

NOTICE INVITING TENDER
FOR DETAILS VIEW RFP
(Ministry of Defence, India)

INVITATION OF BIDS FOR SUPPLY OF QUANTITY – 1,11,220
OF ROUND 20MM SAPHEI

Request for Proposal (RFP) No A/ No A/18244/Re-Tend/20MM SAPHEI/APR-14/OS-AMN PROC
DT 15 Oct 2016

1. The online Bids under **Advertised Tender Enquiry (TWO BID SYSTEM)** are invited for supply of items listed in Part II of this RFP. The tender reference can be viewed and downloaded at <https://eprocure.gov.in/eprocure/app>
2. The address and contact numbers for sending Bids or seeking clarifications regarding this RFP are given below -

(a)	Bids/queries to be addressed to	DDG PPO, Room No. 214, D-1 Wing, Sena Bhawan, Integrated HQ of MoD(Army), New Delhi-110 011
(b)	Postal address for sending original documents (EMD, Tender fee specified in paragraph 3(a) of part – 1 of RFP)	DDG PPO, Room No. 214, D-1 Wing, Sena Bhawan, Integrated HQ of MoD(Army), New Delhi-110 011
(c)	Name/designation of the contact personnel	AMGO (SSA), MGO/PPO-5
(d)	Telephone numbers of the contact personnel	+ 91 11 23018626
(e)	E-mail ids of contact personnel	classic@nic.in
(f)	Fax number	+91 11 23793337

3. **Critical Dates.** The critical dates with respect to the Tender are as follows:-

Ser No	Item	Date	Time
(a)	Bid Submission End	15 Dec 2016	1100 hrs
(b)	Opening of Tender Box for Physical Verification of Documents	15 Dec 2016	1100 hrs
(c)	Technical Bid Opening start (Online)	15 Dec 2016	1500 hrs
(d)	Uploading of TEC Report	Will be intimated after Technical evaluation	
(e)	Commercial Bid Opening		

(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).

4. **Manner of Depositing the Bids.** The bids will be submitted in the following manner :-

(a) **Physical Deposition.** The original of Earnest Money Deposit (**EMD**) instruments as per Para 13 of Part-I of RFP shall be submitted physically in the sealed condition in the Tender Box marked as **TENDER BOX, MGO/PPO at the location mentioned at Paragraph 4 below** prior to bid submission closing date in an envelope duly marked with Tender ID along with a covering letter under company letter head. Following are to be noted:-

- (i) In case EMD is exempted, necessary proof of exemption be submitted online.
- (ii) The above documents can also be sent by registered post at the address given above so as to reach by the due date and time.
- (iii) The documents deposited in any other tender box shall not be considered and will be rejected.
- (iv) If the documents are being sent through international/local courier service providers, the courier service provider may be advised to telephonically inform AMGO (SSA), MGO PPO-5 before depositing the bids in tender box to avoid rejection due to deposition of bid in wrong tender box.
- (v) In case of non receipt of Physical Documents, the online bids will be considered non compliant to RFP hence it will be rejected. No responsibility will be taken for postal delay or non delivery/ non-receipt.
- (vi) The envelope must have the tender reference written on it.
- (vii) Besides the documents specified below for 'On Line' submission, in case the bidder submits any other document (like technical information) 'on line', hard copy of the same is also required in Physical Deposition.

(b) **E-Bid Cover-I (ON LINE).** Cover I will contain the Technical Bids consisting of following scanned Documents converted in a single PDF file in following sequence :-

- (i) Proof of valid Registration/renewal of registration. The status of Bidder will be considered as existing on the date of Technical bid opening.
- (ii) PAN No, CST/VAT/TIN Registration.
- (iii) **Tender Conditions Acceptance Certificate.** Unconditional acceptance of all the tender terms and conditions of online RFP as per '**Appendix A**' on Firm's letter head. If the Certificate is signed by legally authorised signatory, a copy of the authorisation letter be uploaded.
- (iv) EMD documents or the exemption certificate as applicable.
- (v) Clause wise compliance to all Technical Parameters/Specifications.

