local Governments such as GST etc., on final product, as quoted by bidders.
- (e) In cases where both foreign and indigenous bidders are competing, following criteria would be followed:-
- (i) In case of foreign Bidders, the basic cost (CIF) quoted by them would be the basis for the purpose of comparison of various tenders.
- (ii) In case of indigenous bidders, GST on fully formed equipment would be offloaded.
- (f) In import cases, all foreign quotes will be brought to a common denomination in Indian Rupees by adopting the exchange rate as BC selling rate of State Bank of India on the date of opening of Price bids.
- (g) 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. If there is a discrepancy between words and figures, the amount in words will prevail for calculation of price.
- (h) The Lowest Acceptable Bid will be considered further for placement of contract after complete clarification and price negotiations as decided by the Buyer. The Buyer will have the right to award contracts to different Bidders for being lowest in particular items. The Buyer also reserves the right to do Apportionment of Quantity, if it is convinced that Lowest Bidder is not in a position to supply full quantity in stipulated time.

2. **Price Bid Format.** The Commercial bid format is provided as BoQ.xls along with this tender document at <https://eprocure.gov.in/eprocure/app>. Bidders are advised to download this BoQ.xls as it is and quote their offer in the permitted column. Bidders are also to fill the duties & Taxes columns as applicable, to ascertain the total cash outgo. However, the determination of L-1 will be done as per the above mentioned evaluation criteria.

**Note.**

(a) Please confirm that the store offered by you is exactly as required under tender enquiry description specification/drawing.

(b) In case there is any deviation the same shall be specifically stated.

3. This RFP is being issued with no financial commitment and the Buyer reserves the right to change or vary any part thereof at any stage. Buyer also reserves the right to withdraw the RFP, should it become necessary at any stage.

Thanking you,

Yours faithfully,

Sd/-  
(Sanjay Saxena)  
Gp Capt  
Gp Capt Proc TE Cell (I&W)  
For and on behalf of the President of India

**Annexure:** As Stated

Appendix: 'A' Schedule of Requirement.

Appendix: 'B' Technical specifications and Technical Compliance Matrix

Appendix: 'C' Summary of Standard Terms and Conditions

Appendix: 'D' Format OEM certificate

Appendix: 'E' Format of Performance Bank Guarantee

Appendix: 'F' Model ECS Mandate Format (To be submitted at the time of payment)

Appendix: 'G' Tender Acceptance letter

Appendix: 'H' Pre- assessment information from Vendor

Appendix: 'J' Bio data form for visiting vendors

**SCHEDULE OF REQUIREMENT**

1. **Details of Item.** The details as given below:-

<b>SI No</b>	<b>GIG No.</b>	<b>Part no.</b>	<b>Description</b>	<b>DoQ</b>	<b>Qty</b>	<b>Specification Details</b>
(a)	1562956	IAF/MT/CO/01 3245	Airfield Crash Fire Tender	Each	41	As per <b>Appendix- 'B'</b> to RFP along with Annexures.

2. **Technical Details.** The Airfield Crash Fire Tender (ACFT) will be supplied as per **technical specification attached as Appendix "B" to this tender.** The following also needs to be complied by the vendor:-

(a) **Specifications/Drawings, as Applicable.** Three complete sets of drawings showing technical specification of material, dimensions and all relevant details of General Assembly, Super Structure, etc will be submitted by the firm to Dte of MT, Air HQ RK Puram, New Delhi-110066 within 30 days of the receipt of Supply Order/Contract for approval.

(b) **Requirement of Training/on-job training.** It is essential that both the users and the maintainers be adequately trained to ensure optimum exploitation repairs to the vehicle. Towards this, suitable training is to be imparted at places of deployment of Complete Vehicle ACFT Large. The training requirement at each place is as follows:-

(i) Operators – Five personal for 7 days on each vehicle

(ii) Maintenance personnel – Three personnel for 14 days on each vehicle.

(c) **Requirement of Commissioning.** The ACFT are to be commissioned at the ultimate Consignee units after these ACFT are positioned by buyer at ultimate consignee location. The commissioning of ACFT is to be completed within 20 days of delivery of these ACFT at ultimate consignee location. A Commissioning Report will be signed by the rep of seller and also the consignee unit. The commissioning report is also required for submission along with the bills for payment by the payment agency.

(d) **Requirement of Factory Acceptance Trials (FAT)/PDI.** Yes

(e) **Requirement of Technical documentation.** As per Part –IV Para 24.

(f) **Nature of assistance required after completion of warranty.** Minimum **18 months** warranty shall be reckoned from the date of commissioning of ACFT (inclusive of free replacement of spares) at ultimate consignee end. An additional **06 months** warranty would be provided by the contractor where spares required would be supplied on chargeable basis. The period of un-serviceability of ACFT will not be counted against warranty. Such period would be added to 18 months and warranty will get enhanced accordingly.

(g) **Requirement of Equipment Inspection.** Required as per technical specifications based on OEM certification and PDI by representative of Dte of MT.

## **NOTE**

1. Always indicate IAF GIG No. along with the offered Part Number as given in RFP.
2. Whenever alternate/modified Part No. is offered, please confirm categorically that offered part no. is fit in form and function with equivalent IAF part No. as provided in RFP” (Attach OEM letter/digital photo/relevant drawing/catalogue etc for reference/ guidance during technical evaluation).
3. Kindly go through the instructions contained in DPM-09 (as amended) on guidelines on RFP/Tenders before submitting the offer. Details can be perused at MoD official website [www.mod.nic.in](http://www.mod.nic.in).
4. Quality certificate is mandatory for the items offered at the time of supply.

Sd/-  
(Sanjay Saxena)  
Gp Capt  
Gp Capt Proc TE Cell (I&W)  
For and on behalf of the President of India

**TECHNICAL SPECIFICATIONS AND TECHNICAL COMPLIANCE MATRIX FOR**  
**AIR FIELD CRASH FIRE TENDERS (ACFTs)**

**GENERAL**

The ACFTs shall be supplied as a complete built-up unit and have a minimum rated water capacity, for usable 10,000 liters or more of water through monitor, side lines and ground sweep nozzles/under truck nozzles with capability as given below. The primary extinguishing agent shall be Foam Concentrate with proportioning system. In addition to primary agent, there shall be complimentary extinguishing agent of a dry powder as indicated at item 1.18.

SI No	Essential QRs	Vendor's acceptance	Remarks by TEC
1.	<p><b><u>GENERAL REQUIREMENTS</u></b></p> <p>(a) The ACFTs shall consist of a water tank of 10000 liters or more of usable water capacity with necessary fittings. The primary extinguishing agent shall be foam concentrate, with 3%, 6% &amp; 8% of foam concentrate ratios. For this purpose a foam concentrate tank of 1300 liters usable capacity to be provided.</p> <p>(b) A midship mounted pump, either coupled with the auxiliary engine (emission levels shall be equal to or higher than the prescribed limits of <b>Bharat Stage VI/Euro VI levels</b>, or driven of the vehicle PTO mechanically, shall be fitted, having a minimum output of 6000 L/min at suitable delivery pressure and suction lift 3 meters. When discharging foam solution, the pumping system shall be capable of discharging at a rate equal to or exceeding the total requirements of the roof turret (monitor), two hand line nozzles, ground sweep nozzles and under truck nozzles discharging simultaneously at designed pressures.</p> <p>(c) The Airfield Crash Fire Tender (ACFT) shall be capable of the following minimum performance with the monitor mounted on the roof of cabin and two hand lines on either side.</p> <p style="padding-left: 40px;">(i) An individual output of 4500 L/min through monitor at maximum rated pressure to give throw as per Annexure1 to Appx–‘B’ (Performance parameters of fully loaded ACFT) either water or specified quality foam concentrate.</p> <p style="padding-left: 40px;">(ii) A minimum output of 450 L/min of foam solution to each of the hand lines on either side of the ACFTs to give minimum effective throw, specified for foam concentrate, of 25 meters at nozzle pressures not exceeding 7 bar and using 30 mtrs specified hose.</p>		

(iii) It shall be possible to operate the monitor and two hand lines simultaneously at pump delivery pressure suitable to the rated output and throw of monitor.

(d) The foam concentrate induction shall be automatic with changes in output required through a combination monitor and hand lines. The ratio of foam concentrate induction shall be within a variation  $\pm 0.5$  with an induction setting from 3%, 6% & 8% ratio. The induction ratio once fixed shall maintain this limit of variation for the entire range of induction setting. Around the pump proportionater shall be used with clearly marked induction ratios varying from 3%, 6% & 8%.

(e) The system of foam production from monitor and hand lines shall be so designed as to produce satisfactory quality of foam with following minimum properties with the use of foam concentrate.

(i) Minimum expansion ratio – 8.

(ii) 25% drainage time with foam concentrate level 'A' 5 minutes minimum.

(iii) 25% drainage time with foam concentrate level 'B' 3 minutes minimum.

(f) It shall be possible for the ACFT to use water from a separate source from open source and/or an external source of water supply for prolonged use and foam concentrate supply through a pick-up tube from drums at ground level.

(g) The ACFT shall be equipped with Ground sweep nozzles and under truck nozzles for self- protection, particularly of the wheels. This should incorporate a pressure and flow regulator. The angle of the front nozzle shall be so adjusted to achieve performance in Annexure No 1 of Appx-'B'.

(h) The Water tank, Foam concentrate tank, monitor Ground sweep nozzles and under truck nozzles shall have pneumatically controlled ball valves for operation and control from within the cabin. The hand lines should have pneumatic as well as manual control. All pneumatic control system shall be used with air supply at pressures available from the vehicle air brake system. The vehicle air brake shall be tapped so that a minimum air pressure required for the operating vehicle is available all the time and the pneumatic control fire operation actuates when the air pressure in the systems exceeds this minimum level. In case of any leakage in the pneumatic control system the

	<p>vehicle operation shall not be adversely affected. Opening and closing valves to the monitor and to the pump shall be achieved through operation of pneumatic/ electro-pneumatic controls from the cabin as well as from Panel Board. Panel boards should be provided on both sides of the ACFT. Manual control should be provided for operation in case of failure in pneumatic control.</p> <p>(j) The appliance shall be complete with all accessories and essential operating spares and tools. Where specific items are not required to be supplied suitable arrangement shall be made for stowage and secure location of such items to suit the ACFT role. All locking and securing devices shall be of sufficient strength, reliability and shall be of quick opening and closing type for removal of accessories and other items without loss of time.</p> <p>(k) All items where standard specification does not exist, best available commercial quality as approved by the inspection authority shall be supplied.</p> <p>(l) The unit shall be designed to be as compact as possible complete with ease of accessibility to all sub systems for maintenance and repairs. The pump or foam making equipment and controls shall be so arranged that one man can operate foam concentrate, main water line, ground sweep/under truck nozzle and monitor valves from the driver's compartment and foam concentrate, main water line and side delivery from the mid-ship mounted control panel.</p>		
3.	<p><b><u>MATERIAL SELECTION AND TREATMENT</u></b></p> <p>(a) Material used for construction of the appliances shall be new, unused and free from all defects and imperfection that might affect the serviceability of the finished product. These shall be selected with a view to combine lightness with strength and durability.</p> <p>(b) Materials used in the assembly and components shall be of high strength to weight ratio where practicable to effect saving in dead weight and thereby increase the payload capacity. Use of dissimilar Materials in contact with each other with tends towards electrolytic corrosion shall be avoided.</p> <p>(c) The appliance is intended for use in tropical condition with continuous high humidity and heat and also in coastal area. This fact shall be given full consideration while selecting material and for this reason use of rubber shall be avoided as far as possible. Wherever, it is unavoidable to use rubber the parts made out of it shall be readily available.</p>		

	<p>(d) The <b>material</b> used for superstructure should be non-corrosive and guaranteed against any sort of deterioration, deformation, ageing and corrosion for a minimum period of 15 years. This being one of the important criteria for evaluation, the exact material to be used, its detailed technical specification and the relevant standards to which such material conforms should be clearly stated.</p> <p>(e) Timber shall not be used in body construction.</p> <p>(f) All parts, forming waterways or in contact with foam concentrate shall be of non-corrosive material. All mild steel pipelines shall be hot dip galvanized after complete fabrication. All parts exposed to atmospheres shall be made of non-corrosive material. All ferrous fasteners shall be galvanized/ chrome plated to avoid rusting over prolonged use.</p>		
4.	<p><b><u>WEIGHTS AND DIMENSIONS</u></b></p> <p>(a) The actual gross vehicle weight (weight of fully staffed, loaded and equipped vehicle) shall not exceed maximum permissible limit weight of chassis specified by the manufacturer.</p> <p>(b) The weight shall be distributed as equally as practical over the axles and tyres of the vehicle. The difference of weight between tyres on any axle shall not exceed 5% of the average weight on tyre for that axle, and the difference in weight between axles shall not exceed 10% of the weight of the heaviest axle. Under no circumstances shall axle and tyre manufacturers rating be exceeded.</p> <p>(c) The center of gravity of the vehicle shall be kept as low as possible under all conditions of loading.</p>		
5.	<p><b><u>DIMENSIONS</u></b></p> <p>(a) Dimensions are Max Length – 12m, Max Width – 2.6m and Max Height – 3.8m (inclusive of monitor and equipment on top of vehicle) and other performance requirements as per Annexure1 to performance parameters of fully loaded ACFT.</p> <p>(b) Overall height, length and width shall be kept to a minimum consistent with the best operational performance of the vehicle and the design concept needed to achieve this performance and to provide optimum maneuverability and <b>facilitate movement in Airfield area.</b></p> <p>(c) The vehicle shall be constructed such that a seated driver shall be able to see the ground 6 metre ahead of</p>		



