


**DIRECTORATE GENERAL OF ARTILLERY**  
**ARTY-12 (MSL)**

**EXPRESSION OF INTEREST (EOI) FOR PROCUREMENT OF QUALITY TEN SETS**  
**OF MEDIUM RANGE PRECISION KILL SYSTEM (MRPKS) UNDER**  
**'MAKE II' CATEGORY OF DAP-2020**

1. Expression of Interest (Eoi) for procurement of Qty Ten Sets of Medium Range Precision Kill System (MRPKS) under Make-II cat of DAP-2020 has been approved by DCOAS on 24 Aug 2021 and approved by Make PMU on 08 Dec 2021.
2. A copy of the ibid Eoi (31 pages) is forwarded herewith for publishing in IA website with following dates of response and vendor interaction:-
  - (a) Issue of Eoi (To) - 20 Dec 2021.
  - (b) Date of Submission of Queries (To+04 weeks) - 17 Jan 2022.
  - (c) Date of Pre Response Meeting (To+05 weeks) - 24 Jan 2022.
  - (d) Date of Response (To + 08 Weeks) - 14 Feb 2022.
3. For info and necessary action pl.



  
(Prashant Kr Singh)  
Col  
Offg Col Arty-12 (Msls)

**Encls** . As above.

**ADG Strat Comn**

**MoD (DDP), Plg Officer (MS), Room No 175, B Block**

**Copy to :-**

**ADG /ADB (Make PMU)**

**DGCD/ CD (AoN & Cat)**

**INVITATION FOR EXPRESSION OF INTEREST (EoI) FOR PROCUREMENT OF QUANTITY  
TEN SETS OF MEDIUM RANGE PRECISION KILL SYSTEM (MRPKS)  
UNDER 'MAKE II' CATEGORY OF DAP-2020**

**References** : Defence Acquisition Procedure - 2020.

**Appendices** :

- Appendix A** : Preliminary Service Qualitative Requirements for Medium Range Precision Kill System (MRPKS).
- Appendix B** : Commercial Evaluation Criteria.
- Appendix C** : Technical Evaluation Criteria.
- Appendix D** : Information Performa.
- Appendix E** : Confidentiality Agreement.
- Appendix F** : EoI Compliance Certificate.
- Appendix G** : Correctness Certificate.

1. **Introduction**. Warfare in the modern days demands the ability to acquire high value targets across the spectrum of operations and destroy them with precision and minimum collateral damage. Medium Range Precision Kill System (MRPKS) can provide a breakthrough against dynamic and well protected static targets by real time acquisition and precision strike. MRPKS once launched can 'loiter' in the air and provide real time imagery to the operator on ground. On detection of a suitable target, the loitering munition with a warhead can be directed on to the target with precision. The current and future battlefield milieu necessitates the requirement of precision guided munitions in order to achieve first strike kill and psychological ascendance over the enemy. The requirement is further amplified due to the wide spectrum of conflict ranging from sub-conventional operations to full scale war. There is an urgent requirement to procure Medium Range Precision Kill System (MRPKS) capable of day and night acquisition and precision engagement of targets.



2. **Objective.** The objective of this invitation of Expression of Interest (Eoi) is to seek willingness of Indian Vendors to participate in the Make II Category for development and procurement of 10 sets of Medium Range Precision Kill System (MRPKS) under Buy Indian (IDDM) category of DAP-2020. Indian Vendors meeting the Technical, Commercial and Project Requirements laid out in the Eoi will be issued a 'Project Sanction Order' to develop a prototype as per provisions of DAP-2020.

3. **Layout.** The Eoi has been covered in following parts:-

- (a) **Part I** : General Information.
- (b) **Part II** : Scope of the Project.
- (c) **Part III** : Evaluation Criteria.
- (d) **Part IV** : Procedure for Submission of Response to the Eoi.
- (e) **Part V** : Miscellaneous.

#### **PART I : GENERAL INFORMATION**

4. **Nomenclature.** Medium Range Precision Kill System (MRPKS).

5. **Categorisation.** In accordance with Para 5 (b) (i) of Chapter III of DAP-2020. The design and development of the system must be indigenous. The project is further categorised as under:-

- (a) **Prototype Development Phase.** 'Make-II (Industry Funded)' in accordance with Para 5 (b) (i) of Chapter III of DAP-2020.
- (b) **Procurement Phase.** 'Buy (Indian-IDDM)' in accordance with Para 6 (d) of Chapter III of DAP-2020.

6. **Indigenous Content.** The product will be indigenously designed, developed and manufactured should have minimum of 50 % Indigenous Content (IC) on cost basis of the total contract value.