(c) **E-Bid Cover-II (ON LINE).** Commercial bid packet consisting of "**BOQ**" (Bill of Quantities) in the Exel Sheet downloaded from the <https://eprocure.gov.in/eprocure/app> will be submitted online as Cover II.

(d) Instructions for bidders to understand before filing the online bids are at **Appendix B.**

(e) Bids sent by FAX or e-mail will not be considered.

(f) Besides the documents specified above for 'On Line' submission, in case the bidder submits any other document (like technical information) 'on line', hard copy of the same is also required as per instructions at Paragraph 3 (a) above.

5. **Location of the Tender Box: Near Gate No.1, Sena Bhavan, Integrated HQ of MOD(Army), New Delhi-110 011.** Only those Physical documents that are found in the tender box will be opened. Documents dropped in the wrong Tender Box will be rendered invalid. Bids sent by FAX or e-mail will not be considered.

6. **Place of opening of the Bids: DDG/PPO, Room No. 214, D-1 Wing, Sena Bhavan, Integrated HQ of MOD(Army), New Delhi-110 011.** The Bidders may depute their representatives, duly authorized in writing, to attend the opening of Bids on the due date and time. Advance notice of details of representative detailed for Tender opening must be received by this office minimum **fourteen (14) prior** to date of opening of tender to obtain **security clearance**. Rates and important commercial/technical clauses quoted by all Bidders will be read out in the presence of the representatives of all the Bidders. This event will not be postponed due to non-presence of your representative.

7. **Two –Bid system**

(a) The Technical Bids shall be opened as per critical date sheet mentioned in this tender document. Evaluation of technical Bid along with requisite documents received in physical form as well as documents uploaded online by the bidders will be carried out off line by Technical Evaluation Committee. The TEC will confirm that the items being offered meet the requirement asked for in the RFP and the offers comply to the RFP Terms and Conditions.

(b) Thereafter, the short listed qualified vendors for the supply of ammunition would be asked to provide quantity **400 numbers of Round 20 mm SAP HEI** ammunition for trials in India (quantity **300 rounds required for DGQA trials and 100 rounds required for User Trials**) at 'No Cost No Commitment' basis. The responsibility of the import of ammunition for trials, which shall involve custom clearance and transportation within India from the port of entry to the place of trials both for User and DGQA, will be the responsibility of the vendor. The ammunition required for User/DGQA trials should be supplied within 60 days of intimation to the OEM/Vendor. However, this is not applicable for already trial evaluated OEM/Vendor who have successfully supplied the same ammunition in past.

(c) The trial evaluation process comprises of the following:-

(i) **User Trials in India.** The User trials will be carried out as per broad trial methodology attached as **Appendix 'D'**.

(ii) **Technical and Environmental Evaluation by DGQA.** Broad Technical and Environmental evaluation criteria by DGQA is attached as **Appendix 'E'**.

(d) The results of the final technical evaluation will be uploaded on the Central Public Procurement Portal (<https://eprocure.gov.in/eprocure/app>).

(e) Commercial offers will be opened only of those vendors offering ammunition which is RFP compliant and which has been supplied to the buyer in the past after successful trial evaluation by the buyer OR whose ammunition is found acceptable

after technical trials and evaluation as mentioned in paragraph 6 (a) to (c) above. The date of opening will be intimated to the Bidders through Central public Procurement Portal (<https://eprocure.gov.in/eprocure/app>).

8. **Forwarding of Bids** – Bids should be forwarded by Bidders under their original memo / letter pad inter alia furnishing details like complete postal, e-mail address, Fax No & Telephone no of their office.

(a) The documents specified in Para 3 (a) to be deposited physically as per instructions at Para 4 above. The physical receipt of these documents is mandatory.

(b) The technical bids shall not be accepted if these documents are not received prior to bid opening. The **TECHNICAL** and **COMMERCIAL** bid will be submitted **“Online Only”**.

(c) The **TECHNICAL BID and the COMMERCIAL BID should be submitted by the bidder duly digitally signed by the legal owner of the firm or the person authorized by him to do so. Instructions for Online Bid Submission** to the Bidders to submit the bids online through the Central Public Procurement Portal for e Procurement at <https://eprocure.gov.in/eprocure/app> are attached as **Appendix ‘B’**.