	<p>the vehicle and minimum 15 degree above the horizontal without leaving seat. The vision in the horizontal plane shall be 90 degree on each side from the straight position on a full forward control.</p> <p>(d) Adjustable rear view mirrors with a glass area of not less than 385 sq. cm. shall be provided on each side of vehicle. Each shall be provided with a minimum of 45 sq. cm area wide-angle convex mirrors.</p>		
6.	<p><b><u>ENGINE PERFORMANCE REQUIREMENTS</u></b></p> <p>(a) The vehicle's engine shall be HSD (High Speed Diesel) driven, and have minimum <b>485 kW (650hp)</b> torque and speed characteristics to meet and maintain all vehicular performance specified in this standard. <b>The vehicle's engine shall be certified by the engine manufacturer for the Airfield Crash Fire Tender (ACFT) application.</b></p> <p>(b) Fully laden vehicle shall consistently be able to accelerate to maximum speed, as specified, with the engine and transmission at their normal operating temperature at any ambient temperature varying from - 25<sup>0</sup> C to +50<sup>0</sup> C and at elevation upto 600 metres above mean sea level.</p> <p>(c) The vehicle shall also be capable of ascending, stopping, starting and continued ascent on a 40% grade on dry pavement at a minimum speed of 1.6 kmph with extinguishing agents being discharged at maximum rated capacity from the turret.</p> <p>(d) The engine emission levels shall be minimum <b>Bharat Stage VI/ Euro VI levels</b>. The test certificate (<b>EC Type/equivalent Approval Certificate</b>), indicating emission levels, from official certification authority shall be submitted in the technical bid.</p> <p>(e) The ACFT weight (kg) to engine power ratio (kw) plays an important role, in achieving <b>response time</b> of two minutes, as specified in ICAO documents. <b>The constructor of ACFTs shall certify the achievable acceleration of 80 kmph in &lt; 30 seconds, during minimum 15 years of use of ACFTs.</b></p>		
7.	<p><b><u>ENGINE COOLING</u></b></p> <p>Engine shall be liquid cooled so that stabilized cylinder head and oil temperature remain within the engine manufacturer's prescribed limits under all operational conditions and all ambient temperatures between -25<sup>0</sup> (degree) centigrade and 50<sup>0</sup> C.</p>		
8.	<p><b><u>FUEL SYSTEM</u></b></p> <p>(a) Fuel system shall qualify engine manufacturer's</p>		

	<p>requirements and shall include fuel pump, fuel filtration and flexible fuel lines, well protected from damage, exhaust heat and ground fires.</p> <p>(b) Accessible filtration shall be provided for each fuel supply line and a drain shall be provided at the bottom of the fuel tank.</p> <p>(c) Gravity feed fuel tanks are not acceptable.</p> <p>(d) Fuel tank capacity shall be 200 liters or more to achieve a minimum of 48 km of highway travel at 90 kmph plus 2 hours of pumping at the full rated discharge.</p>		
9.	<p><b><u>EXHAUST SYSTEM</u></b></p> <p>(a) The size of exhaust system shall be such that undue back pressure is not generated and under no circumstances exhaust gases enter the cabin. The system shall be of high grade, rust resistant material.</p> <p>(b) Exhaust system shall be designed so as to protect it from damage that could result from rough terrain. Tailpipe of exhaust system shall be designed to discharge upwards or to the rear of the vehicle and not towards ground nor towards panel operator.</p> <p>(c) The exhaust system shall include a muffler to reduce engine noise.</p>		
10.	<p><b><u>VEHICLE ELECTRICAL SYSTEM</u></b></p> <p>(a) The vehicle shall be provided with 12/24 volts electrical system and 24 volts starting.</p> <p>(b) The electrical system shall have negative ground including alternator and voltage regulator. Alternator shall be at 100% of anticipated load at 50% engine speed, and shall be, of belt driven, by dual belts.</p> <p>(c) The curb idle minimum-charging rate of the alternator shall be 30 Amps.</p> <p>(d) Batteries shall be secured and well protected from against physical injury, vibration, and water sprays and engine and exhaust heat. When an enclosed compartment is provided for batteries, it shall be well ventilated and batteries shall be easily accessible for examination, test and maintenance.</p> <p>(e) The circuits shall be so designed that at no stage of operation overloading, overheating or short-circuiting and fluctuation of voltage is experienced.</p> <p>(f) A built in battery charger shall be provided on the vehicle to maintain full charge on all batteries. Grounded AC receptacle shall be provided to permit a drive away plug connection from external electric power supply to battery charger.</p> <p>(g) An engine coolant/preheating device shall be provided as an aid to rapid starting and high initial engine performance.</p> <p>(h) The electrical system shall be insulated, waterproofed and protected against exposure from ground fires.</p>		

	(j) The effect of electromagnetic field of all electrical systems of Radio sets shall be suppressed so that it does not interfere with functioning of radio sets.		
11.	<p><b><u>VEHICLE DRIVE</u></b></p> <p>(a) Transmission of power from engine to wheels shall be through a torque converter and fully automatic transmission, having designed power input higher than output power of main engine, with provision of crawling as per as per Annexure1 to Appx-‘B’ performance parameters of fully loaded ACFT, without application of brakes. The entire drive train shall be designed to have sufficient capacity to slip the wheels of the static loaded vehicle on surface having a coefficient of friction 0.8.</p> <p>(b) A range of gears providing the specified top speed and a grade-ability of 50% shall be provided with sufficient intermediate gears to achieve the specified acceleration.</p> <p>(C) A transmission cooling system shall be provided and designed so that the stabilized transmission oil temperature remains within the transmission conditions and at all ambient temperatures.</p> <p>(d) The transmission shall be matched to the engine properly, and shall be approved by transmission manufacturer, for the ACFT application.</p> <p>(e) The provision of positive drive to each wheel by means of a fully locked drive line shall be required in order to maximize traction on low friction surfaces. Positive drive may be achieved either by the use of automatic locking and torque proportioning differentials, or may be manually selectable by the seated driver, while the vehicle is in motion, by use of a single control.</p> <p>(f) All wheel drive on these vehicles shall incorporate a drive to the front and rear axles, which are engaged at all times during use. An inter axle differential shall be installed with automatic or driver selected means of differential locking.</p> <p>(g) Front and rear axles shall have adequate capacity to carry the maximum imposed load under all intended operating conditions. The variations in axle track shall not exceed 20% of the tyre sectional width at rated load.</p>		
12.	<p><b><u>SUSPENSION</u></b></p> <p>The suspension system shall be designed to permit the loaded vehicle to:</p>		

	<p>(a) travel at the specified speeds over improved surface.</p> <p>(b) Travel at moderate speeds over unimproved surface.</p> <p>(c) Provide diagonally opposite wheel motion 360 mm above ground obstacles without raising the remaining wheels from the ground.</p> <p>(d) Provide at least 50mm of axle motion before bottoming of the suspension on level ground</p> <p>(e) Prevent damages to the vehicle caused by wheel movement.</p> <p>(f) Provide a good environment for the crew when traveling over all surfaces.</p>		
13.	<p><b><u>RIMS, TYRES AND WHEELS</u></b></p> <p>(a) Tyres shall be selected to maximize the acceleration speed braking and maneuvering capabilities of the vehicle on paved surfaces without sacrificing performance on all reasonable terrains found within/ outside the Airfield area.</p> <p>(b) Tyres size shall be suitable to optimize floatation under soft ground conditions. The lowest tyre pressure shall be compatible with the high-speed performance requirement as specified in Annexure1 to Appx-‘B’ performance parameters of fully loaded ACFT.</p> <p>(c) All wheels on the vehicle shall be of the Single wheel type with all rims, tyres and wheels of identical size and same tread design.</p> <p>(d) Rims, tyres, wheels, and inflation pressures shall be approved by the respective manufacturers as having sufficient capacity to meet the specified performance, and shall be certified for not less than 45 Kms of continuous operation at 100 Kmph (60 mph) at normal operating pressure.</p> <p>(e) Size of tyre should be such to meet all vehicular performances.</p>		
14.	<p><b><u>TOWING CONNECTIONS</u></b></p> <p>Four large tow eyes or tow hooks, capable of towing the vehicle without damage, shall be mounted, two at the front and two at the rear of the truck and attached directly to the frame structure (chassis).</p>		
15.	<p><b><u>BRAKES</u></b></p> <p>(a) The braking system shall feature service,</p>		

	<p>emergency, and parking brake systems. Service brakes shall have power actuation through air, hydraulic or air over hydraulic.</p> <p>(b) Expanding shoe and drum brakes or caliper disc brakes shall be furnished. A brake chamber shall be provided for each wheel and shall be mounted so that no part of the brake chamber projects below the axle. ABS (Antilocking Brake System) braking system shall be provided.</p> <p>(c) Service brakes shall be of the all wheel type with split circuits so that failure of one circuit shall not cause total service brake failure, and shall be able to hold fully loaded vehicle on a 50% grade.</p> <p>(d) The service brakes shall have stopping distances as per as per Annexure1 to Appx-'B' performance parameters of fully loaded ACFT on a dry hard appropriately level road way, free from loose materials, and sufficiently wide roadway without any part of vehicle leaving roadway.</p> <p>(e) The service brakes shall provide one power assisted stop with the vehicle engine inoperative, for the stopping distances specified above.</p> <p>(f) An emergency brake system shall be provided which is applied and released by the driver from the cab and is capable for modulation, by means of the service brake control.</p> <p>(g) The parking brake shall be capable of holding and fully loaded vehicle on a 20% grade without air or hydraulic assistance.</p>		
16.	<p><b><u>BRAKES-AIR SYSTEM</u></b></p> <p>When the vehicle is supplied with air brakes, the air compressor shall meet the following criteria:-</p> <p>(a) The compressor shall be engine driven.</p> <p>The compressor shall have sufficient capacity to increase air pressure in the supply and service reservoirs from 586.1 kPa to 689.5 kPa (85 psi to 100 psi) when the engine is operating at the vehicle manufacturer's maximum recommended revolutions per minute (rpm) in a maximum of 25 seconds.</p> <p>(c) The compressor shall have the capacity for quick buildup from 0 kPa (0 psi) to release spring brakes, and this buildup in pressure shall be accomplished within 15 seconds.</p>		

	<p>(d) The compressor shall incorporate an automatic air drying system immediately downstream from the compressor to prevent condensation buildup in all pneumatic lines.</p> <p>(e) Service reservoirs shall be provided. The total of the service reservoir volume shall be at least 12 times the total combined brake chamber volume at full stroke. If the reservoir volume is greater than the minimum required, proportionately longer buildup time shall be allowed using the following formula;  <math display="block">\frac{\text{Actual reservoir capacity} \times 25}{\text{Required reservoir capacity}}</math></p> <p>(f) Reservoirs shall be equipped with air pressure regulator, drain and safety valves. Provision for charging of air tanks by a drive away electrical connection used to power a vehicle mounted auxiliary compressor would be provided.</p> <p>(g) A drive away air connection for charging of air tanks from an external air source shall be provided.</p> <p>(h) Visual and audible low air pressure warning devices shall be provided. The low pressure warning device shall be visual and audible from the inside, and audible outside of the vehicle.</p> <p>(j) Provision of pneumatic service outlets for inflating tyres shall be made from air compressor of ACFT, with a high pressure charging tube of 30 mtrs. and nozzle. A separate provision of pneumatic service outlet for inflating pneumatic bags shall also be made from air compressor of ACFT.</p> <p>(k) Air leakage from pressure system shall not exceed 0.5 Kg./sq. cm. per hour so that at no stage the air pressure should reduce less than brake operating pressure in 8 hours.</p>		
17.	<p><b><u>STEERING</u></b></p> <p>(a) The chassis shall be equipped with power assisted steering with direct mechanical linkage from the steering wheel to the steered axle(s) to permit the possibility of manual control in the event of power assist failure.</p> <p>(b) The power steering shall have sufficient capacity to allow turning the tyres stop to stop with the vehicle stationary on a dry level, paved surface and fully loaded, with not more than 7 kg. pull on wheel.</p> <p>(c) The wall-to-wall turning diameter of the fully laden vehicle shall be less than three times the vehicle</p>		

	<p>length.</p> <p>(d) Vehicle shall be designed for Centre/Off Centre Right/Right Hand Drive system so that driver's Left hand is free for operations controls.</p>		
18.	<p><b><u>CABIN</u></b></p> <p>(a) The cabin shall be mounted on the forward part of the vehicle and shall provide seating for 6 persons including Driver. The seating arrangement shall be; 2 adjustable seats and a long or separate seat (s) for four crew members with provision of stowage of fully assembled Breathing Apparatus set suitably located to the backrest with quick release system so that it can be worn in running vehicle. In addition, there shall be instrument panel and equipment as specified without any hindrance to crew.</p> <p>(b) The cab shall meet the visibility requirements of as per Annexure1 to Appx-'B' performance parameters of fully loaded ACFT The windshield shall be shatterproof safety glass, and all other windows shall be constructed of approved safety glass. The cab shall be provided with wide gutters to prevent foam and water dripping on the windshield and side windows. There shall be enough space to keep and to enable the crew except driver to put on protective clothing and B.A. set while on way to a call. Four/two doors are to be provided to the cabin, which should be openable at 90 degree for easy ingress and egress of crew. The bottom half of door is to be made of metal whereas the top of half of glass. The doors to have manual winding retractable door glasses which are housed in the bottom well of door or sliding window panes. In case of specially designed cabin with two doors the design should allow easy entry and exit of the crews in the rear row(s) without disturbing the crews of front row and a Centre/Off Centre Right/Right Hand steering system shall be provided.</p> <p>(c) Keeping in view excessive width of ACFT, positioning of steering system, and to ascertain better access to rear portion of ACFT, a rear view camera with a monitor at the panel shall be provided. The cab design shall take into consideration the provision of ample space for the crew to enter and exit the cab and carry out normal operations while wearing full protective equipment. This design will be considered only in case of engine is not housed within the cabin.</p> <p>(d) In case the turret (monitor) having manual controls above the cab roof is provided, the cab shall be designed with a quick-access passage to the turret (monitor).</p>		