7. **Quantity.**(a) **Prototype Development Phase.** The following equipment are required:-

<b><u>Ser</u></b>	<b><u>Eqpt</u></b>	<b><u>Qty</u></b>
(i)	Launcher	01
(ii)	Forward Observation Station	02
(iii)	Loitering Munitions	06

(b) **Procurement Phase.** The following equipment/ services are required:-

<b><u>Ser</u></b>	<b><u>Eqpt</u></b>	<b><u>Qty</u></b>
(i)	Launcher	10
(ii)	Forward Observation Station	30
(iii)	Loitering Munition	120
(iv)	Comprehensive Maintenance Contract	05 yrs

8. **Make II Procedure.** Make-II Procedure duly available at Chapter III of DAP-2020, will be referred to hereinafter in the case and a copy of the same is available on MoD website. The Project Facilitation Team (PFT) of Indian Army/ MoD constituted will act as interface between Indian Army and Industry during the Design and Development stage of the project. **No re-imburement of development cost is permissible under Make-II scheme.**

## **PART II : SCOPE OF THE PROJECT**

### **Medium Precision Kill System (MRPKS)**

9. **Scope.** Medium Range Precision Kill System (MRPKS) is conceived as a capability enhancement for Artillery and will be developed by the Indian Industry. The project is aimed at meeting this requirement indigenously.

10. **Preliminary Services Qualitative Requirements (PSQR) of the Proposed System.** PSQR (aligned to DAP-2020) of Medium Range Precision Kill System (MRPKS) is attached at **Appendix A.**



## Time Line and Milestones

### 11. Timelines

- (a) Prototype development - 48 weeks (including conduct of UTRR) from the date of issue of Project Sanction Order.
- (b) Production of 10 sets of MRPKS - Upto 24 months from the date of issue of Supply Order in 02 lots as under:-

<u>Ser</u>	<u>Timeline (Months)</u>	<u>Quantity</u>	<u>Remarks</u>
(a)	$D_0 + D_{12}$	03	<ul style="list-style-type: none"> <li>• <math>D_0</math> is the date of contract</li> <li>• <b>The final quantities will be intimated in the PSO.</b></li> </ul>
(b)	$D_{12} + D_{24}$	07	

12. Milestones. Major activities in the procurement are given below :-

<u>Ser</u>	<u>Activity</u>	<u>Remarks</u>	<u>Timelines</u>
(a)	Issue of Eol	By Project Facilitation Team (PFT)	$T_0$
(b)	Submission of Queries	Queries on Eol, if any, to be submitted by respondents	$T_0 + 4$ weeks
(c)	Date of Pre Eol Response Meeting	By PFT with Eol respondents to clarify the issues/ queries raised by participating firms to facilitate submission of Eol response	$T_0 + 5$ weeks
(d)	Eol Responses Submission	By Eol respondents (Indian Vendors)	$T_0 + 8$ weeks
(e)	Eol Responses Evaluation	By Project Facilitation Team (PFT)	$T_0 + 8$ to $T_0 + 14$ weeks
(f)	Short listing of DAs and Issue of Project Sanction Order for Development of Prototype	To selected Development Agencies (DAs), those meeting evaluation criteria	$T_0 + 14$ to $T_0 + 16$ weeks



<u>Ser</u>	<u>Activity</u>	<u>Remarks</u>	<u>Timelines</u>
(g)	Design and Development of Prototype and User Trial Readiness Review (UTRR)	(i) Development of Prototype. (ii) To confirm completion of design & development of prototypes as per PSQR, prior to commencement of Field Evaluation Trials. (iii) More than one review may be conducted, on required basis. Dates will be promulgated by the PFT, as per progress of the project.	$T_0 + 16$ to $T_0 + 64$ weeks
(h)	1-2 Intermediate meetings to check the progress and direction of the project to be planned	-	Between $T_0 + 16$ to $T_0 + 64$ weeks
(j)	Conversion of PSQRs to SQRs	-	$T_0 + 68$ weeks
(k)	Solicitation of Commercial offer	Commercial RFP for 'Buy (Indian-IDDM)' phase will be issued to all Development Agencies (DAs) for submission of their commercial offer, prior to commencement of Field Evaluation Trials.	$T_0 + 72$ weeks
(l)	Field Evaluation Trials till contract.	To validate the performance of the system against the specifications of approved PSQRs after the development of prototype.	As per Chapter II of DAP 2020

### Development of Prototype and Trials

13. All possible and reasonable assistance and any clarification related to functional or operational aspect of development as sought by DAs will be provided by Project Facilitation Team (PFT).