9. **Clarification regarding contents of the Bids.** A prospective bidder who requires clarification regarding the content of the bidding documents, shall notify to the Buyer in writing about the clarification sought not later than **28 days** prior to the date of opening of the Bids.

10. **Modification and Withdrawal of Bids.**

(a) The Bidder may modify (resubmit) his bid after submission, as per the provisions available on the portal. No bid shall be modified after the deadline for submission of bids.

(b) If bidder desires to withdraw before bid submission closing date/time, he may do so online in the portal and offline EMD would be refunded. Once with-drawn online, he cannot participate again in this tender.

(c) 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 a bid during this period will result in forfeiture of Bidder's Bid Security/ EMD.

11. **Unwillingness to quote.** Bidders unwilling to quote should ensure that intimation to this effect reaches before the due date and time of opening of the Bid, failing which the defaulting Bidder may be delisted for the given range of items as mentioned in this RFP.

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

13. **Earnest Money Deposit** : Bidders are required to submit Earnest Money Deposit (EMD) for amount of **Rs 28,83,000/- (Rupees twenty eight lacs eighty three thousand only)** in the name of 'The President of India' payable at New Delhi 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 as per Form DPM-13 (Available in MoD website and can be provided on request). 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 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.

PART II – ESSENTIAL DETAILS OF ITEMS/SERVICES REQUIRED

1. **Schedule of Requirements.** List of items /services required is as follows:-

Round 20 mm SAP HEI - Quantity 1,11,220

2. **Technical Details.** Refer **Appendix ‘C’** attached for Technical details.
3. **Two-Bid System.** Bidders are required to furnish clause by clause compliance of specifications bringing out clearly the deviations from specification, if any. The Bidders are advised to submit the compliance statement in the following format along with Technical Bid-

Para of RFP specifications item-wise	Specification of item offered	Compliance to RFP specification –whether Yes/No	In case of noncompliance, deviation from RFP to be specified in unambiguous terms

4. **Delivery Period** One year in two (02) installments i.e. the delivery of the quantity **1,11,220** rounds of ammunition **Round 20 mm SAP HEI** shall be in a staggered manner in a total of **Two(2) consignments** with delivery of each consignment in **six (06) and twelve (12) months** from the effective date of contract respectively. 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.

5. **Apportionment of Quantity.** In case the L1 vendor does not have the capacity to supply the entire requisite quantity within the specified period as given in the RFP, the order for balance quantity may be placed on the L2, L3 and so on for supply of balance quantity at L1 rates, provided this is acceptable to them.

6. **INCOTERMS for Delivery and Transportation** – **C.I.F Port of Kochi, Republic of India.**

7. **Consignee details.**

Port of destination - Port of Kochi, Republic of India.

Port Consignee - NAD, Always

Ultimate Consignee - Central Ammunition Depot (CAD), Pulgaon, Maharashtra, Republic of India

TENDER CONDITIONS ACCEPTANCE LETTER
(To be given on Company Letter Head)

Date :

To

SUB : ACCEPTANCE OF TERMS & CONDITIONS OF TENDER

Tender Reference No : _____

Name of Tender/work :

Dear Sir,

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

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

2. I/We hereby certify that I/we have read entire terms and conditions of the tender documents from Page No ____ to ____ (including all documents like annexure(s), schedule(s), etc.,) which form part of the contract agreement and I/we shall abide hereby the terms/conditions/clauses contained therein.

3. The corrigendum(s) issued from time to time by your department/organisations too have also been taken into consideration, while submitting this acceptance letter.

4. I/We hereby uncomnditonally accept the tender conditons of above mentioned tender document(s)/ corrigendum(s) in its totality/entirely.

5. In case any provisioons of this tender are found violated, your deparment/organisation shall be at liberty to reject this tender/bid including the forfeiture of the full said Earnest Money Deposit absolutely and we shall not have any claim/right against deptt in satisfaction of this condition.