	<p>(e) Time required for mounting of the crews into the cabin from close-up position shall be less than or equal to 10 Seconds.</p> <p>(f) The cab shall be weatherproof, and shall be fully insulated thermally and acoustically with a fire-resistant material. The cab may be of the unitized rigid body and frame structure type or it may be a separate unit flexibly mounted on the main vehicle frame.</p> <p>(g) The cab shall be constructed from non-corrosive materials that provide lightest weight consistent with adequate strength to ensure a high degree of safety for the crew under all operating conditions including excess heat exposure, and in the event of a vehicle rollover accident. The material should also be guaranteed against any sort of deterioration, deformation, ageing and corrosion for a minimum period of 15 years.</p>		
19.	<p><b><u>INSTRUMENTS, WARNING LIGHTS AND CONTROLS</u></b></p> <p>(a) The minimum number of instruments, warning lights and controls consistent with safe and efficient operation of the vehicle, chassis, and fire fighting system shall be provided. All chassis instruments and warning lights shall be grouped together on a panel in front of the driver. All fire fighting system instruments, warning lights, and controls shall be grouped together by function so as to provide ready accessibility as well as high visibility for the driver as well as a crewmember sitting in the co-driver seat. Electronic controls have pneumatic and/or manual override wherever possible.</p> <p>(b) All instruments and controls shall be illuminated, with back lighting to be used where practical.</p> <p>(c) Groupings of both the chassis and fire fighting system instruments, warning lights and controls shall be easily removable as a unit or be on a panel hinged for back access by the use of quick disconnecting fittings for all electrical, air and hydraulic circuits.</p> <p>(d) The following instruments or warning lights or both to be provided as a minimum</p> <ul style="list-style-type: none"> <li>(i) Speedometer/odometer</li> <li>(ii) Engine(s) tachometer</li> <li>(iii) Fuel level with audio warning</li> <li>(iv) Air pressure</li> <li>(v) Engine(s) temperature</li> <li>(vi) Engine(s) oil pressure</li> <li>(vii) Voltmeter(s)</li> <li>(viii) Oil temp. gauge light</li> <li>(ix) Transmission(s) oil temp</li> <li>(x) Pump(s)pressure</li> </ul>		



	<ul style="list-style-type: none"> <li>(xi) Water tank level gauge</li> <li>(xii) Foam tank level gauge</li> <li>(xiii) Low air pressure warning</li> <li>(xiv) Headlight beam indicator</li> <li>(xv) Trafficator light</li> <li>(xvi) Hazard warning light</li> <li>(xvii) PTO engagement light</li> <li>(xix) Pump hour meter</li> <li>(xx) Water control valve</li> </ul> <p>(e) The cab shall have all the necessary controls within easy reach of the driver for the full operation of the vehicle and the pumping system. The following cab controls shall be provided.</p> <ul style="list-style-type: none"> <li>(i) Accelerator</li> <li>(ii) Parking brake control</li> <li>(iii) Steering wheel, with directional signal control &amp; horn</li> <li>(iv) Brake pedal</li> <li>(v) Transmission range selector</li> <li>(vi) Pump control or selector/PTO</li> <li>(vii) Foam control</li> <li>(viii) Siren switch(es)</li> <li>(ix) Auxiliary agent control</li> <li>(x) Ground sweep/ under truck nozzle control</li> <li>(xi) Roof Turret controls</li> <li>(xii) Bumper Turret Controls</li> <li>(xiii) Light switches</li> <li>(xiv) Windshield wiper and washer controls</li> <li>(xv) Heater-defroster controls</li> <li>(xvi) Master electrical switch</li> <li>(xvii) Engine start/stop control</li> <li>(xviii) Windshield deluge system switch.</li> <li>(xix) Water Tank Main valve control</li> <li>(xx) Side delivery ON/OFF valve</li> </ul>		
20	<p><b><u>EQUIPMENT</u></b></p> <p>The following minimum equipment shall be provided in or on the cab.</p> <ul style="list-style-type: none"> <li>(a) Heater/defroster</li> <li>(b) Driver's suspension seat with vertical, fore and aft adjustment, with seat belt</li> <li>(c) Crew seats with individual retractable seat belts and grip hand rails.</li> <li>(d) Windshield washers appropriate for removing foam</li> <li>(e) Windshield wipers appropriate for removing foam</li> <li>(f) Siren</li> <li>(g) Horn</li> <li>(h) Sun visors, interior transparent</li> <li>(j) Outside rear view mirrors</li> <li>(k) Interior lighting</li> <li>(l) P.A. System with Microphone</li> <li>(m) R.T. Set VHF/UHF</li> <li>(n) Self Contained Breathing Apparatus (SCBA) in boxes with mounting bracket for four crew members excluding driver.</li> <li>(o) Wind shield deluge system.</li> <li>(p) Four Nos. of Proximity suit kept in boxes in</li> </ul>		

	<p>driver's cabin</p> <p>(q) Rear view camera with a monitor at the panel.</p> <p>(r) Hands free Intercom for six crew including the driver</p> <p>(s) battery charger</p> <p>(t) Data Recorder</p> <p>(u) Two rotating cameras (180 degree) on the front (either side), atop the CFT with swivel controls and 7 inch screen in cabin with 1TB data recorder.</p>		
21.	<p><b><u>BODY</u></b></p> <p>(a) The body shall be constructed of non-corrosive materials that provide the lightest weight consistent with the strength necessary for off pavement operation over rough terrain and when exposed to excess heat. The material should also be guaranteed against any sort of deterioration, deformation, ageing and corrosion for a minimum period of 15 years. The body may be of the unitized with chassis rigid structure type or it may be flexibly mounted on the vehicle chassis. It shall also include front and rear fenders or wheel wells, body panels shall be removable where necessary to provide access to the interior of the vehicle.</p> <p>(b) Access doors shall be provided for those areas of the interior of the vehicle, which must be frequently inspected. In particular, access doors of sufficient size and number shall be provided for access to;</p> <ul style="list-style-type: none"> <li>(i) Engine</li> <li>(ii) Pump</li> <li>(iii) Fluid reservoirs</li> <li>(iv) Foam proportioning system</li> <li>(v) Battery storage</li> <li>(vi) Engine oil level indicator (dipstick)</li> </ul> <p>(c) Suitable, lighted compartments shall be provided for storage of equipment and tools to be carried on the vehicle. Compartments shall be watertight and self-draining. The compartments shall not house any other equipment and shall be free from projections. The compartments to store various fire appliances to have an adjustable modular shelving system with racks to facilitate proper stowage and easy removal of the fire appliances. Extra storage space of 3ft x 2ft x 2ft be made for future storage (<b>List of equipments is enclosed in Annexure- II</b>).</p> <p>(d) The working deck of the vehicle shall be adequately reinforced to permit the crew to perform their duties in the turret area, water tank top fill area, foam liquid top fill area, and in other areas where access to auxiliary or installed equipment is necessary.</p> <p>(e) Handrails or bulwarks shall be provided where necessary for the safety and convenience of the crew. Rails and stanchions shall be strongly braced and</p>		

	<p>constructed of a material which is durable and resists corrosion.</p> <p>(f) Steps or ladders shall be provided for access to the top fill area. The lowermost step(s) may extend below the angle of approach or departure or ground clearance limits if it (they) is/are designed to swing clear. All other steps shall be rigidly constructed. All steps shall have a non-skid surface with at least 150 mm toe room. Lowermost step(s) shall be not more than 558 mm above level ground when the vehicle is fully laden. Adequate lighting shall be provided to illuminate steps and walkways.</p> <p>(g) A heavy-duty front bumper shall be mounted on the vehicle and secured to the frame structure.</p> <p>(h) Paint finish shall be '<b>FIRE-RED</b>' in colour and shall be resistant to damage from fire fighting agents.</p>		
22.	<p><b><u>FIRE FIGHTING SYSTEMS AND AGENTS</u></b></p> <p>(a) Foam concentrate shall be used as primary extinguishing agent and dry power (Class B and class C Type fire) as complimentary agent.</p> <p>(b) Foam system shall be proportioning type system and the separate foam concentrate tank shall be provided on the vehicle.</p> <p>(c) All components of foam system including liquid tank, piping fill troughs screens, valves and delivery connections shall be made of non-corrosive material.</p>		
23.	<p><b><u>AGENT PUMP AND DRIVES</u></b></p> <p>(a) The water pump shall be made up of corrosion resistant material/suitable alloy compatible with foam concentrate with stainless steel shaft suitable for use with <b>Brackish Water</b> and shall be single or multiple stage centrifugal type, designed for dependable emergency service. The vehicles tank and the piping shall be designed to eliminate entrapment of air. The pump shall also be supported with independent automatic priming system. It shall be accessible and readily removable for repair and maintenance. Drain valves shall be provided at suitable location for draining water from the pump casing and piping.</p> <p>(b) While discharging foam solution, the pumping system shall be capable of discharging at a rate equal to or exceeding the requirements of the roof turret (Monitor), ground sweep nozzles, handline nozzles, and undertruck nozzles, discharging simultaneously at designed pressures.</p>		

	<p>(c) Pump shall be single/double/multistage and closed impeller type where impeller(s) is dynamically balanced to reduce end thrust. (d) Appropriate seal shall be provided capable of running dry for minimum 01 minute without damage.</p> <p>(e) The pump shall be mid ship mounted. Pump control panel shall be located on either side of appliance in addition to that positioned at the cab.</p>		
24.	<p><b><u>PUMP DRIVE</u></b></p> <p>(a) The pump drive shall permit operation of pump and simultaneous operation of vehicle and shall not be affected by transmission ratio or clutch operation. The design of drive system shall prevent damage and minimize lurching of vehicle during simultaneous operation and shall be capable of absorbing maximum torque delivered by engine to the pump under all speeds of engine and vehicle, without causing any stalling of engine and fluctuation of pressure.</p> <p>(b) The drive shall permit discharge at rated capacity of pump during vehicular speed from 0 kmph to a minimum of 16.1 kmph in forward and 0 kmph to a minimum of 8 kmph in rearward direction. During shifting from forward to rearward drive, the pumping system shall maintain the preset discharge pressure.</p>		
25.	<p><b><u>SUCTION AND DELIVERY CONNECTION</u></b></p> <p>(a) The suction inlet and delivery outlets of the pump shall be fitted on the pump control panels side on both sides of the appliance.</p> <p>(b) The suction connection shall be provided at suitable location of suction inlet should be at lowest possible height preferably not exceeding one meter from ground level. The inlet shall be provided with Chromium plated brass blank cap.</p> <p>(c) Delivery outlet connection shall be provided at suitable locations, operable from panel board in standard <b>63 mm female</b> instantaneous standard couplings.</p>		
26.	<p><b><u>PIPING, COUPLINGS AND VALVES</u></b></p> <p>(a) All piping, couplings and valves shall be made of material, conforming to relevant international standard, to prevent corrosive and galvanic action.</p> <p>(b) All valves shall be quarter-turn-type in manual operation and shall be easy in operation and free from leakage.</p> <p>(c) All piping shall be tested for leakage at 50% above</p>		

	<p>the maximum pressure developed by the pump in no flow condition.</p> <p>(d) Arrangement should be made to prevent overheating of pump at zero discharge.</p> <p>(e) A drainage system with collector tubing from the low points on pump and piping shall be provided, operable with quarter turn valve.</p> <p>(f) All plumbing shall be reasonably accessible for maintenance purposes. Drain cocks shall be provided where necessary and controls for these shall be readily accessible and so arranged as to prevent the cocks from being opened by vibration. (g) The direction in which the valve/cock opens/closed shall clearly be marked near each valve/cock.</p>		
27.	<p><b><u>WATER TANK</u></b></p> <p>(a) Water tank shall have capacity as per Annexure-I to Appx-‘B’ performance parameters of fully loaded ACFT. The tank outlets shall be arranged in such a way that Water tank percent of deliverable water is available as per Annexure-I to Appx-‘B’ performance parameters of fully loaded ACFT.</p> <p>(b) Tank shall be made of Glassfibre Reinforced Polyester (GRP)/ Glass Reinforced Plastic/Polypropylene conforming to relevant international standard with suitable longitudinal and traverse baffles to prevent surging, which shall permit easy access for internal inspection.</p> <p>(c) The tank shall be provided with hinged lid, a top filling hole with filter of 450 mm size and a drain hole at the bottom.</p> <p>(d) Over flow piping shall be arranged in such a way that it releases pressure on overflowing without wasting water during vehicles maneuvers.</p> <p>(e) The water tank shall be separate from crew compartment, chassis, engine, and easily removable, and shall be mounted on chassis in a manner that the torsional strains during movement are minimum.</p> <p>(f) Two external tank fill connection shall be provided both side near operating panel, in standard 63 mm instantaneous coupling, with strainers and ball valve. The filling connection inside the tank shall discharge water just below the upper plate of the water tank.</p> <p>(g) A direct filling (pump to tank using own pump) connection shall also be provided to fill the tank from open source of supply and shall be sized so as to fill the tank at 5 bar pressure.</p>		

	<p>(h) Arrangement for lifting the tank without damage should be provided for repair and maintenance etc.</p> <p>(j) Main tank valve shall be operated from cabin as well as from control panel. In addition manual override shall be provided for tank opening valve at side control panel.</p> <p>(k) This valve shall have accessible control.</p>		
28.	<p><b><u>FOAM TANK</u></b></p> <p>(a) Foam concentrate tank shall have usable capacity of not less than 1300 litres or sufficient for more than two refills for water tank.</p> <p>(b) Tank shall be made Glass fibre Reinforced Polyester (GRP)/ Glass Reinforced Plastic/Polypropylene conforming to relevant international standard.</p> <p>(c) The tank shall be separate and distinct from the body flexibly mounted on chassis to receive minimum torsional forces during vehicles movements and easily removable as a unit and should be suitably baffled to prevent surging. (The water and foam tank can be together with compartments or separate as per standard design of the manufacturer).</p> <p>(d) The manhole of the tank size not less than 250 mm size shall be used for foam concentrate filling and shall be clearly marked 'FOAM CONCENTRATE'. The tank shall be vented adequately to allow rapid and complete filling without the build-up of excessive pressure and to allow emptying of the tank at the maximum design flow rate without danger of collapse. The vent outlets shall be directed to the ground to prevent spillage of foam concentrate on vehicle components.</p> <p>(e) The foam concentrate draw off tube shall be positioned in such a manner that foreign matter or sludge shall not pass into the compound lines. The draw off tube shall be fitted with gauge strainer of corrosion resistant material.</p> <p>(f) Drain hole at the bottom of sump and a liquid induction connection shall be provided in the tank.</p> <p>(g) Filling hole with a trough on top shall be connected with a pipe reaching at the bottom to avoid aeration in the liquid.</p>		
29.	<p><b><u>FOAM FILLING</u></b></p> <p>(a) The tank fill connection(s) shall be provided in a</p>		