14. After the prototype has been developed as per PSQR given at **Appendix A**, the PFT would carry out User Trial Readiness Review of the prototype(s) and freeze the Technical Specifications before conduct of User Trials on NCNC basis. Evaluation of the equipment will be carried out during the User Trials to validate the performance of the equipment against the Final Technical Specifications. Service HQ will formulate the 'Trial Directive' which will incorporate the parameters for validating the 'Essential Parameters'. Necessary technical literature pertaining to the design & material will be provided by the DAs for the User Trial Readiness Review as per policy in vogue.

### **Solicitation of Commercial Offers**

15. A commercial Request for Proposal (RFP) for 'Buy (Indian-IDDMM)' phase would be issued to DA(s) prior to commencement of User Trials for soliciting their commercial offers. Additional technical information/ documentation, as may be necessary including those related to Indigenous Content and IPRs would also be required to be provided by the vendor prior to the issue of Commercial RFP.

### **Deliverables**

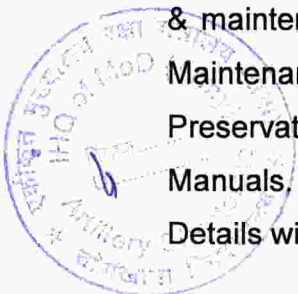
16. The project is envisaged to have the following deliverables:-

(a) **Prototype Development Phase.** One Launcher, Two Forward Observer Stations, Six Loiter Munitions.

(b) **Procurement Phase.** 10 sets of Medium Range Precision Kill System (MRPKS) to include the following :-

(i)	Launchers	-	10
(ii)	Forward Observation Stations	-	30
(iii)	Loiter Munition	-	120
(iv)	Comprehensive Maintenance Contract	-	05 yrs

(c) **Comprehensive Maintenance Contract (CMC).** An appropriate **Comprehensive Maintenance Contract (CMC) for five years** will be required for repair & maintenance of the equipment to include Spares, Special Test Equipment / Special Maintenance Tool, Training and Technical literature to include User Hand Book, Preservation Instructions, Complete Equipment Schedule, Repair Manual and Technical Manuals. These will be provided with the equipment during the procurement phase. Details will be further amplified in the Request for Proposal (RFP).



(d) **Warranty.** The goods supplied shall carry a standard warranty for 24 months from the date of acceptance by JRI. Details will be further amplified in the Commercial Request Proposal (RFP).

### **Details of Trials/Assistance to be Provided**

17. The following trials will be conducted / assistance will be provided:-

(a) **Trials.** The trials will be conducted in two stages :-

(i) **Stage-I : User Trial Readiness Review (UTRR).** Development of prototype to bring the Medium Range Precision Kill System (MRPKS) to user trial level. PFT will carry out User Trial Readiness Review (UTRR) of prototype and freezing of Technical Specification as per policy in vogue.

(ii) **Stage-II : Field Evaluation Trials.** To evaluate the performance and assess the suitability of Medium Range Precision Kill System (MRPKS) to meet operational, technical and safety aspects. User Trials, DGQA Trials, EMI / EMC Trials and Maintainability Evaluation Trials (MET) on NCNC basis will be conducted. Details of the same will be included in the RFP.

(b) **Assistance to be Provided.** Assistance to Development Agencies (DAs) will be provided by provision of ranges for carrying out trials. Range will be provided for a duration of 10 days in two blocks of 5 days each on sharing basis. Additional assistance if any will be solely at the discretion of the PFT. In case any damage occurring to equipment/ property/ personnel resulting from the testing of the job of private entity, the private entity is liable to bear the expenses of repair/ replacement of the facility and all necessary insurance coverage for the job shall be the responsibility of the private entity.

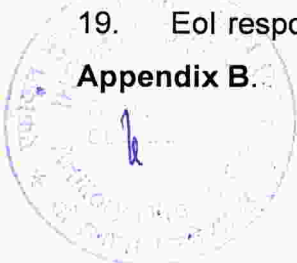
### **Multiple Technological Solutions**

18. Only a small quantity is being procured initially. The entire order will be given to the successful L1 vendor.

## **PART III : EVALUATION CRITERIA**

### **Commercial Evaluation Criteria**

19. EoI respondents will furnish their response to the Commercial Evaluation Criteria as per **Appendix B.**





20. **Technical Evaluation Criteria.** The respondents to this EoI are required to furnish information about their Technical Capability as per **Appendix C. Compliance/ information'** is also required to be submitted as per the proposed solution offered by the DA against PSQR of Medium Range Precision Kill System (MRPKS).
21. **Indigenous Content (IC).** Indigenous Content of minimum 50% is to be achieved. Post successful development under Make-II would result in acquisition from successful DAs through 'Buy (Indian-IDDMM)' category with indigenous design and development. The Indigenous Content should be minimum of 50% in accordance to Para 21 Chapter I of DAP 2020.
22. **Foreign Collaboration.** If the EoI Respondent is collaborating/plans to collaborate with a foreign technology provider, the nature of such collaboration and the technology areas being transferred must be stated in the response (please refer **Para 14 of Appendix D**).
23. **Additional Information.** Additional information required to be furnished as part of the EoI response is given at **Appendix D**.