Yours faithfully,
 (Signature of the Bidder, with Official Seal)

INSTRUCTIONS TO THE BIDDERS

Instructions for Online Bid Submission Instructions to the Bidders to submit the bids online through the Central Public Procurement Portal for e Procurement at <https://eprocure.gov.in/eprocure/app> are as follows

1. Possession of valid Digital Signature Certificate (DSC) and enrolment/registration of the contractors/bidders on the eProcurement portal is a prerequisite for e-tendering.
2. Bidder should do the enrolment in the eProcurement site using the “Click here to Enrol” option available on the home page. Portal enrolment is generally free of charge. During enrolment/registration, the bidders should provide the correct/true information including valid email_id. All the correspondence shall be made directly with the contractors/bidders through email_id provided.
3. Bidder need to login to the site through their user ID/password chosen during enrolment/registration.
4. Then the Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by SIFY/TCS/nCode/EMudra or any Certifying Authority recognized by CCA India on eToken/Smart Card, should be registered.
5. The DSC that is registered only should be used by the bidder and should ensure safety of the same.
6. Bidder logs in to the site through the secured log in by giving the user id/password chosen during enrolment/registration and then by giving the password of the eToken/SmartCard to access DSC.
7. In case of limited tender the regd dealers/the bidders invited to participate in the tender will receive a notification through e-mail wrt to tender and after log in the bidder selects the tender and moves it to “my tenders”. In case of open tenders the bidder selects the tender which he/she is interested in by using the search option & then moves it to the “my tenders” folder.
8. From my tender folder, the bidder selects the tender to view all the details indicated.
9. If there are any clarifications, this may be obtained online through the tender site, or through the contact details or during the pre-bid meeting if any or during the pre-bid meeting if any.
10. Bidder should take into account the corrigendum published before submitting the bids online.
11. It is constructed that the bidder has read all the terms and conditions before submitting their offer. Bidder should go through the tender schedules carefully and upload the documents as asked; otherwise, the bid will be rejected.
12. The Bidders can update well in advance, the documents such as certificates, annual report details etc. under My Space option and these can be selected as per tender requirements and then sent along with bid documents during bid submission. This will facilitate the bid submission process faster by reducing upload time of bids.
13. Bidder, in advance, should get the bid documents ready to be submitted as indicated in the tender document/schedule and generally, they can be in PDG/xls/rar/zip/dwf formats. If there is more

than one documents, they can be clubbed together and can be provided in the requested format. Each document to be uploaded online for the tenders should be less than 2 MB.

If any document is more than 2MB, it can be reduced through zip/rar and the same can be uploaded, if permitted. Bidders Bid documents may be scanned with 100 dpi with black and white option. However of the file size is less than 1 MB the transaction uploading time will be very fast.

14. Bidder should submit the Tender Fee/EMD as specified in the tender. The original should be posted/couriered/given in person to the Tender Inviting Authority, within the bid submission due date & time for the tender. Scanned copy of the instrument should be uploaded as part of the offer.

15. While submitting the bids online, the bidder must read the terms & conditions and accept the same to proceed further to submit the bid packets.

16. The bidder has to select the payment option as **offline** to pay the Tender FEE/EMD as applicable and enter details of the instruments.

17. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. The submitted bid will not be acceptable if otherwise.

18. The bidder has to digitally sign and upload the required bid documents one by one as indicated. Bidders must note that the very act of using DSC for downloading the bids and uploading their offers shall be deemed to be a confirmation that they have read all sections and pages of the bid documents including General conditions of contract without any exception and have understood the entire document and are clear about the requirements of the tender requirements.

19. The bidder has to upload the relevant files required as indicated in the cover content. In case of any irrelevant files, the bid will be rejected. **The tech bid acceptance will be subject to physical receipt of specified docu at the time of tech bid opening. Further, the TIA will not be held responsible for any sort of delay or the difficulties faced during the submission of bids physically by the bidders under any circumstances whatsoever.**

20. If the price bid format is provided in a spread sheet file like BoQ_xxxx.xls, the rates offered should be entered in the allotted space only and uploaded after filling the relevant columns. The Price Bid/BoQ template must not be modified/replaced by the bidder, else the bid submitted is liable to be rejected for this tender.