	<p>position where it can be reached easily from the ground to allow the pumping of foam-liquid compound into the storage tank. The connection(s) shall be provided with strainers of 6.4 mm mesh and shall have check valves or shall be constructed so that foam is not lost from the tank when connection or disconnection is made.</p> <p>(b) Provision of foam concentrate filling from open source at ground level by foam concentrate filling pump shall be available with independent power drive.</p> <p>(c) All pipe lines shall be made of non-corrosive material and dissimilar materials that produce galvanic corrosion shall not be selected. Where plastic piping is used, it shall be fabricated from un-plasticised resins unless the plasticizer has been provided not to adversely affect the performance characteristics of foam.</p> <p>(d) All foam concentrate piping shall be adequately sized to permit flow and shall be arranged to prevent water entering the foam tank.</p> <p>(e) Automatic foam concentrate proportioning arrangements shall be provided with 3%,6% and 8% induction ratio, for varying discharge rates and shall not require frequent calibration.</p>		
30.	<p><b><u>FOAM PROPORTIONING SYSTEMS.</u></b></p> <p>(a) The foam concentrate proportioning system shall provide a means of controlling the ratio of foam concentrate to the quantity of water in the foam solution being discharged from all orifices normally used for aircraft fire-fighting operations.</p> <p>(b) The proportioning system shall be sufficiently accurate to provide for the discharge of finished foam concentrate within the range specified in Standard for Evaluating Aircraft Rescue and Fire-Fighting Foam Equipment.</p> <p>(c) Control shall be provided at suitable location to open the foam concentrate tank from cabin as well from control panel operated pneumatically with manual override. This valve shall have accessible control.</p>		
31.	<p><b><u>ROOF TURRET (MONITOR)</u></b></p> <p>(a) One power driven Roof Turret (Monitor) shall be provided on the rooftop of cabin so that it can be operated by a member of crew from within the cabin of ACFT. The system should be capable of being operated manually from within the cabin or rooftop in case of failure in power assisting mechanism. Where equipped with a turret (monitor) having manual controls above the cab roof, the cab shall be designed with a quick-access passage to the turret (monitor).</p> <p>(b) The monitor should have dual flow rate i.e. 100% and 50% with a suitable selecting mechanism at the</p>		

	<p>monitor control and easily operable by the operator.</p> <p>(c) Monitor shall be capable of traversing 270<sup>0</sup> horizontally and elevating not less than 45<sup>0</sup> from horizontal axis and depression of 15<sup>0</sup> to deliver foam at ground level not more than 12m ahead of the vehicle. The locking position shall be facing front side. The monitor should not lose control in case assistance is lost during the operation and should remain in operation at same position awaiting manual operation.</p> <p>(d) Monitor shall be capable of discharging total rated water tank quantity in not more than two and half minute and shall have a means provided for deflective pattern of foam dispersal. The discharge rate of monitor shall not be less that 4500L/min at maximum rated pressure with expansion ratio of minimum 1;8 by using foam concentrate.</p> <p>(e) Range of throw shall be as per Annexure1 to Appx- 'B' performance parameters of fully loaded ACFT – roof turret discharge.</p>		
32.	<p><b><u>HAND LINES</u></b></p> <p>(a) In addition, one first aid hose reel connection shall also be provided with ≥30 mtrs rubber hose with a pistol grip type nozzle conforming to JCDD 25 (which can be used as spray and hollow jet), with discharge capacity of 230 L/min at operating pressure.</p> <p>(b) Each side line shall have minimum discharge capacity for 450 L/min at 7 bar pressure on FB 10 X branch with an expansion of not less than 8 and minimum throw of 25 mtrs when either, all foam hand lines are used simultaneously (with monitor not operating) or two of them are used in combination with monitor.</p> <p>(c) Complementary agent (Dry Powder) hand lines shall have open/close nozzle discharge rate of more than 2.5 kg/second with 7.5 mtrs range. The nozzle should be made of non-ferrous metal or stainless steel. An automatic Pressure &amp; Flow regulator shall be provided for the sideline to enable the monitor to operate at the optimum pressure to give rated capacity for delivery, throw and expansion etc while maintaining the pressure of 7 bar pressure at the side line delivery. A bypass valve operable by 90<sup>0</sup> turn of a lever shall be provided to the automatic pressure regulator to facilitate availability of higher delivery pressure and flow whenever needed.</p> <p>(d) The monitor shall operate at the optimum rated capacity for delivery, throw and expansion etc. when</p>		



	<p>operated in combination with:</p> <p>(i) All the ground sweep nozzles and under truck nozzles.</p> <p>(ii) Two side delivery.</p> <p>(e) ACFT shall have two side lines on each side, operatable from cabin and panel both with manual override.</p>		
33.	<p><b><u>FOAM CONCENTRATE QUALITY</u></b></p> <p>Turret (Monitor) and hand lines shall be capable of producing foam from foam concentrate solution in the specified ratio of 3%, 6% &amp; 8%.</p>		
34.	<p><b><u>GROUND SWEEP AND UNDERTRUCK NOZZLES</u></b></p> <p>Two Ground Sweep nozzles shall be provided at the front having performance as per Annexure1 to Appx- 'B' performance parameters of fully loaded ACFT Optimum working pressure 6 bar. Four under truck nozzles shall be provided to protect under side of vehicles, tyres and wheels. Ground sweep/ Under truck Nozzles valve shall be controlled from cabin interior within easy reach of driver and a crewmember. An automatic Pressure &amp; Flow regulator shall be provided for the ground sweep/ Under truck Nozzles to enable the monitor to operate at the optimum pressure to give rated capacity for delivery, throw and expansion etc., while maintaining the required pressure and flow for the ground sweep/Under truck nozzles.</p>		
35.	<p><b><u>PRIMER</u></b></p> <p>(a) A suitable primer shall be provided along with pump, which shall have both automatic and manual engagement/ disengagement provisions.</p> <p>(b) Primer shall be capable of priming a suction column with 7.3 mtrs lift in less than 30 second with indicator, with <b>125 mm suction hose diameter</b>.</p>		
36.	<p><b><u>LIGHTS AND ELECTRICAL SYSTEM</u></b></p> <p>Following electrical gadgets shall be provided:</p> <p>(a) Siren of <math>\geq 95</math> decibel sound output at <b>100 feet</b> ahead and not less than 90 decibels at 90 degree either side at a distance of 100 feet, siren shall be mounted on cabin roof top and shall be fully protected from foam spills, rain water, dust and any damage due to monitor rotation.</p> <p>(b) A flashing red and revolving blue beacon on cab roof top.</p> <p>(c) A horn</p> <p>(d) Headlights with selective pattern for light beams</p> <p>(e) Dual tail lights and stop lights</p> <p>(f) Signal lights for turning at four corners of</p>		

	<p>vehicles with visual and audible signals.</p> <p>(g) Spot light, at both ends of windshield glass, hand adjustable with 152 mm diameter.</p> <p>(h) Adequate reflector and markers to indicate overall dimensions of vehicle.</p> <p>(j) One reverse light with audible warning at the rear of vehicle.</p> <p>(k) Panel lights, top deck light, cabin lights, engine compartment lights, tools and equipment compartment lights, shall also be provided.</p> <p>(l) Two inspection lamps shall also be provided and provision of additional connection to use these lamps shall be made in various compartments</p> <p>(m) Two fog lamps. These shall be low mounted in front of the appliance.</p> <p>(n) Equipment storage compartment lights shall glow on opening of the door/shutter, even when the ignition switch is turned off.</p> <p>All appropriate lights and gadgets detailed above shall be operable from drivers cabin. Visual indication for different functions of Engine, PTO pump and pneumatic circuits by means of lamps in driver's cabin shall be preferred.</p>		
37.	<p><b><u>RADIO TELEPHONE (R.T.)</u></b></p> <p>(a) One VHF/UHF Radio telephone operable on frequency range between</p> <p>(i) VHF 118 to 136 MHz - AM (Amplitude Modulation) synthesized at the airport SMC frequency.</p> <p>(ii) VHF 136 to 174 MHz - FM (Frequency Modulation)</p> <p>(iii) UHF 225-339.95 MHz</p> <p>(b) These will be a self-contained transmitting/receiving set, with Transmitting power of approximately 5 watt unmodulated and intrinsically safe. The equipment shall be suitable for use in all weather condition and shall be provided at suitable location in cabin. It should be operable at 12V/ 24V power supply system of ACFT and should be made of waterproof construction. The RT set should also have an adjustable head set in addition to the speakers. Sockets for connecting the headset to the RT Set should be provided at the mid-ship panel.</p> <p>(c) Adequate spares for 15 years and service/repair and spares manual along with circuit diagrams should be provided. All manuals and diagrams should be in English language with standardized international symbols. The set shall be suitably mounted to resist vehicles vibration and suppress engine noise or any other vehicular electromagnetic induction.</p> <p>(d) The system protection fuse shall be located in an</p>		

	easily accessible location for quick replacement.		
38.	<p><b><u>DRY CHEMICAL SYSTEM</u></b></p> <p>(a) One unit of 250 kg each dry chemical powder (foam compatible) shall be provided, using dry nitrogen as propellant gas so as to achieve performance as per Annexure1 to Appx-‘B’ performance parameters of fully loaded ACFT The dry chemical container shall be constructed in accordance with the ASME Boiler and Pressure Vessel Code, Section 8, or equivalent, and shall be so stamped.</p> <p>(b) All piping and fittings shall conform to the appropriate ASME, or equivalent, code and shall be designed to withstand the working pressure of the system. The design of the piping and valves shall provide the desired flow of gas into the system and the minimum amount of restriction from the chemical container(s) to the hose connection. Where more than one hose line is provided, piping and fittings shall be sized and designed so that there is equal flow to each line, regardless of the number of lines placed in operation.</p> <p>(c) Nitrogen cylinders shall be certified from Department of Explosive (Government of India) and shall have universal filling connections. The cylinder shall be manufactured in the year of delivery and have clearance from Explosive Department, Nagpur (India) for re-filling, storing and operation.</p> <p>(d) Provisions shall be made for purging all piping and hose of dry chemical after use without discharging the dry chemical remaining in the dry chemical container(s). Provisions also shall be made for the depressurization of the dry chemical container(s) without the loss of the remainder of the dry chemical. A pressure gauge shall be provided that indicates the internal pressure of the agent storage container(s) at all times.</p> <p>(e) A means of pressure release in situation of over pressure shall be provided with filling opening and suitable tight fitting cap. Standby one No. Of Nitrogen cylinder shall be provided.</p>		
39.	<p><b><u>Public Address (P.A.)</u></b> equipment, battery operated, with wireless and cable connected microphone fitted in the cabin and loudspeaker fitted on the rooftop of cabin capable of being operated from cabin. PA system receiver should have a provision to connect one wireless microphone and one microphone with cable connection. The wireless microphone shall be to FM</p>		

	(Frequency Modulation) with a range of minimum 100 Metres. All PA system receivers shall be tuned to the frequency of wireless microphone.		
40	<p><b><u>MANUFACTURE CERTIFICATE AND GUARANTEE</u></b></p> <p>(a) Manufacturer shall provide a certificate for the appliances conforming to all specifications.</p> <p>(b) A <b>guarantee</b> shall be furnished by manufacturer for a period of <b>24 months</b> for material workmanship and smooth functioning of vehicles from the date of commissioning at consignee's place.</p> <p>(c) The manufacturer shall provide two maintenance services or more as recommended by OEM, per year, during guarantee period.</p> <p>(d) The manufacturer shall be responsible for replacing any parts, which may become unserviceable due to the use of defective and sub-standard materials and bad workmanship during the period of guarantee free of all charges.</p>		
41.	<p><b><u>MARKING</u></b></p> <p>(a) Each ACFT shall be legibly and permanently marked with the following, preferably on a metal plate attached in the cabin and also near/ on the pump operation control panels.</p> <p>(i) Manufacturer's name and trade mark.</p> <p>(ii) Year of manufacture.</p> <p>(iii) Sl. No.</p> <p>(iv) Capacity of pump (in l/min), water tank (in litres) and foam compound tank (in liters).</p> <p>(v) Chassis Model and Number.</p> <p>(vi) Engine Model and Number.</p> <p>(vii) Pump Model and Number.</p> <p>(viii) Chassis supplier's name and country of origin.</p> <p>(ix) Luminous strips to be provided at the rear and both sides of the vehicle.</p> <p>(b) Instruction plates with permanent inscription containing operating maintenance instructions suitably engraved on it shall be provided on each control panel for easy reference for the operator.</p>		

42.	<p><b><u>PRODUCT MAINTENANCE SUPPORT</u></b></p> <p>Manufacturer shall ensure:</p> <p>(a) Availability and supply of spares at very short notice, for life cycle, after expiry of warranty.</p> <p>(b) Induction Training for selected staff at consignee place or mutually agreed place at supplier's cost.</p> <p>(c) Any other Technical help that may be required at the time of Induction.</p> <p>(d) After sales service.</p> <p>(e) One set of workshop major repair and maintenance tools required for ACFT shall be supplied for each consignee.</p>		
43.	<p><b><u>MANUALS</u></b></p> <p>The following literature/manuals in English along in both hard and soft copy shall be provided (one set with each equipment/ACFT). In addition 10 sets of literature in both hard and soft copy are to be provided for inspection and training purpose. All manuals should be in English language:</p> <p><b><u>Operation Manual.</u></b> This manual should contain technical description of the equipment with lay out drawings, illustration and performance capabilities with instruction to used for commissioning the equipment for use, and use operation with limitations and precautions to be observed normal maintenance and field repairs, lubrication schedule with grades of lubricants to be used, fault finding guide, storage instructions and warning plates against possible wrong use.</p> <p><b><u>Parts Manual.</u></b> This manual shall contain fully exploded and illustrated details of the entire Chassis, superstructure and all carried sub-assemblies, suitably grouped for easy identification of each and separately demandable spare for replacement as required, will include details of brought out items with part numbers of source of supply.</p> <p><b><u>Workshop Repair Manual.</u></b> The manual shall contain fully illustrated instructions on repair and overhaul of all items supplied against this specification including proprietary items fitted/supplied with details of fitment tolerances, special tools to be used, procedure for dismantling major assemblies.</p> <p>A complete set of general arrangement drawings showing layout of equipment, piping and fluid flow</p>		