#### **PART IV : PROCEDURE FOR SUBMISSION OF RESPONSE TO THE EoI**

24. The response to the EoI shall be submitted as per formats given at **Appendix B to G**.
25. **Guidelines for Submitting EoI Responses.**
- (a) The responses should be submitted strictly as per the formats given in respective Appendices. The vendors will submit their response on **Appendix B to G**. The response will be marked by pen on a printout of **Appendix B to F**. Any additional info may be entered by pen in remarks column. Additional information as per **Appendix D** will be submitted separately as per the given format.
- (b) All responses and Appendices should be submitted in a single file / folder. Supporting documents / additional references should be submitted in a separate folder with proper reference mentioned against each parameter / sub parameter in respective appendices.
- (c) Any supporting document / evidence without any reference to specific parameter of criteria will not form part of the assessment.



26. **Rejection Criteria for Selection as DAs.** The following may lead to rejection of Eol response:-

- (a) Failure to meet Commercial Evaluation Criteria given at **Appendix B.**
- (b) Failure to offer meet/ comply with Technical Evaluation Criteria given at **Appendix C.**
- (c) Failure to submit certificate/details as mentioned at **Appendix D to G** of the Eol.
- (d) Failure to offer compliance to any of the terms and conditions given in the Eol.
- (e) Any other parameter of the response considered inadequate by the MoD, Government of India.

27. The Eol respondent shall submit three (03) copies of response to the Eol, clearly marking one copy as '**Original Copy**' and **second & third as 'Duplicate Copy and Triplicate Copy'**. The response will be submitted on print out of **Appendix B to G** uploaded alongwith the Eol. In the event of any discrepancy between them, the original copy shall govern/ prevail. Each page of the response will bear the signatures of the authorised signatory of the company. The DA shall also submit a soft copy of the response to this Eol in a CD/ DVD.

28. **The Envelops shall be Addressed as under :-**

Secretary, Project Facilitation Team  
 Medium Range Precision Kill System (MRPKS)  
 Artillery-12 (Missiles),  
 Directorate General of Artillery, Integrated HQ of MoD (Army)  
 Room No 504, 'A' Wing, Sena Bhawan  
 DHQ PO, New Delhi - 110011  
 email id - aproc@nic.in  
 Tele No - 33617

29 The responses to this Eol must be submitted by **1700 hrs on 14 Feb 2022** at the above mentioned address.



30. **Confidentiality Agreement.** The Company will be required to sign and honour the 'Confidentiality Agreement' with MoD Govt of India. The 'Confidentiality Agreement' will be furnished by each Eol respondent at the time of submission of Eol responses as per format given at **Appendix E.**

**PART V : MISCELLANEOUS**

31. **Pre Eol Responses Meeting** A pre-response meeting will be held on **24 Jan 2022 at 1100 Hours** at Directorate General of Artillery, Arty-12 (Missiles), New Delhi-11011. Vendors are required to submit their queries / clarifications / amplifications in writing to this office by **17 Jan 2022.**

32. Guidelines for penalties in business dealings with entities as promulgated by Government from time to time, will be applicable on procurement process & bidders.

33. The Pre-Contract Integrity Pact (PCIP), listed as detailed in Paragraph 119 of Chapter II of DAP-2020, shall apply mutatis mutandis to the 'Buy (Indian-IDDMM)' phase of 'Make' project.

34. Respondent would be subject to disqualifications if they make false, incorrect, or misleading claims in their response to this Eol. A 'Correctness Certificate' as per the format at **Appendix G** will be furnished as part of the response.