21. The bidders are requested to submit the bids through online e-tendering system to the Tender Inviting Authority (TIA) well before the bid submission end date & time (as per Server System Clock). The TIA will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders at the eleventh hour.

22. After the bid submission (ie after Clicking "Freeze Bid Submission" in the portal), the acknowledgement number, given by the system should be printed by the bidder and kept as a record of evidence for online submission of bid for the particular tender and will also act as an entry pass to participate in the bid opening date.

23. The time settings fixed in the server side & displayed at the top of the tender site, will be valid for all actions of requesting, bid submission, bid opening etc. in the e-tender system. The bidders should follow this time during bid submission.

24. All the data being entered by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered will not viewable by unauthorized persons during bid submission & not be viewable by any one until the time of bid opening.

25. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using

buyers or the procurement officer opens public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.

26. The confidentiality of the bids is maintained since the secured Socket Layer 128 bit encryption technology is used. Data storage encryption of sensitive fields is done.

27. The bidder should logout of the tendering system using the normal logout option available at the top right hand corner and not by selecting the (X) exit option in the browser.

28. For any queries regarding e-tendering process, the bidders are requested to contact TIA as provided in the tender documents. The bidders for any further queries can also contact over phone: 1-800-233-7315 or send a mail over to cpp-nic@nic.in.

29. All the pages of Technical-Bid and commercial-bid should have been duly signed by the bidder/auth rep and hard copy will be submitted in the office of TIA.

30. The undertaking to the effect that the terms and conditions stipulated in the tender docu are acceptable by the auth signatory of the bidders Regd firm will have to be submitted. The subject undertaking on a forwarding letter shall be uploaded on CPP portal during bidding by the bidders.

Note : Rate to be quoted online by bidder in BOQ Excel Sheet only.

OPERATIONAL CHARACTERISTICS AND TECHNICAL FEATURES
ROUND 20 mm SAPHEI

1. Technical Specification of Round 20 mm SAPHEI (Semi Armour Piercing High Explosive Incendiary)

(a)	Round length (mm)	146.5 Max
(b)	Projectile length (mm)	74.35 Max
(c)	Projectile dia (mm)	20.95 Max
(d)	Case length (mm)	83.72
(e)	Mean Corrected Velocity (VO)	720 \pm 10m/s & SD-Not>10m/s(at 21 ⁰ C \pm 2 ⁰ C)
(f)	Mean Corrected pressure	Not > 275 MPa and Individual pressure Not >325 MPa (at \pm 21 ⁰ C \pm 2 ⁰ C)
(g)	Consistency	When fires in single shot, over a range of 200 meters, all the shot shall fall with in a radius of 200mm.
(h)	Shot Time (Action Time)	The Individual shot time of round conditioned at \pm 21 ⁰ C \pm 2 ⁰ C shall not exceed 7 milliseconds.
(j)	Fuze sensitivity	The fuze shall be activated by a 3 mm thick steel plate at a range of 100 meters, angle of impact 90 ⁰ (0 ⁰ NATO).
(k)	Arming Delay	The projectile must pass through a 3mm thick steel plate target placed at a distance of 8 meters from the barrel without the fuze being activated. .
(l)	Penetration	The projectile shall penetrate 15mm fixed armour plate with a tensile strength of 1100 MPa at a range of 100 meters, angle of impact 90 ⁰ (0 ⁰ NATO)
(m)	Extraction of Projectile (Pull off)	The Individual extraction value shall be between 305KN and 8 KN.
(n)	Charge Mass	No Individual charge mass shall deviate by more than 0.2g from the adjusted charge mass.
(o)	Mass of Projectile	The mass of projectile shall be 110 \pm 3G.

Note: Parameters at ser No (a) to (d) above are for information only. However, OEM to give value dimensions followed as per specification and also certify that these will not affect the end performances with existing Weapon System with Indian Army.