	<p>controls, electrical and structural design shall be submitted along with the ACFT.</p> <p>Price list for complete range of spares/components for Chassis and Superstructure with current price list for future requirement of FOB basis for imported spares and Ex-factory for indigenous spares as the case may be.</p>		
44.	<p><b><u>ITEMS SUPPLIED IN INDIA</u></b></p> <p>Items listed in Annexure II to Appx-'B', manufactured in India shall be conforming to Bureau of Indian Standards (BIS) wherever the standards exist or equivalent from works of supplier.</p> <p>All other equipment and accessories forming part of superstructure fabrication shall be provided at the place of fabrication.</p>		
45.	<p><b><u>MANUAL OVERDRIVE FOR POWER ASSISTED OPERATION</u></b></p> <p>All power assisted controls and operation should have suitable manual operation to ensure the operation in case of any failure in the power assisting mechanism. Such arrangements shall be easily accessible to the operator facilitating quick changeover.</p>		

Date :

Firm's Authorised Signatory

**TECHNICAL COMPLIANCE MATRIX FORMAT**  
**(to be submitted along with Technical Bid)**

**CLEAR CUT PARAMETERS / QRS TO BE GIVEN INCLUDING COMPLIANCE OF**  
**PARAMETERS MENTIONED IN ANNEXURE I&II**

SI No	Essential QRs	Vendor's acceptance	Remarks by TEC
(a)	(b)	(c)	(d)
1.	<p><b><u>PERFORMANCE PARAMETERS OF FULLY LOADED VEHICLE ACFT</u></b></p> <p><b><u>Chassis and Superstructure</u></b> - The chassis shall be of 6x6 configuration, customized for ACFT application, with specially designed axles (not off-set rims), ensuring specified side slope stability, at the rated capacity of each axle, meeting the performance parameters as given below. The ACFTs to be supplied as a complete built-up unit and have a minimum rated water capacity, for usable 10000 liters or more of water through monitor, side lines and ground sweep nozzles/ under truck nozzles with capability as given below. The primary extinguishing agent shall be Foam concentrate with proportioning system. In addition to primary agent, there shall be complimentary extinguishing agent of a dry powder.</p> <p>(a) <b>Side slope stability</b> – 30 degrees  (b) <b>Dynamic balance</b> minimum speed on a 30m radius circle - 35.5 kmph  (c) <b>Angle of approach</b> – 30 degrees  (d) <b>Angle of departure</b> – 30 degrees  (e) <b>Inter axle clearance</b> – 12 degrees  (f) <b>Underbody clearance</b> – 46 cm  (g) <b>Under axle clearance</b> at differential housing bowl – 33 cm  (h) <b>Diagonal opposite wheel motion</b> – 36 cm  (j) <b>Wall-to-wall turning diameter</b> – Less than Three times the vehicle's overall length  (k) <b>Maximum acceleration time</b> from 0 to 80 kmph - <math>\leq 30</math> seconds  (l) Top speed - <math>\geq 115</math> kmph  (m) <b>Brakes</b>  <b>Service brake:</b> Stopping distance –  (i) From 33 kmph - <math>\leq 12</math> m  (ii) From 64 kmph - <math>\leq 45</math> m  (iii) Percent grade holding of fully loaded vehicle:  (aa) Ascending - <math>\geq 50\%</math>  (ab) Descending - <math>\geq 50\%</math>  (iv) <b>Emergency Brake stopping distance</b> at 64 kmph - <math>\leq 88</math>m  (v) <b>Parking Brake</b> – Percent grade holding  (aa) Ascending - <math>\geq 20\%</math></p>		

	<p>(ab) Descending - <math>\geq 20\%</math></p> <p>(n) <b>Steering</b> - Centre/Off Centre/Right Hand</p> <p>(o) <b>Drive</b>- On all wheels</p> <p>(p) <b>Fordability</b> - <math>\geq 608\text{mm}</math></p> <p>(q) <b>Minimum angle of Tilt (Static)</b> - <math>30^{\circ}</math></p>		
	<p>(r) <b>Water &amp; Foam tanks</b></p> <p>(i) <b>Water Tank Capacity Minimum Usable</b> - 10000 litres or more. Water tank: Percent of deliverable water</p> <p>(aa) On level ground - 100%</p> <p>(ab) On 20 percent side slope - 85%</p> <p>(ac) 30 percent ascending/ descending grade - 85%</p> <p>(ii) <b>Foam Tank usable capacity</b> –1300 litres or more</p> <p>(iii) <b>Foam proportionater</b> – Automatic 3,6 &amp; 8%</p>		
	<p>(s) <b>Roof turret (monitor) discharge- at full flow</b></p> <p>(i) Individual flow rate of the roof turret - <math>\geq 4500\text{L}/\text{min}</math></p> <p>(ii) Stream pattern/distance</p> <p>(aa) Straight/ far point - <math>\geq 85\text{m}</math></p> <p>(ab) Dispersed/far point - <math>\geq 22\text{m}</math></p> <p>(ac) Dispersed/width - <math>\geq 11\text{m}</math></p>		
	<p>(t) <b>Ground sweep nozzle</b></p> <p>(i) Number of nozzles - 2</p> <p>(ii) Flow rate (L/min) Per nozzle - The combined flow rate of two ground sweep nozzles and four under truck nozzles should not be more than 500 liters per minute</p> <p>(iii) Dispersed pattern distances:</p> <p>(aa) Far point <math>\geq 9\text{ m}</math></p> <p>(ab) Width <math>\geq 3.5\text{m}</math></p> <p>(u) <b>Under truck nozzle</b></p> <p>(i) Flow rate (L/min) per nozzle - The combined flow rate of two ground sweep nozzles and four under truck nozzles should not be more than <b>500 liters per minute</b></p> <p>(ii) Number of nozzles – <b>qty 4</b></p> <p>(v) <b>Number of water/foam handlines required per vehicle</b> Pre-Connected <b>Water/foam handlines</b> (number), with Hose dia 63 mm, length <math>\geq 30\text{ metre}</math> – qty 4</p>		
	<p>(w) <b>Foam hand line.</b></p> <p>(i) Nozzle flow rate <math>\geq 450\text{ L}/\text{min}</math> at 7 bar</p> <p>(ii) Straight stream distance <math>\geq 25\text{m}</math></p> <p>(iii) Dispersed stream pattern</p> <p>(aa) Range <math>\geq 6\text{m}</math></p> <p>(ab) Width <math>\geq 4.5\text{m}</math></p> <p>(iv) Hose inside diameter– 63mm</p> <p>(v) Hose length <math>\geq 30\text{m}</math></p> <p>(x) <b>Reeled water/foam hand line (first aid hose reel)</b></p> <p>(i) Nozzle flow rate <math>\geq 230\text{ L}/\text{min}</math> for dual agent line</p> <p>(ii) Hose length <math>\geq 30\text{m}</math> for dual agent line</p> <p>(iii) Straight stream distance <math>\geq 20\text{m}</math></p> <p>(iv) Dispersed stream pattern</p> <p>(aa) Range <math>\geq 6\text{m}</math></p> <p>(ab) Width <math>\geq 4.5\text{m}</math></p>		



	<p>(y) <b>Complementary agent- Dry Chemical Powder</b></p> <p>(i) Capacity <math>\geq</math> 250 kg.</p> <p>(ii) Dry chemical hand line:</p> <p>(aa) Discharge rate <math>\geq</math> 2.5 kg/sec</p> <p>(ab) Range <math>\geq</math> 7.5 m</p> <p>(ac) Hose length <math>\geq</math> 30m</p>		
	<p>(z) <b>Cabin - 5+1</b></p> <p>(aa) <b>Pump capacity</b> –6000 l/min or more</p> <p><b>Testing and acceptance procedure: - As per OEM Certification and PDI by Reps of Dte of Mt and Dte of Ops ATS</b></p>		

**Following Equipments are to be supplied along with the ACFTs in properly stored Lockers with designated places and appropriate Quick-release Clippings**

Sl. No.	Equipment for Rescue Operation	Quantity	Appendix/ Standard
<b>ITEMS TO BE SUPPLIED FROM INDIA/ WORKS OF SUPPLIER TO BE STORED IN LOCKERS HAVING DESIGNATED PLACE AND APPROPRIATE QUICK-RELEASE CLIPPING</b>			
1.*	Aluminum Extension Ladder, 10.5M Length	1 no.	
2.	Universal Branch Pipe (Diffuser Branch), 63 mm Male Instantaneous Inlet, Gunmetal Material	1 no.	IS:2871
3.	Standard Branch Pipe with 19 mm Nozzle, 63 mm Male Instantaneous Inlet, Gunmetal Material	2 nos.	IS:903/Equivalent
4.	Nozzles for Standard Branch Sizes: a. 12 mm b. 19 mm	1 no. Each	IS:903/Equivalent
5.	Nozzles Spanner, Material Steel	1 no.	IS:903/Equivalent
6.	Foam Making Branch, FB 5X type with Pick-up Tube	2 nos.	IS:2097/Equivalent
7.	Foam Making Branch, FB 10X type with Pick-up Tube	2 nos.	IS:2097/Equivalent
8.	Portable Water Mist and Fire Extinguisher Backpack	1 no.	Annex-III of Appx-‘B’
9.	Portable LED Emergency Light with Accessories	2 no.	Annex-III of Appx-‘B’
10.	Oil Sorbent Kit	1 no.	Annex-III of Appx-‘B’
11.	Crowbar 1.65 Mtr	1 no.	
12.	Basket Strainer for suction hose	1 no.	IS 3582 / Equivalent
13.	Chocks	1 pair	Annex-III of Appx-‘B’
14.	Suction Hose for Pump complete with Round thread Gunmetal Couplings, 2.5 M	4 Lengths	IS:2410/Equivalent
15.	Suction Strainer for Pump, Gunmetal	1 no.	IS:907/Equivalent
16.	Suction wrench for 125 mm suction hose coupling	2 nos.	IS:4643/Equivalent
17.	Suction adopter GM 125 mm female x 63 mm male with lugs	1 no.	IS /Equivalent
18.	Hydraulic Door Opening Kit	1 no.	EN / Equivalent
19.	Jack Hydraulic for 04 qty 20Ton capacity with handle	1 no.	IS /Equivalent
20.	Branch with revolving head, GM 63 mm	1 no.	IS:906 /Equivalent
21.	Fireman Axe with belt & pouch	5 nos.	IS:926 / IS:927 / Equivalent
22.	Hydraulic Spreader & Cutter with Pump & Accessories	1 no.	Annex-III of Appx-‘B’
23.	Power Driven Circular Saw with Accessories	1 no.	Annex-III of Appx-‘B’
24.	Pneumatic Lifting Airbag with Accessories	1 no.	Annex-III of Appx-‘B’
25.	Jumping Cushion	1 no.	Annex-III of Appx-‘B’
26.	Twin Saw	1 no.	
27.	Zero-torque Nozzle with hand-Control, 63 mm Male Instantaneous Inlet, Discharge 750 LPM @ 7 Bar Pr.	1 no.	

28.	Seat Belt/ harness Cutting Tool	5 nos.	EN / Equivalent
29.	Gloves, Fire Resistant with Anti-skid Palm	10 nos.	EN / Equivalent
30.	Fog/ Jet Nozzle with Hand-Control, 63 mm Male Instantaneous Inlet, Discharge 750 LPM @ 7 Bar Pr.	1 no.	
31.	Penetrating/ Pinch ring Nozzle with 63 mm Male Instantaneous Inlet, Stainless Steel Material	1 no.	
32.	Cable Winch	1 no.	Annex-III of Appx-'B'
33.	Quick Release knife with pouch to be worn with fireman's belt	5 nos.	IS 2084 / Equivalent
34.	Hand Held Forcible Entry Tool Kit	1 no.	Annex-III of Appx-'B'
35.	Hand line Nozzle with selectable flow, pistol grip and shut-off with double stops	1 no.	
36.	Adjustable Wrench	1 no.	
37.	Axe, Rescue, Large, Non-wedge Type	2 nos.	
38.	Axe, Rescue, Small, Non-wedge Type	5 nos.	
39.	Cutter Bolt, 61 cm	1 no.	
40.	Crowbar, 95 cm	1 no.	
41.	Chisel, Cold, 2.5 cm	1 no.	
42.	Sledge Hammer, 1.8 kg	1 no.	
43.	Hook, Grab or Salving	3 nos.	IS 927/ IS 5068 / Equivalent
44.	Blanket, Fire Resisting & smothering in bag	3 nos.	
45.	Short Rope Line, 15 M length, 50 mm Circumference, Hemp/ manila	3 nos.	IS 1084 / Equivalent
46.	Long Rope Line, 30 M length, 50 mm Circumference, Hemp/ manila	3 nos.	IS 2080 / Equivalent
47.	Pliers, 17.8cm, Side-cutting	1 no.	
48.	Pliers, Slip joint, 25 cm	1 no.	
49.	Screwdrivers, Assorted (Set)	1 no.	
50.	Snipers, Tin	1 no.	
51.	Oxygen Inhaler	1 no.	
52.	Collecting Breeching, 63 mm Instantaneous Gunmetal	1 no.	
53.	Medical First-aid Kit	1 no.	
54.	Non-percolating Firefighting Delivery Hose, Synthetic Jacketed with Elastomeric Outer Covering, 63mm Instantaneous couplings, 30M Length	8 nos.	
55.	Hose bandages	12 nos.	IS 5612 (PT-II) / Equivalent
56.	Hose Clamps	6 nos.	IS 5612 (PT-I) / Equivalent
57.	Dividing Breeching, 63 mm Instantaneous Gunmetal	1 no.	
58.	Insulated Pliers with Rubber Gloves Pairs Tested to 20 KV	1 no.	IS 4770 / Equivalent
59.	Cropper Bolt	1 no.	IS 5200 / Equivalent
60.	Kinetic Cutter	1 no.	
61.	Hack Saw, 300mm x 12.5 mm x 0.63 mm approx. Size of Blades with 6 nos. of Spares Blade	1 no.	IS 5169 / Equivalent
62.	Crow Bar, 6'Length, 25 mm Diameter	1 no.	
63.	Axe, Drift & Rescue	1 no.	IS 5505 / Equivalent
64.	Double Female Coupling	2 nos.	