35. An Eol Compliance Certificate will be submitted as per **Appendix F.**

36. Please acknowledge the receipt of this invitation for Eol.

File No : A/16132/GS/MRPKS/BMS/Arty-12(Msl)

Dated : 17 Dec 2021

(Prashant Kr Singh)  
Colonel  
Offg Secretary, Project Facilitation Team  
Directorate General of Artillery/  
Artillery -12 (Missiles)

**Enclosures** Appendices A to G.



**Appendix A**  
(Refers to Para 10 of Eol)

**PRELIMINARY STAFF QUALITATIVE REQUIREMENT (PSQR) FOR  
PROCUREMENT OF QUANTITY TEN SETS OF MEDIUM RANGE  
PRECISION KILL SYSTEM (MRPKS)**

1.	Reference to General Staff Policy Statement No	:	352
2.	PSQR No (To be allotted by the General Staff)	:	90
3.	Other Previous GSQR No.	:	-
4.	Next review due on	:	-
5.	GSQR being superseded	:	NA
6.	Reference GSEPC Meeting	:	-
7.	Line Directorate File No.	:	A/16132/GS/MRPKS/BMS/ Arty-12(Msl)
8.	Nomenclature	:	Medium Range Precision Kill System (MRPKS)
9.	Security Classification	:	Confidential
10.	Priority for Development	:	Immediate
11.	GSQR Reviewed / Modified On	:	NA
12.	Next Review Due	:	NA
13.	GSQR being Superseded	:	NA

**Introduction and Proposed Service Employment**

14. There is a need for equipping the Artillery with a weapon system which can be deployed in the forward areas and engage enemy targets with accuracy. The aim of this Preliminary Staff Qualitative Requirement is to lay down the broad qualitative requirements for the development of 'MEDIUM RANGE PRECISION KILL SYSTEM'.



15. Medium Range Precision Kill System (MRPKS) will be used to equip the artillery units to engage the following types of permanent and dynamic targets in plains, deserts, semi desert, mountainous terrain and high altitude areas :-

- (a) Command Control Communication Computer and Intelligence (C4I) installations to include Headquarters, Signal Centers and Command Posts.
- (b) Strategic/ Long Range Vector Weapon System Platforms.
- (c) Radar installations to include Weapon Locating Radar, AD Systems and Communication Centres.
- (d) A and B vehicle concentrations and dynamic targets.
- (e) Troops and vehicles in open.
- (f) Lgs Storage Dumps and Depots to include FOL & Special Ammunition Storage.
- (g) Troops and vehicles in Assembly Areas and Harbours in open.
- (h) Bottlenecks.
- (j) Any other targets requiring precision engagement.

16. **Related Information.** In order to evolve this PSQR, use has been made of literature available on Advance Precision Kill Systems (USA), Harop/ Harpy (Israel) and Hero series, UVision (Israel).

17. **Availability Date.** The Medium Range Precision Kill System (MRPKS) should be available for user trials earliest after approval of TEC.

18. **Compliance with Metric System.** The proposed equipment and its components should be based on ISO standards.

### **Aim**

19. To lay down the PSQR for Medium Range Precision Kill System (MRPKS).



**ESSENTIAL PARAMETERS****Operational Parameters**

20. The characteristics of MRPKS should be as follows :-

- (a) **Range** - 40 Km.
- (b) **Accuracy** - 5 meters CEP.
- (c) **Launch Altitude** - 4000 meters or more.
- (d) **Warhead Weight** -  $\geq$  8 kg.
- (e) **Warhead Types** - High Explosive Pre Fragmented (HEPF) and Anti Armour.
- (f) **Endurance**. The munition should have endurance of minimum **2 hours**.
- (g) **Loiter Altitude**. Capability to loiter above ground level at an altitude of minimum 1000 meters.
- (h) **Fuze Activation**.
  - (i) On Impact.
  - (ii) Air Burst.
- (j) **Target Acquisition**. Target acquisition during day and night using user controlled optical interface.
- (k) **Damage Assessment**. Telemetry feed from the projectile and **capability to loiter in the target area**.
- (l) **Abort, Re-attack & Re-use Capability**. The munition should have Abort, Re-attack and Re-use capability.
- (m) **Control Interface**. The system should incorporate the following control interfaces:-
  - (i) **Control Station**. The Control Station should be fitted onboard the Launcher vehicle for the following tasks :-
    - (aa) Carrying out mission planning.
    - (ab) Simultaneous control of two or more munitions.
    - (ac) Allocation of munition to Forward Control Stations.
    - (ad) Target selection, mission planning and control of the munition system including recovery.
    - (ae) Guide the munition to the target as per desired accuracy.



(ii) **Forward Control Stations.** Forward Control Stations should have the following characteristics :-

- (aa) Hand held devices to take over control of munition launched through the Launcher.
- (ab) Sub assemblies of Forward Control Station should be man portable.
- (ac) Capability to transfer control of munition back to the Launcher Control Station.
- (ad) Guide the munition to the target as per desired accuracy.

(n) **ECCM Capability.** The system should have inbuilt ECCM capability to prevent any interference or spoofing.