Physical Characteristics:

2. **Technical Literature.** User hand book/operator Manual, design specification, Preservation Instruction, Technical Manuals and to include Technical description/maintenance tasks, procedures for assembly/disassembly and safety precautions. All literatures should be in ENGLISH. A soft copy of i.e. CD containing all mentioned information should also be provided. Computer based full animation graphics to explain functioning of the ammunition

- (a) The following documents/particulars/models shall be provided with two sets of each as extra other than the normally provided:-
- (i) Tech Manuals giving full description of the ammunition, dimensions, drawings, general construction of ammunition with sectional view and color photographs.

- (ii) Do's and Don't for usage of ammunition.
- (iii) Cut Models.

3. **Packing and Marking.**

(a) Suitable packing arrangements should be provided for transportation and storage without causing any damage to ammunition. The ammunition should be packed in hermetically sealed containers. These containers could be further packed in outer boxes/containers for ease of transportation. The package marking should be legible, giving all relevant details of ammunition as given under :-

(i) **Markings on the Outer Container/Case Wood Packing (CWP)**

- (aa) Nomenclature/details of ammunition.
- (ab) Lot No including filled Lot No and year of manufacture.
- (ac) Quantity packed.
- (ad) Gross weight and Net Explosive Content (NEC) in Kg.
- (ae) UN Hazard division and Compatibility Group.
- (af) Manufacturers Monogram and contract number.

(ii) **Markings on the inner hermitically sealed Container.** Following markings should be present : -

- (aa) Nomenclature
- (ab) Lot No including filled Lot No and year of manufacture.
- (ac) Quantity packed.
- (ad) UN Hazard division and Compatibility Group.
- (ae) Manufacturer's Monogram and contract number.

4. **Shelf life:** Minimum of **15** years under sheltered storage conditions. The supplier is required to provide the following:-

- (a) Certificate of Conformity on Serviceability and Shelf Life.
- (b) Details of shelf life assessment done at their end/ basis for shelf life assessment including details of chemical composition.
- (c) Methodology for extension of Shelf Life to be provided by the vendor.
- (d) Procedure for failure analysis to be provided by the vendor.

5. **ENVIRONMENTAL CONDITIONS / CLIMATIC CONDITIONS**

(a)	Operating temperature for use	-	-20°C to+50°C
(b)	Maximum Temperature for use	-	+ 45°C+5°C
(c)	Minimum Temperature for storage	-	- 50°C
(d)	Maximum Temperature for storage	-	+70°C
(e)	Maximum Relative Humidity	-	95%
(f)	Average Relative Humidity	-	65%
(g)	Mean value of year's Temp	-	Not >32°C

Note:-

- (a) The ammunition will be from current manufacture or latest vintage at the time of supply after the date of signing of contract.
- (b) Parameters for Inspection and Check Proof is given in **Annexure –I to this Appendix.**
- (c) All the proof Equipments, viz, Ballistic Brls, Fixtures, Mountings etc. should be provided by the Supplier during DGQA Evaluation, if required.

PARAMETERS FOR TESTING INSPECTION/CHECK PROOF

1. **AT OEM PREMISES:-**

- (a) Inspection of Registers/Records/Certificate for correctness of material, explosive and manufacturing date/year.
- (b) Visual inspection of 20mm SAPHEI Amn for its completeness and quality.
- (c) Visual inspection of Packages for its completeness and quality.
- (d) Visual inspection for correctness of marking and UN-Hazard Division.
- (e) **The static/Environment Tests**
 - (i) Extraction Force. (Pull Off).
 - (ii) Mass of projectile.
 - (iii) Nominal Charge Mass
 - (iv) Transport Vibration Test.

Dynamic Tests

- (i) Muzzle Velocity and fuze sensitivity Test.
- (ii) Pressure, shot time and screen Test.
- (iii) Consistency Test.
- (iv) Arming Delay Test.
- (v) Penetration Test.
- (vi) Functional Proof at ambient temperature. (-40°C) and (+55°C)

2. **IN INDIA:-**

- (a) JRI includes visual inspection for Quality & Quantity received and check proof for quality.
- (b) **CHECK PROOF**
 - (i) All the test conducted at the OEM premises will be carried out during JRI/Check Proof in India except Static/Environment Tests. In addition to the above, Fragmentation and Incendiary test will be conducted during check proof.
 - (ii) The serviceability and shelf life may be accepted on certificate of conformity from OEM.
 - (iii) OEM rep should attend JRI & b Check proof. In case OEM rep does not attend the result of JRI/Check Proof should be accepted by OEM.