65.	Double Male Coupling	2 nos.	
66.	Emergency Inflatable Lighting Tower with Electric Generator of 3.5 BHP (4-stroke Petrol driven) & Alternator of 1.2 KVA (Synthetic Illuminating Tube)	1 no.	
67.	Adapter 63 mm male to 38 mm female GM	2 nos.	
68.	Adapter 63 mm female to 63 mm female GM	2 nos.	
69.	Hydrant valve key and bar	1 no.	IS 910 / Equivalent
70.	Insulated pliers with rubber gloves pair tested to 20000 volts	2 nos.	IS 3650 / Equivalent
71.	Nozzle for light alloy branch pipes 12 mm	1 no.	IS 903 / Equivalent
72.	Nozzle for light alloy branch pipes 19 mm	1 no.	IS 903 / Equivalent
73.	Nozzle spanner	2 nos.	IS 903 / Equivalent
74.	Light alloy branch pipe	2 nos.	IS 903 / Equivalent
75.	Light alloy dual head stand pipes with instantaneous outlets.	1 no.	
76.	Foam making branch pipe jet & spray FB-10X	2 nos.	

- \* To be stowed at the top of the vehicle with gallows. Rollers are to be provided for single man mounting/ dismounting of ladder.
- # To be stowed in hose tunnels provided at the top of the vehicle
- Test certificates in respect of equipments shall be enclosed in the technical bid.

- Date : Firm's Authorised Signatory

**TECHNICAL SPECIFICATIONS OF PORTABLE WATER MIST  
AND FIRE EXTINGUISHER BACKPACK  
(wrt Sl. No 8 of Annexure II to Appendix-‘B’)**

SI No	Technical requirement
1	<b><u>Pressure Vessel</u></b> : Main vessel with 9 litres filling capacity to be made of high grade stainless steel or corrosion free light alloy with coating for longer use.
2	<b><u>Compressed Air Cylinder</u></b> : 4.5 - 6.8 litres capacity at 300 bars pressure made of carbon composite material mounted on a universal cylinder holder capable of holding 200/300 bar cylinders.
3	<b><u>Extinguishing Gun</u></b> : The design of the gun to be stainless steel with minimum recoil pressure during operation and to have locking facility to avoid misuse. The weight of gun to be less than 2Kg suitable for all three class of fire. The same nozzle of the gun shall be suitable to fire class A and class B and also live electrical fire.
4	<b><u>Weight</u></b> : Weight of fully charged system not to exceed 28 Kg maximum for comfortable operation.
5	<b><u>Fire rating</u></b> : The rating of the system shall be minimum A-27, A-43 and B-233 and electrical fire minimum 1000 volts with water and foam concentrate as extinguishing agent and the lancing distance for fire fighting should not be less than 10 meters in jet mode and 04 meters in spray mode.
6	<b><u>Mounting &amp; Carriage</u></b> . Same to be mounted on a sturdy frame suitably cushioned for comfort. All materials used shall be of fire retardant type. Depending on the situation the system to be used as hand held device in hand or Backpack along with BA set with system provided with shoulder pads & straps for comfortable fighting in closed or thick smoke fire.
7	<b><u>Dynamic working pressure</u></b> : Dynamic working pressure shall be up to 15 bar.
8	The system shall clean automatically as the remaining air is blown out of the container and systems to be ready for quick second recharge. The system to be rechargeable minimum two times with the same pressure bottle.
9	Certificates of the OEM for class A, Class B & live electrical fire with only water and foam solution shall be submitted. A valid CCE approval certificate/authorization /NOC for the cylinder and the vessel is a must along with the tender.
10	Backpack/system/cylinders shall confirm to CE/EN/NFPA/BIS or equivalent standard. The supply to include along with the system, a spare compressed cylinder of the same size, pressure and material, 10 nos. O-rings for pressure vessel, tool kit, manufacturer’s test certificate, operational manual and spare parts list.
11	<b><u>Hoses</u></b> : Length of hose -1.3 meters. Hose to be high quality to withstand working pressure of gun when operated in temperature range of -40 <sup>0</sup> C to +100 <sup>0</sup> C.
12	<b><u>Operating time/flow rate</u></b> : 20-23 seconds, flow rate – 0.4 to 0.45l/s.
13	The unit shall have certification and 2 years warranty from the date of supply.

**TECHNICAL SPECIFICATIONS FOR PORTABLE  
LED EMERGENCY LIGHT WITH ACCESSORIES**  
(wrt Sl. No 9 of Annexure II to Appendix-'B')

1. **General.** To be an all weather lighting system for the purpose of use in inspection, maintenance surveillance of an equipment or small area.
2. **Design**
  - (a) High flux LED light source providing clear white light.
  - (b) Must have 360-degree swivel light head with a telescopic tower. Light head shall be detachable for mobility.
  - (c) Battery status indicator to be provided on the body and giving "LOW" battery warning with reserve time of at least 10 minutes.
  - (d) To have a port for recharging laptop or other such portable devices.
3. **Performance requirement.** To have low and high brightness settings with capable of 8 hrs. of continuous operation on high brightness setting.
  - (a) High Brightness: 2000
  - (b) Low Brightness: 1000
4. **Construction & Material**
  - (a) To be made of flame retardant material and shall have low operating temperature.
  - (b) To be shock resistant.
5. **Battery type**
  - (a) Reputed brand 12V Rechargeable Sealed Lead-acid type with life of 2000 cycles.
  - (b) Battery charging time not to be more than 8 hrs on full discharge.
  - (c) The unit to be provided with 12V/24V vehicle charger.
6. **Weight & Dimensions.** Total weight not to exceed 12 Kgs and dimensions to be as compact as possible.
7. **Operation and maintenance manual.** Total manufacturer should supply operation and dimension with each set in English language.
8. **Performance Certificate.** The supplier/fabricator submitting the offer will have to provide the authorized certificate with performance certificate obtained from the manufacturer without which the offer shall not be considered.
9. **Warranty.** The unit shall have CE or equivalent certification and 2 years warranty form the date of supply.

**TECHNICAL SPECIFICATIONS FOR OIL SORBENT KIT**  
**(wrt Sl. No 10 of Annexure II to Appendix-‘B’)**

1. **General.** Sorbent is to contain and absorb spills of petroleum products like violation fuel, diesel, petrol, lubricating oil, hydraulic oils etc. in run-off emergency. It should be able to be folded and able of being used as pad, roll or boom.
2. **Material & design**
  - (a) Made of inert synthetic fibers and easily torn to length.
  - (b) High absorption capacity 1:10 (Minimum).
  - (c) To be lightweight and dust free.
  - (d) To be water repellent (hydrophobic), light weight and floating on water.
  - (e) To resist temperature and humidity extremes and not deteriorate or disintegrate.
  - (f) Should be able to wring out and reused.
3. **Types & configurations** To be supplied in suitable sealed container / packing. It shall consist of two type:
  - (a) A roll having minimum length of 40 +- 2 meters, and width 100 +- 5 cms
  - (b) A boom or minimum length of 5+- 0.5 mtrs.
4. **Certification.** It shall confirm to NFPA or equivalent standard.
5. **Performance certificate.** The supplier/fabricator submitting the offer will have to provide the authorized certificate with performance certificate obtained from the manufacturer without which the offer shall not be considered.

**TECHNICAL SPECIFICATIONS FOR CHOCKS**  
**(wrt Sl. No 13 of Annexure II to Appendix-‘B’)**

SI No	Technical requirement
1	<b><u>Size.</u></b> 15”
2	<b><u>Material.</u></b> Polyethylene
3	<b><u>Design &amp; Construction.</u></b> One-piece moulding, non-slip, water & oil-resistant, lightweight, floats on water, Having high friction factor
4	<b><u>Allowable Strength.</u></b> 100 kg/cm <sup>2</sup> in all directions
5	<b><u>Certification.</u></b> Confirming to Internationals standards

**TECHNICAL SPECIFICATIONS FOR HYDRAULIC  
SPREADER AND CUTTER WITH PUMP & ACCESSORIES**

**(wrt SI. No 22 of Annexure II to Appendix-'B')**

1. **General.** The unit to be safe for heavy duty performance during rescue and salvage operation. The unit to provide maximum advantage of power to weight maximize the effort firefighter with least possible weight of equipment.
  
2. **Pump Driven by Petrol Engine**
  - (a) Should be able to operate cutter and spreader at the same time.
  - (b) Weight not more than 25 Kg, fully / ready for operation as per EN13204/equivalent (incl couplings, engine oil & hydraulic oil and fuel).
  - (c) **Size & type.** As compact as possible
  - (d) **Source of energy.** 4-stroke petrol engine air-cooled capable of producing adequate power / pressure to operate cutter and spreader both at a same time at their max performance level.
  - (d) **Fuel Tank.** Capacity more than 1-hour operation in one fill.
  - (e) **Oil Tank.** not less than 3.5 ltrs usable oil content.
  - (f) **Output.** To be capable of giving adequate output at each stage and desired working pressure.
  - (g) **Noise Level.** Less than 85 db(A) at distance of 1 mtr. (EN:13204) / equivalent.
  - (h) **Safety.** Provision of safety valves at each stage is essential in addition to excess pressure release valve. The system shall comply with all safety requirements specified in EN:982. And EN:60204-1/equivalent.
  - (j) The pump to be 4-stroke air-cooled petrol engine with minimum 2.2KW, working with mineral non-toxic oil and should have following additional features:
    - (i) Single switch operation
    - (ii) Protection cap for spark plug
    - (iii) Easy excess for filing of fuel and oil
    - (iv) Provision of large and clear gauges for hydraulic oil and fuel level indication.
    - (v) Carrying handle of adequate sizes strength with non-slip pads.
    - (vi) Electronic engine speed control
    - (vii) Integrated lighting for night operation
  
3. **Hose**
  - (a) The pump shall be supplied with a heavy duty hydraulic co-axial (High Pressure hose within return hose) suitable for operating all the tools having a working pressure of not more than 750 bar and tested to a pressure of not less than 2 times the working pressure coupled with single hose coupler.
  - (b) The bursting pressure shall be 4 times the working pressure.
  - (c) The hose and hose assembly shall have minimum resistance against abrasion, fluids and ozone as stated in EN: 853, 855, 856 and 857/equivalent.
  - (d) The quantity of hose with instantaneous couplers preferably mounted on a hose reel shall be as follows:
    - (i) 10 mtrs: 2 nos
    - (ii) 20 mtrs: 2 nos
  - (e) Hose shall be made of suitable components and design to perform the task without any personal safety hazard. The hose shall confirm to EN: 13204/equivalent.
  - (f) Color code as per international code.
  - (g) Shall have quick coupler to prevent inadvertent disconnection.
  
4. **Cutter for Rescue** (as per EN: 13204/NFPA 1936/equivalent)
  - (a) Shall be made of anticorrosive material with the provision of carrying handles for operating the cutter in all directions for safe and easy operation.



- (b) The equipment shall be ultra light weight and capable to use under water.
- (c) Weight not to exceed more than 20 kg.
- (d) Cutting force not less than 100 tons and shall be able to 40 mm steel round bar
- (e) Jaw width not less than 180 mm.
- (f) Blade design - U-shaped 90 degrees blade angle.
- (g) Anodized for corrosion resistance.
- (h) Maximum working pressure - 750 bar
- (j) Testing pressure shall be 1.5 times of working pressure.
- (k) Easy and ergonomic operation
- (l) Operation temperature 18<sup>0</sup>C to 55<sup>0</sup>C

5. **Spreader for Rescue** (as per EN: 13204/NFPA 1936 / equivalent)

- (a) Should be made of anti corrosive material with the provision of carrying handles for operating the spread in all directions for safe and easy operation.
- (b) Spreading force not less than 32 tons and not less than 4 tons measured at 25mm from the tips as per EN 13204/equivalent.
- (c) Weight should not exceed more than 650 mm
- (d) Spreading distance not less than 650 mm
- (e) Pulling force not less than 7.5 tons.
- (f) Must be ultra light weight and suitable for use under water
- (g) Teeth double edged, should be capable of spreading & squeezing. Tips must have possibility to be changed without the use of tools.
- (h) Check valves for all operating parameters
- (j) Maximum working pressure 750 bar
- (k) Testing pressure shall be 1.5 times of working pressure.
- (l) Quick lock system for tips & chain pulling set and adaptors.

6. **Chains**

- (a) Metallic provided with suitable eye and hook for the spreader.
- (b) Length : 1.5 mtrs – 1 no  
3 mtrs – 1 nos
- (c) Strength: Shall be capable of working at more than the force exerted by spreader.

7. **Telescopic Ram** (as per EN: 13204 NFPA 1936/equivalent)

- (a) The ram cylinder shall be double acting hydraulically operated device of lightweight construction suitable for manual application with ease.
- (b) The telescopic ram shall be capable of lifting and spreading operation. Built in speed valve for faster operation.
- (c) The telescopic ram shall have following specification.

SI No	Description of activity	Range of activity
(i)	Max. Spreading force 1 <sup>st</sup> plug	Not less than 20 ton
(ii)	Max Spreading force 2 <sup>nd</sup> plug	Not less than 08 ton
(iii)	Length retracted	Not more than 575 mm
(iv)	Length extended	More than 1250 mm
(v)	Stroke 1 <sup>st</sup> plug	Not less than 370 mm
(vi)	Stroke 2 <sup>nd</sup> plug	Not less than 330 mm
(vii)	Total stroke	Not less than 700 mm
(viii)	Weight	Not more than 22 kgs

- (d) Maximum working pressure 750 bars
- (e) testing pressure shall be 1.5 times of working pressure.

8. **Other Requirements**

- (a) Best power to weight ratio

- (b) shall be suitable for use under water
- (c) ISO:9001 certification (desirable)

9. **Training** . The supplier to undertake to train free of cost the purchaser's personnel at installation site.

10. **Spares & Technical Manual**. The sets of technical manuals and essential spares to be supplied.

11. **Performance Certificate**. The supplier/ fabricator submitting the offer to provide the authorized certificate with performance certificate obtained from the manufacturer without which the offer shall not be considered.