(o) **Communication.** The system should cater for the following communication requirements :-

- (i) **Launcher Vehicle.** On board communication system to communicate with munition system at the maximum ranges.
- (ii) **Forward Control Station.** Man pack communication system to communicate with the munition system upto a minimum range of 5 Km.

(p) **Homing.** The munition system should have the capability for homing on to the allocated target even if communication from ground station is disrupted. The capability should also exist for moving target. The operator from the Control Station should be able to lock-on to the target/ lock-off from the target.

21. **Launcher Vehicle.**

- (a) It should have an on board Control Station and Power Supply System.
- (b) Capable to launch the projectile in autonomous mode.
- (c) The launcher vehicle should be capable of moving at speeds not less than 40 Km per hour on road and 10 Km per hour on desert track/ cross country/ mountains with full op loads.

22. **Portability.** The system should be portable by road, rail and service aircraft.

23. **Power Requirements.** The system should be capable of generating its own power requirement to operate the system. Adequate redundancy should be catered for in the system for power generation/ backup.



24. **IRNSS Compatibility.** The system should be compatible with IRNSS and GPS.
25. **DSM Compatibility.** The system should be compatible with Defence Series Maps (DSM).
26. **Safety Features.**
- (a) The weapon system should have in built safety features to safe guard the crew handling the munition during transit, assembly and maintenance.
  - (b) The system with or without fuse should be safe to handle and be capable of withstanding rough handling under operational conditions.
  - (c) **Arming Safety.** The weapon should be capable of being armed and fired immediately when required.
  - (d) Safety in handling, repair and in the event of misfire to be ensured.
  - (e) Blast protection measures during firing should be incorporated.
27. **Terrain and Climatic Conditions.**
- (a) **Operational Temperature.**
    - (i) Minimum - Between minus 15<sup>0</sup>C and minus 5<sup>0</sup>C.
    - (ii) Maximum - Between 40<sup>0</sup>C and 45<sup>0</sup>C.
  - (b) Humidity - upto 95%
  - (c) Wind (surface) - upto 10 meters/ second.
  - (d) Terrain conditions - The system should be able to operate in all types of terrain.

### **Technical Parameters**

28. **Durability and Service Life Required.**
- (a) **Storage.** Storage of the system should be possible in field conditions (under shed). The storage temperatures of munitions are as follows:-
    - (i) Maximum - 40<sup>0</sup>C.
    - (ii) Minimum - minus 30<sup>0</sup>C.





(b) **EMI/ EMC Compliance.** The system should be EME/ EMC compliant as per test standards of MIL STD 460 E/ F or later.

(c) **Shelf Life.**

- |      |                                |   |                   |
|------|--------------------------------|---|-------------------|
| (i)  | Ground Support Equipment (GSE) | - | 20 years or more. |
| (ii) | Loiter Munition                | - | 15 years or more. |

### **Maintainability and Ergonomic Parameters**

29. **All Weather Capability.** The system should be operational both during day and night in all weather conditions.

30. **Design and Construction.**

- (a) The design should cater for component standardisation in the launcher.
- (b) The system should be designed to protect adjacent munition during launch.

31. **Corrective Maintenance**

(a) **Field Repairs.** Field repairs to be carried out in-situ, with minimum essential test equipment tools and man-hours. Emphasis will be on reduced diagnostic time and repair by replacement of defective modules. Procedure for replacement of modules/ sub-assemblies should be simple.

(b) **Base Repairs.**

(i) These should be supported by production agencies till such time Army identifies/ sets up its own static facilities, based upon population of equipment, technical and economic considerations.

(ii) Specialist tools, test equipment, jigs and fixtures required for testing and repair up to component level repair, should be developed and made available during the maintenance trial of the equipment.

(c) **Reliability Parameters.**

- |      |                                  |   |  |
|------|----------------------------------|---|--|
| (i)  | Mean Time Between Failure (MTBF) | - | 500 hours                              |
| (ii) | Mean Time To Repair (MTTR)       | - | Not more than 3 hours (In-situ Repair) |



**DESIRABLE PARAMETERS**

32. **Range.** 60 Km.
33. **Accuracy.** 2 meters CEP.
34. **Attack Direction.** Capability to engage from any direction.
35. **Damage Assessment.** Live video feed till last few seconds prior to impact.