Note :- OEM to provide ATP to cover Visual and Gauging, Static Tests and Dynamic Firing clearly indicating AQL, DCL, Acceptance Criteria and Sample Size, OEM should also provide the following :-

- (a) Ballistic Barrels for velocity, pressure and consistency test.
- (b) 100 Nos of standard rounds required for Ballistic tests.
- (c) Instrument required for various Ballistic/Functional tests.
- (d) Crusher Gauges, Copper Crusher, Tarrage table.
- (e) Jigs and fixture to hold the weapon for consistency Test.

In case the above items are not made available by OEM, existing system/facilities, equipment and fixtures available with our proof range will be utilized for the same.

The Check proof/DGQA Trials Evaluation will be conducted as per Methodology, Infrastructure/Facilities and proof equipment etc available at our proof Ranges, which will have to be accepted by OEM including all results.

The decision regarding the test parameters to be checked during JRI/Check Proof will be that of AHSP, viz CQA(A).

3. **SAFE OPERATION OF ARMAMENTS**

- (a) Ammunition should be safe for operation at all environmental conditions mentioned at Para 5 Appendix 'A'.
- (b) Ammunition should be safe during handling, transportation, and storage for the entire period of its specified shelf life.
- (c) During shock of discharge.
- (d) There should be no accidental flight premature due to failure of components.
- (e) It should be immune to premature due to side slapping.

4. **Para Dropping.** The amn should be Para droppable packed inside the boxes.

5. Should be compatible with AMR Anti Material Rifle Ex South Africa.

6. The Rounds should be packed in water tight Containers.

7. The Rounds should be marked with luminous paint for ease of recognition by night under field conditions.

Note The ammunition will be from current manufacture year of signing of contract.

REQUIREMENT OF AMMUNITION FOR USER TRIAL
FOR 20MM SAPHIE AMN FOR AMR

1. **Requirement of Ammunition for Trials.** A total of **100 rounds** of 20MM SAPHIE amn for AMR rifle is required for user trials.
2. The ammunition to be fired will be trial evaluated at different ranges of, **300, 600, 900 and 1300 metres.**
3. The trials will be conducted to check in detail the performance of the ammunition strictly as per the technical specifications.
4. Details are as follows:-

Ser No	Practice	Day/Night	Range (m)	Rounds	Total Rounds
(a)	Zeroing	Day	100	15	100 rounds per wpn
(b)	Accuracy	Day	300	15	
(c)	Accuracy	Day	600	15	
(d)	Accuracy	Day	900	15	
(e)	Accuracy	Day	1300	15	
(f)	Functioning (Smoke, Gas Fouling, Recoil)	Day	800	15	
(g)	Res	-	-	10	
Total				100	

DGQA TRIAL DIRECTIVE FOR AMMUNITION FOR 20 MM SAPHEI

Total Quantity required for DGQA Technical Evaluation- **300 Rounds (Including RF + 50 rounds for any eventuality)**

S. No.	Parameter/Test	Samples Size
(1)	(2)	(3)
1.	Extraction Force (Pull off)	10*
2.	Mass of Projectile	10*
3.	Nominal Charge Mass	10*
4.	Muzzle Velocity and Fuze Sensitivity test.	10
5.	Pressure, shot time & screen test	10
6.	Consistency test	10
7.	Arming Delay Test	10
8.	Fragmentation and Incendiary effect.	05
9.	Penetration Test	05
10.	Weapon Functioning Test	(a) 20 Rounds (at ambient Temp) (b) 10 rounds (Rounds to be conditioned at +55 ⁰ C for 4 hrs. (c) 10 rounds (Rounds to be conditioned at -40 ⁰ C for 4 hrs.
11.	Visual inspection	125
12.	Transport vibration test	20

* Same rounds can be used for Tests at Sr No. 1,2 &3.