12. **Guarantee / Warranty**. The supplier to furnish a maintenance guarantee under taking for service, repairs, replacement, maintenance etc, in and against any defect in the materials used for 24 calendars moths commencing from the date of acceptance and the manufacturer will replace or repair any part or parts free of costs.

**TECHNICAL SPECIFICATION FOR POWER DRIVEN  
CIRCULAR SAW WITH ACCESSORIES**  
(wrt Sl. No 23 of Annexure II to Appendix-'B')

SI No	Description
1.	<b><u>Engine</u></b> . 2/4 stroke single cylinder petrol Engine 4.5 HP with Electronics ignition system & recoil starter along with air-cooled having diaphragm carburetor. Self-compensating carburetor that maintains continuous and regular fill power in any conditions.
2	<b><u>Engine Speed</u></b> . Min-2500 RPM Max-10,550 RPM
3	<b><u>Fuel</u></b> . Petrol start and petrol run
4	<b><u>Fuel Tank Capacity</u></b> . Not less than 0.5 ltr and not more than 1.5 ltr
5	<b><u>Power Transmission system</u></b> . Automatic centrifugal clutch. V-Ribbed belt type driven system heavy duty sealed multi V Ribbed belt for constant grip which reduces the slippage and indicator is fitted on the external side which is helpful in maintaining the convenient belt tensioning.
6	<b><u>Power Output</u></b> . Not less than 3 KW
7	<b><u>Safety Device</u></b> (i) Wheel guard - Equipped with spring loaded stainless steel wheel guard while the operator is cutting a material it will adjust itself automatically and hence reducing the pressure on the operator (ii) Throttle lock-out having throttle lock-out
8	<b><u>Handle</u></b> . Handle should be full wrap for ease of use with gloves and large rubber coated secured grip and also work as anti vibration
9	<b><u>Stopping</u></b> . There should be momentary contact switch which is always in 'On position' ready to start with just starter handle within seconds
10	<b><u>Anti Vibration</u></b> . There should be anti vibration system, which reduces the fatigue for the operator with T-point support and isolating the handle as much as possible from the engine and cutting blade
11	<b><u>Cutting Depth</u></b> . Not less than 3 inch
12	<b><u>Noise Power Level</u></b> . Max 105 dBA
13	<b><u>Vibration Level</u></b> . Vibration level is not more (i) Front handle – 10m/sec (ideal) (ii) Rear Handle – 09 m/sec (ideal)

14	<b><u>Cut-off wheel Blade.</u></b> Circular saw with diamond blade in which diamonds are fused on the blade size 14 inch
15	<b><u>Cutting parameters.</u></b> Metals, Security bars, iron rods, iron chain, reinforced concrete, stones, Rock, Block steel auto body, glass, cock pit, bullet proof glass, hurricane glass, rubber, plastic & more etc.
16	<b><u>Typographic test.</u></b> Circular saw is working in temperature from -10 <sup>0</sup> C to 50 <sup>0</sup> C
17	<b><u>Dimension (LxWxH).</u></b> Not exceeding 825 x 390 x 390 (mm)
18	<b><u>Weight.</u></b> Not more than 13 kgs
19	<b><u>Applications.</u></b> It should cut any material found at fires, building collapses natural disasters, terrorist attacks, car accidents & other rescues etc.
20	<b><u>Reversible Cutting Arm.</u></b> It should be provided with reversible cutting arm to so that, it allows the user to cut any material in the outboard position, to allows the user to make a flush cut e.g. this feature is useful for cutting security bars off a window of rail coach in outboard position and to allow the user to cut the bars at the level of the window frame.
21	<b><u>Priming bulb.</u></b> Priming bulb should be provided to make smooth and easier starting by pressing the priming bulb few times, to clean the bad gasoline out from the cylinder and clean gasoline into the cylinder which makes it easier for the engine to start.
22	<b><u>Stable base.</u></b> It should be provided with stable base designed to keep system straight on the ground which maintains distance/gap between the blade and ground and it doesn't harm the blade
23	<b><u>Endurance.</u></b> The machine should be capable of operating continuously not less than one hour without overheating
24	<b><u>Spares.</u></b> One set of (a) Fast moving spares must be supplied with machine (b) Tool kit also be supplied with machine
25	<b><u>Training.</u></b> Operation and maintenance staff to be trained on machine for operation and repair.
26	<b><u>Spares &amp; Technical Manual.</u></b> The sets of Technical manuals and essential spares shall also be supplied.
27	<b><u>Performance certificate.</u></b> The supplier submitting the offer will have to provide the authorized certificate with performance certificate obtained from the manufacturer without which the offer shall not be considered.
28	<b><u>Guarantee/ Warranty.</u></b> The supplier shall have to furnish a maintenance guarantee under taking for service, repairs, replacement, maintenance etc, in and against any defect in the materials used for 24 calendars months commencing from the date of acceptance and the manufacturer will replace or repair any part or parts free of costs.

**TECHNICAL SPECIFICATION FOR**  
**PNEUMATIC LIFTING AIRBAG WITH ACCESSORIES**  
**(wrt Sl. No 24 of Annexure II to Appendix-‘B’)**

1. **General.** High pressure pneumatic rescue bags capable of lifting heavy loads in harsh environment and with standing rough uses of fire brigade / rescue operation.
2. **Design.** The Pneumatic lifting airbags should be able to stack to make modular system to achieve greater height and lifting capacity without skidding. The connection of bags should be through open or closed connectors allow all the bags together or separately. Bags should also have an integrated hand point.
3. **Construction & material.** Pneumatic lifting bag should be constructed of Kevlar reinforced nitrile rubber with 3 layers aramide reinforcement covering the entire top and bottom surface of lifting bag with highly tear proof polyamide fabric. Each pneumatic lifting bags should be equipped with a brass valve connection 1/8" NPT internal thread and vulcanized into the reinforced corner of bag to which a male connector of quick connect coupling should be threaded in. This made connector should be replaceable if it is damaged. The color of airlifting shall be fluorescent type for better visibility during night operations.
4. **Lifting capacity**
  - (a) **Working pressure** - minimum 8 bar
  - (b) **Capacity** - minimum 40 ton
  - (c) **Insertion height.** - max 25 mm
  - (d) **Lifting height.** - Min 400 mm
  - (e) **Dimensions** - Approx 700x700 mm
  - (f) **Weight.** - Not more than 16 Kg
  - (g) **Water capacity** - Not more than 80 ltrs
  - (h) **Minimum bursting pressure** - 32 bar
5. **Hoses**
  - (a) All the hoses should be equipped with a quick connect/disconnecting male and female couplings, compatible with entire air lifting bag system. The color of hoses should be black/yellow/Red.
  - (b) The hoses should have minimum working pressure of 16 bar and should be capable of using in temp range -40<sup>0</sup> C to +80<sup>0</sup> C.
  - (c) The hoses should be either of polyester of thermo plastic material.
  - (d) The hoses should be resistant to Ultra Violet Light, change of color stress or cracking.
  - (e) Two shut off hoses with built in safety valve should be provided to release the pressure between 8.5 bar and 10 bar.
6. **Performance requirement**
  - (a) Inflation should be pneumatic
  - (b) insertion thickness not more than 20 MM.
  - (c) Working pressure not more than 10 bars.
  - (d) Safety factor > 4
  - (e) Dead man space – NIL
  - (f) Working temperature -50<sup>0</sup>C to 65<sup>0</sup>C
  - (g) Point loading should be possible. There should not be any stress point.
  - (h) Lifting should be continuous Noiseless & joint free. The surface of bags should be inter locking non-skid surface moulded into each side of the bags. A separate non-skid ply that has been vulcanized separately is not acceptable.
  - (j) Inflation should be through single regulator 200/300 bars with quick connection.

- (k) The pneumatic lifting bags should be portable and light-weight and should be in set form, consisting of bags, hose assemblies, pressure gauges, pressure reducers, safety valve, air bottle connector and controller.
- (l) The air bags to be chemical and some ozone resistant with carrying straps attached to 40 ton bags.
- (m) The pneumatic lifting bags and its accessories to comply all the requirements stipulated under EN 13731-2003/ equivalent.

7. **Pressure regulator**

- (a) The pressure regulator to be capable of reducing pressure from 300 bars to 8 bar.
- (b) The pressure regulator to be provided with threaded quick connect couplings suitable to fit to normal BA air cylinder by hand without the use of any spanner.
- (c) The pressure regulator to be provided with two pressure gauges of suitable capacity to show the air pressure in the cylinder and set pressure.
- (d) The pressure regulator to be provided with pressure setting knob and safety valve with 2 mtrs hose with couplings to connect to Dual Dead man controller.

8. One set of airbags will comprise of the following:

SI No	Description	Quantity
(a)	Lifting bag 40 tons capacity	1 no.
(b)	Pressure reducer 300 bar to 8 bar	1 no.
(c)	Dual Controller with pressure gauges	1 no.
(d)	Air hose 5 mtrs with couplings	2 nos.
(e)	Air Hose 10 mtrs with couplings	2 nos.
(f)	Single control unit	2 nos.
(g)	Shut off hose with safety valve	4 nos.
(h)	Connection piece to connect two air cylinder	2 nos.

9. **Marking**

- (a) Bags to have proper color to be visible in dark smoky condition. To have reflective markings on the corners for easy identification when operating in the dark areas.
- (b) The lifting bags to be provided with a warning and information labels. The information and the warning labels must be in English language and in pictograms for clear understanding. Also to be marked with date of manufacturer and serial number in such a way that they cannot be erased without damaging the surface.

10. **Testing**

- (a) Artificial ageing
- (b) Impulse loading with drop weight
- (c) Dynamic fatigue loading with 16 tone weight.
- (d) Leakage test with sharp drop weight (50 no) at 600 and 900 from a height of 7 mtrs
- (e) Pressure tests.

11. **Maintenance**

- (a) The system to be maintenance free.
- (b) There should be provision of draining out moisture after every use.
- (c) Cleaning / washing should be possible with ordinary detergent.

12. **Operation and maintenance manual.** The manufacturer to supply operation and maintenance manual with each set in English language.

13. **Performance Certificate.** The supplier / fabricator submitting the offer to provide the authorized certificate with performance certificate obtained from the manufacturer without which the offer shall not be considered.

14. **Guarantee / Warranty.** The supplier to furnish a maintenance guarantee under taking for service, repairs, replacement, maintenance etc, in and against any defect in the materials used for 24 calendars moths commencing from the date of acceptance and the manufacturer will replace or repair any part or parts free of costs.

**TECHNICAL SPECIFICATIONS OF JUMPING CUSHIONS**  
**(wrt Sl. No 25 of Annexure II to Appendix-‘B’)**

The jumping rescue cushions should have high reliability and shall be easy to handle and shall be capable of being fully erected by 4 to 6 persons. The possible jumping height shall not less than 30 mtrs. It shall have illumination for night operations and shall be capable of being used in dusty conditions. The detailed technical specifications are as under: -

SI No	Description
1	<b>Shape.</b> 8 corner shape (octaganol)
2	<b>Outer Dimensions.</b> Not less than 5.50 x 5.50 mtrs
3	<b>Usable jumping area.</b> Not less than 4.50 x 4.50 mtrs
4	<b>Jumping angle (30m height).</b> 9.74 <sup>0</sup>
5	<b>Tube diameter of the inflatable frame.</b> 22 cm (0.22 metrs)
6	<b>Material of frame.</b> Natural rubber reinforced with polyester fabric 940 dtex, black
7	<b>Material of outer cover.</b> Fire retardant special PVC –coated polyester fabric, orange
8	<b>Material of jumping area.</b> Fire retardant special PVC –coated polyester fabric white with black markings
9	<b>Compressed air cylinders.</b> 2x6l/300bar or equivalent steel cylinders
10	<b>Erection time.</b> Not more than 75 sec (depending on the used cylinders)
11	<b>Re-erection after a jump.</b> Not more than 10 sec
12	<b>Weight of the complete device (with charged cylinders) -</b> Not more than 150 Kg
13	<b>Packing.</b> It shall be packed in a valise with handles for 6 persons

**TECHNICAL SPECIFICATION FOR CABLE WINCH**  
**(wrt Sl. No 32 of Annexure II to Appendix-‘B’)**

1. An electrically operated cable winch of not less than 5.00 tons pulling capacity (single layer) would be provided and mounted in the front of the vehicle. The winch unit should be complete with minimum 5.5 HP, 12V DC series wound electric reversible motor for increased pulling power. The motor and solenoids shall be grounded to the battery.

2. It shall have an automatic load holding brake system for more strength. For free spooling the clutch design shall be easy to use type with spring loaded pull and rotate system.

3. The gear system to be 3 stage planetary type for faster line speed and the gear reduction ratio shall not be more than 300:1, the rope drum shall not be of more than 8 inches dia and shall be supplied with minimum 90 ft heavy duty galvanized EIPS wire rope with replaceable self locking clevis hook and would be mounted on the front bumper of the vehicle with suitable strong supports and a 4 way roller fairlead. The weight of the winch shall not be more than 55 kgs.