**COMMERCIAL EVALUATION CRITERIA****Appendix B**

(Refers to Para 19 of EoI)

1. **Name of the Vendor :** \_\_\_\_\_
2. **Evaluation Criteria.**

<b><u>S No</u></b>	<b><u>Criteria</u></b>	<b><u>Vendor Submission</u></b>	<b><u>Reference</u></b>
(a)	Nature of the Company (refer Para 6(b) of Chapter III of DAP-2020).	Indian / Joint Venture	(Reference against vendor / response must be flagged and mentioned in this column)
(b)	Ownership status (refer Para 20 (a) & (b) of Chapter I of DAP-2020).	Compliant / Non compliant	
(c)	Category of Industry.	Large / Medium / Small / Micro / DPSU / Start Up	
(d)	Registration (as applicable for large / MSME/startup etc).	Yes / No	
(e)	Minimum average turnover for last three financial years from date of issue of EoI.	More than 11.064 Cr / less than 11.065 Cr	
(f)	Net worth of previous financial year.	Positive / Negative	
(g)	Defence Industrial License details.	Yes/ Applied for	

Station : \_\_\_\_\_ Signature \_\_\_\_\_

Company Seal

Date : \_\_\_\_\_

**Note**

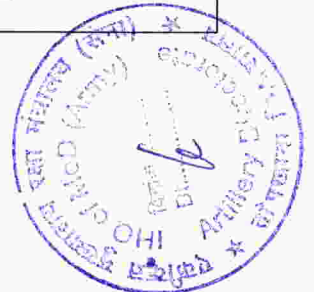
1. All submissions must be on printed copy of Appendix as uploaded on MoD website and should be supported by referenced documents duly authenticated.
2. Any input with incorrect or missing reference will not assessed.



**Appendix C**  
(Refers to Para 20 of Eol)

**TECHNICAL EVALUATION CRITERIA**

<b><u>Ser No</u></b>	<b><u>Criteria and Sub Criteria</u></b>	<b><u>Vendor Response</u></b>	<b><u>Remarks (if Any)</u></b>
1.	Indigenous content will be minimum 50% as per DAP-2020.	Compliant/ Non Compliant	
2.	Indigenous design as per provision of DAP-2020.	Compliant/ Non Compliant	
3.	<b><u>Timelines.</u></b> (a) Development of prototype 48 weeks including UTTR. (b) Delivery of items as per delivery schedule - 24 Months.	Compliant/ Non Compliant	
4.	Confirmation of capability to develop and provide equipment to meet user requirements specified in <b>Appendix A (PSQR)</b> .	Compliant/ Non Compliant	
5.	Proposed system configuration (broad design details).	Compliant/ Non Compliant	
6.	Should have an operational (for atleast three years) manufacturing facility for MRPKS or equipment of similar domain.	Compliant/ Non Compliant	
7.	Acceptance to all terms and conditions given in the Eol.	Compliant/ Non Compliant	
<b><u>PSQR Requirements</u></b>			
6.	<b><u>Operational Parameters</u></b>		
(a)	<b><u>Range</u></b> - 40 Km.	Compliant/ Non Compliant	
(b)	<b><u>Accuracy</u></b> - 5 meters CEP.	Compliant/ Non Compliant	
(c)	<b><u>Launch Altitude</u></b> - 4000 meters or more.	Compliant/ Non Compliant	



Ser No	<u>Criteria and Sub Criteria</u>	<u>Vendor Response</u>	<u>Remarks (if Any)</u>
(d)	<u>Warhead Weight</u> - $\geq 8$ kg.	Compliant/ Non Compliant	
(e)	<u>Warhead Types</u> - High Explosive Pre Fragmented (HEPF) and Anti Armour.	Compliant/ Non Compliant	
(f)	<u>Endurance.</u> The munition should have endurance of minimum 2 hours.	Compliant/ Non Compliant	
(g)	<u>Loiter Altitude.</u> Capability to loiter above ground level at an altitude of minimum 1000 meters.	Compliant/ Non Compliant	
(h)	<u>Fuze Activation.</u>		
	(i) On Impact.	Compliant/ Non Compliant	
	(iii) Air Burst.	Compliant/ Non Compliant	
(j)	<u>Target Acquisition.</u> Target acquisition during day and night using user controlled optical interface.	Compliant/ Non Compliant	
(k)	<u>Damage Assessment.</u> Telemetry feed from the projectile and capability to loiter in the target area.	Compliant/ Non Compliant	
(l)	<u>Abort, Re-attack &amp; Re-use Capability.</u> The munition should have Abort, Re-attack and Re-use capability.	Compliant/ Non Compliant	
(m)	<u>Control Interface.</u> The system should incorporate the following control interfaces:-	Compliant/ Non Compliant	
	(i) <u>Control Station.</u> The Control Station should be fitted onboard the Launcher vehicle for the following tasks:-	Compliant/ Non Compliant	