**TECHNICAL SPECIFICATIONS FOR HAND HELD FORCIBLE ENTRY TOOL KIT**  
**(wrt Sl. No 34 of Annexure II to Appendix-‘B’)**

1. **General.** The equipment is to be use for the purpose f forcible entry, prying, enlarging openings, cutting sheets and twisting off lock and latches. The tool shall enable easy, fast and single person operation.
2. **Design.** The complete equipment to comprise of one compact ram bar and a tool bit set of various bits. The ram bar to be able to connect the interchangeable bits for added versatility. The arm bar to have a locking device that can lock the ram bar at any length for added leverage and safety for storage. The ram bar to have an easy sliding action that can direct all its forces directly at the pint of impact for maximum effect.
3. **Material & construction.** Ram bar to be made of hard-coated aluminums alloy tube body. The tube body and handle to be machined grooved for non-slip grip. The ram bar to have hard coated aluminum alloy tool bit retainer and a locking ring. The tool bits to be made of forged & heat-treated steel alloy.
4. **Tool bit set.** The tool bit to be of the following types:
  - (a) Bull point tool bit for breaking concrete and masonry walls, Approx length 500 mm
  - (b) Chisel of approx 25 mm width for breaking concrete, prying and breaking bolts and brick walls, length 500 mm
  - (c) Chisel of approx 75 mm width for breaking concrete, prying and breaking bolts, breaking bricks and block walls, length approx 500 mm
  - (d) Metal cutting claw for punching and cutting sheet metal and work like a manual can opener, approx length 250 mm
  - (e) Lock breaker claw for prying or force open doors, window, twisting clasps and breaking locks, approx length 250 mm

**TECHNICAL SPECIFICATIONS FOR SAFETY GOGGLES**

<b>SI No</b>	<b>Description</b>
1	<b><u>Application.</u></b> Safety goggles to primarily provide optimum vision in indoor and outdoor applications and protection against impact & optical radiation by reducing glare and bright light.
2	<b><u>Lens Quality &amp; Material.</u></b> It shall have clear dual-aspheric planopolycarbonate lenses with prescription-quality clarity. Lenses to provide 99.99% U.V. protection, excellent sharpness and contrast.
3	<b><u>Lens Coating.</u></b> Lens to have coatings to provide properties of anti fog, anti scratch, anti chemical and anti static.
4	<b><u>Frame design &amp; construction.</u></b> To have a lightweight a dual-injected molded frame. To have the facility to change the lens as and when required by keeping the same frame.
5	<b><u>Safety &amp; Ergonomics.</u></b> (a) Dual-injected cushion brow guard and universal fit nose-bridge pivots. (b) To have a wrap-around design for superior orbital eye socket coverage. (c) To have ventilation channel that helps prevent fog and heat by channeling warm/moist air out and cool air in for added comfort. (d) To have adjustable temple lengths to help wearers get the best possible comfort and slip-proof fit. (e) To have a pantoscopic lens adjustment to move lens up and down on the face for optimum fit and sightline.
6	<b><u>Packing.</u></b> To be supplied with a lanyard and storage bag.
7	<b><u>Certification.</u></b> The eyewear shall be approved to ANSI Z87.1/EN or equivalent

**Appendix "C"****AIRHQ/DPUR/I/2025005 dated 07 Aug 2020****SUMMARY OF STANDARD TERMS AND CONDITIONS**(for details kindly visit MoD/GOI website [www.mod.nic.in](http://www.mod.nic.in).)

(to be filled up by the vendor and to submitted along with the Technical Bid)

Sl No.	APPLICABLE CLAUSE OF		CLAUSE	ACCEPTANCE	Remarks (Append amplification Text, if any)
	RFP	<b>DPM 2009</b>			
1	Part I Para 12	Page No 170 Para 13	Validity of Bids	Please Specify	.....
2	Part I Para 14	Page No. 170 Para 14	Earnest Money Deposit/ Bid Security	YES/ NO	
3	Part II Para 03	Page No 172 Para 4	Delivery Period ( please specify)	YES/ NO	
4	Part II Para 06	Page No. 174 Para 6	Consignee Details	YES/ NO	
5	Part III Para 08	Page No 177 Para 8	LD clause	YES/ NO	
6	Part IV Para 1	Page No 184 Para 1	Performance Bank Guarantee @10%	YES/ NO	
7	Part IV Para 2 & 3	Page No 185 Para 5	Terms of Payment	YES/ NO	
8	Part IV Para 06	Page No 188 Para 9	Fall Clause	YES/ NO	
9	Part IV Para 07	Page No 190 Para11	Risk & Expense	Acceptable/ Not Acceptable	
10	Part IV Para 08	Page No. 191 Para 12	Force Majeure Clause	YES/ NO	
11	Part IV Para 10	Page No 192 Para15	<b>OEM Support certificate</b> in original to be submitted		
12	Part IV Para 12	Page No 192 Para 17	Year of manufacturing Clause	Please Specify	
13	Part IV Para 14	Page No 194 Para 21	Packing & Marking	YES/ NO	
14	Part IV Para 15 & 16	Page No 196 Para 22&23	Quality/ Quality Assurance	YES/ NO	
15	Part IV Para 17	Page No. 196 Para 24	Inspection Agency	YES/ NO	
16	Part IV Para 18 & 19	Page No. 196 Para 25	Inspection Procedure	YES/ NO	
17	Part IV Para 20	Page No. 198 Para 27	Franking Clause	YES/ NO	
18	Part IV Para 21 & 22	Page No 199 & 200, para 28 &29	Claims & Warranty	YES/ NO	
19	Part IV Para 23	Page No 202 Para 30	Product Support	YES/ NO	
20	Part IV Para 24	Page No. 206 Para 32(d)	Technical Literature	YES/ NO	
21	Part V Para 1	Page No. 210 Para 01	Evaluation Criteria	YES/ NO	
All the other T&C's of RFP are also accepted.					
Date:.....		Company Seal / <b>Signature of Authorised Representative / Designation</b>			



**FORMAT FOR OEM SUPPORT / AUTHORISATION CERTIFICATE**

(To be submitted in original in English and attached with the Technical Bid)

(ON THE LETTER HEAD OF THE OEM)

Ref No. \_\_\_\_\_

Date. \_\_\_\_\_

1. This is to certify that \_\_\_\_\_ (Name of the OEM) \_\_\_\_\_, the OEM for the Items listed below authorize \_\_\_\_\_ (Name of the Vendor/ company/ firm/ channel Partner) to participate in the tender Enquiry No. \_\_\_\_\_ dated \_\_\_\_\_ to sell the following items to IAF

SL No. of RFP	Part No.	Description	Drawing Code	No.	Major Assy	Qty

2. It is further certified that items to be supplied by the above named firm would correspond to the quality as specified in RFP.

3. This Certificate is valid up to \_\_\_\_\_

Authorized Signatory / Designation

**Note.** This certificate is to be submitted on the OEM's letter head. An English translation of same should also be submitted with quote.

Signature in Original and appoint of the person  
Authorised to issue the certificate

Date and seal of authority  
Issuing certificate

**Format Performance Bank Guarantee**

From.  
Bank \_\_\_\_\_

To,  
The President of India  
Ministry of Defence,  
Government of India New Delhi-11.

Dear Sir,

1. Whereas you have entered into a contract No. \_\_\_\_\_ Dated \_\_\_\_\_ (hereinafter referred to as the said Contract) with M/s \_\_\_\_\_, hereinafter referred to as the “seller” for supply of goods as per Part –II of the said contract to the said seller and whereas the Seller has undertaken to produce a bank guarantee for (%) of total Contract value amounting to \_\_\_\_\_ secure its obligations to the President of India. We the \_\_\_\_\_ bank hereby expressly, irrevocably and unreservedly undertake and guarantee as principal obligors on behalf of the seller that, in the event that the President of India declares to us that the goods have not been supplied according to the Contractual obligations under the aforementioned contract, we will pay you, on demand and without demur, all and any sum up to a maximum of \_\_\_\_\_ Rupees \_\_\_\_\_ only. Your written demand shall be conclusive evidence to us that such repayment is due under the terms of the said contract. We undertake to effect payment upon receipt of such written demand.

2. We shall not be discharged or released from this undertaking and guarantee by any arrangements, variations made between you and the seller, indulgence to the Seller by you, or by any alterations in the obligations of the seller or by any forbearance whether as to payment, time performance or otherwise.

3. In no case shall the amount of this guarantee be increased.

4. This guarantee shall remain valid for ..... Months from the date of JRI..... acceptance of test consignment in India or until all the store, spares and documentation have been supplied according to the contractual obligation under the said contract.

5. Unless a demand or claim under this guarantee is made on us in writing or on before the aforesaid expiry date as provided in the above referred contract unless this guarantee is extended by us, all your rights under this guarantee shall be forfeited and we shall be discharged from the liabilities hereunder.

6. This guarantee shall be a continuing guarantee and shall not be discharged by and change in the constitution of the bank or in the constitution of M/s \_\_\_\_\_

**Form DPM-11**  
**Model ECS Mandate Format**

**Customer's option to receive payments through e-Payment (ECS/ EFT/ DIRECT CREDIT/ RTGS/ NEFT/ Other payment mechanism as approved by RBI.)**

**Credit Clearing Mechanism**

1. Customer's name
2. Particulars of Bank Account –
  - a. Bank name
  - b. Branch name
  - c. Address
  - d. Telephone numbers
  - e. IFS code
  - f. 9 Digit code number of Bank and Branch appearing on MICR cheque issued by Bank
  - g. Account Type (S.B. Account / Current Account or Cash)
  - h. Ledger number
  - i. Ledger Folio number
  - j. Account number as appearing on Cheque Book

3. Please attach a blank cancelled cheque, or, photocopy of a cheque or front page of your savings bank passbook issued by your bank for verification of the above particulars.

4. Date of Effect

"I, hereby, declare that the particulars given above are correct and complete. If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold the user institution responsible. I have read the option invitation letter and agree to discharge the responsibility expected of me as a participant under scheme."

Date - \_\_\_\_\_  
Signature of Customer

Certified that the particulars furnished above are correct as per our records.

Bank's Stamp. (.....)  
Date.  
Signature of the Authorized Official from the Bank

**TENDER ACCEPTANCE LETTER**

(To be given on Company Letter Head)

[Department User may ask for Tender Acceptance Letter instead of asking Signed Tender Documents from the Bidders. This is sample format; User may revise it as per their tender conditions]

To,  
**Government of India**  
**Directorate of Procurement**  
**Tender Enquiry Cell (IPW)**  
**Air HQ (Vayu Bhawan), Rafi Marg, New Delhi – 110011**  
**Fax No.. +91-11-23017664, Email ID. info.282@gov.in**

**ACCEPTANCE OF TERMS & CONDITIONS OF TENDER.**  
**PROCUREMENT OF ACFT QTY-41**

Tender Reference No. AIR HQ/DPUR/I/2025005 dated 07 Aug 2020  
CPPP e-Tender ID. \_\_\_\_\_

Dear Sir,

1. I/We have download/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 agreements and I/We shall abide hereby the terms/conditions/clauses contained therein.
3. The corrigendum(s) issued from time to time by your department/organisation 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/orgnisation 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)

**PRE ASSESSMENT INFORMATION FROM VENDOR**

(TO BE FILLED AND SUBMITTED FOR CAPACITY VERIFICATION AGAINST TENDER ENQUIRY)  
(THIS INFORMATION WILL BE TREATED AS **CONFIDENTIAL**)

1. **Name of the Firm** .
2. **Address**
  - (a) Registered Office with .  
Telephone No/FAX/ E – mail
  - (b) Factory / Works with Telephone No .  
FAX/ E – mail
3. **Year of establishment/Incorporation** .
4.
  - (a) Category of Industry . Large/Medium/Small/Micro Scale
  - (b) Nature of the company . Proprietary/Partnership Pvt Ltd/  
Public Limited
5. **Nature of Business** .
  - (a) Design, Development & Production
  - (b) Development & production
  - (c) Production
  - (d) Major Repair Overhaul
  - (e) Authorised Dealer/Stockist
  - (f) Any other
6. **Details of products/services currently dealt with** . (Attach details/literature)
7. **Details of Defence Items for which assessment is desired.**
  - (a) Involving design and development .
  - (b) Involving Indigenisation .
  - (c) Production/Processing .
  - (d) Any other type of item/service .

(List out the items with defence cat/part no (if any) and specification /Drawing no of each.  
Attach details on separate sheets for each sub-para if required)
8. **Category / Type and Range Capacity of Plant & Machinery installed.**  
(give details in separate sheet if required)
9. **Do you have capability for items indicated against 7 above in respect of**
  - (a) Design and development . Yes/No
  - (b) Manufacturing the items . Yes/No
  - (c) Quality control/ Testing facility . Yes/No
10. **Give details of manpower employed on your payroll** . No. Qualification Reg No of  
**(please provide organisation chart)** ESI
  - (a) Technical / Supervisory .
  - (b) Skilled Workers (permanent) .
  - (c) Skilled Workers (casual) .
  - (d) Unskilled workers (permanent) .

- (e) Administration Department .
- (f) Quality Control Department .

11. **Turnover during last three financial years separately** . Year Turnover in  
(Attach audited balance sheets and profit and loss statement) Rs
12. **Details of registration with other government agencies** . Year Regn No  
(Attach copies of registration letters/ certificates)
- (a) Other Government Department .
  - (b) Other Defence Department .
  - (c) Any Other .
  - (d) Membership of other industrial association .  
such as FICCI/CII/ASSOCHAM etc. if any
  - (e) Details of debarment (if any)
13. **Have you ever applied to DGAQA organisation for registration earlier** (if yes provide earlier registration certificate no.) Yes/No
14. **Details of available quality policy & quality plan manufacture of products for which assessment is sought for** .
15. **If yes, give following details**
- (a) Authority to whom applied .
  - (b) Date .
  - (c) Item applied for .
  - (d) Result of application with details  
viz Registration No if registered and  
reasons if not registered .
16. **Any other relevant information e.g. approval of quality by any other agency (BIS), ISO 9001 certification, Export quality certification, membership details of FICCI/ASSOCHAM/CII/AIMO & other industrial organisation etc.** .

Seal of the firm

Date.

Signature  
Name  
Designation

**NOTE.** This information is to be submitted along with technical Bid. After scrutiny if it is decided to carry out vendor capacity verification, the firm will be suitably informed prior to assessment.

**BIO-DATA OF THE VISITOR: FOREIGN/ INDIAN NATIONAL**

1	Full Name (Rank/Decoration, if any)	
2	Nationality	
3	Date/Place of Birth	
4	Representing M/s.... Designation in the Firm	
5	Permanent Correspondence address	
6	Passport No. with Date and Place of issue (append photo copy)	
7	Validity of Passport	
8	Present Address (Official)  (Residential)	
9	<u>Specific purpose of visit to the Air HQs and duration of stay</u>	
10	Whether visited the Air HQs previously If so, state when last visited and purpose of visit	
11	<u>Specific area to be visited in the Air HQ (VB)</u>	
12	<b>Address, where staying at Delhi</b>	
13	<b>Contact Tele/Mbl No's</b> while in New Delhi/India	
14	Particulars of Authorised Local Rep's in India with full details (Address/Contact No's etc)	
15	Electronic Gadgets being carried (Laptop)/Mobile etc; Please indicate Make/ Model/Qty)	
16	Whether in possession of an authority Letter to negotiate on Commercial/ Financial matters	
17	Any other relevant information please (Attach sheet, if required)	

Date:

Firms Authorised Signatory