<u>Ser No</u>	<u>Criteria and Sub Criteria</u>	<u>Vendor Response</u>	<u>Remarks (if Any)</u>
	(aa) Carrying out mission planning.	Compliant/ Non Compliant	
	(ab) Simultaneous control of two or more munitions.	Compliant/ Non Compliant	
	(ac) Allocation of munition to Forward Control Station.	Compliant/ Non Compliant	
	(ad) Target selection, mission planning and control of the munition system including	Compliant/ Non Compliant	
	(ae) Guide the munition to the target as per desired accuracy.	Compliant/ Non Compliant	
	(ii) <u>Forward Control Stations.</u> Forward Control Stations should have the following characteristics:-	Compliant/ Non Compliant	
	(aa) Hand held devices to take over control of munition launched through the Launcher.	Compliant/ Non Compliant	
	(ab) Sub assemblies of Forward Control Station should be man portable.	Compliant/ Non Compliant	
	(ac) Capability to transfer control of munition back to the Launcher Control	Compliant/ Non Compliant	
	(ad) Guide the munition to the target as per desired accuracy.	Compliant/ Non Compliant	



Ser No	Criteria and Sub Criteria	Vendor Response	Remarks (if Any)
	(n) <u>ECCM Capability.</u> The system should have inbuilt ECCM capability to prevent any interference or spoofing.	Compliant/ Non Compliant	
	(o) <u>Communication.</u> The system should cater for the following communication requirements :-	Compliant/ Non Compliant	
	(i) <u>Launcher Vehicle.</u> On board communication system to communicate with munition system at the maximum ranges.	Compliant/ Non Compliant	
	(ii) <u>Forward Control Station.</u> Man pack communication system to communicate with the munition system upto a minimum range of 5 Km.	Compliant/ Non Compliant	
	(p) <u>Homing.</u> The munition system should have the capability for homing on to the allocated target even if communication from ground station is disrupted. The capability should also exist for moving target. The operator from the Control Station should be able to lock-on to the target/ lock-off from the target.	Compliant/ Non Compliant	
	(q) <u>Launcher Vehicle.</u>		
	(i) It should have an on board Control Station and Power Supply System.	Compliant/ Non Compliant	



<u>Serial No</u>	<u>Criteria and Sub Criteria</u>	<u>Vendor Response</u>	<u>Remarks (if Any)</u>
	(ii) Capable to launch the projectile in autonomous mode.	Compliant/ Non Compliant	
	(iii) The launcher vehicle should be capable of moving at speeds not less than 40 Km per hour on road and 10 Km per hour on desert track/ cross country/ mountains with full op loads.	Compliant/ Non Compliant	
	(r) <u>Portability</u> . The system should be portable by road, rail and service aircraft.	Compliant/ Non Compliant	
	(s) <u>Power Requirements</u> . The system should be capable of generating its own power requirement to operate the system. Adequate redundancy should be catered for in the system for power generation/ backup.	Compliant/ Non Compliant	
	(t) <u>IRNSS Compatibility</u> . The system should be compatible with IRNSS and GPS.	Compliant/ Non Compliant	
	(u) <u>DSM Compatibility</u> . The system should be compatible with Defence Series Maps (DSM).	Compliant/ Non Compliant	
	(v) <u>Safety Features</u> .		
	(i) The weapon system should have in built safety features to safe guard the crew handling the munition during transit, assembly and maintenance.	Compliant/ Non Compliant	
	(ii) The system with or without fuse should be safe to handle and be capable of withstanding rough handling under operational conditions.	Compliant/ Non Compliant	





Ser No	<u>Criteria and Sub Criteria</u>	<u>Vendor Response</u>	<u>Remarks (if Any)</u>
	(iii) <u>Arming Safety.</u> The weapon should be capable of being armed and fired immediately when required. (iv) Safety in handling, repair and in the event of misfire to be ensured. (v) Blast protection measures during firing should be incorporated.	Compliant/ Non Compliant  Compliant/ Non Compliant  Compliant/ Non Compliant	
7.	<u>Terrain and Climatic Conditions</u>		
(a)	<u>Operational Temperatures:-</u>	Compliant/ Non Compliant	
(i)	Minimum - Between minus 15 <sup>o</sup> C and minus 5 <sup>o</sup> C.	Compliant/ Non Compliant	
(ii)	Maximum - Between 40 <sup>o</sup> C and 45 <sup>o</sup> C.	Compliant/ Non Compliant	
(b)	<u>Humidity</u> - upto 95%.	Compliant/ Non Compliant	
(c)	<u>Wind (surface)</u> - upto 10 meters/ second.	Compliant/ Non Compliant	
(d)	<u>Terrain conditions</u> - The system should be able to operate in all types of terrain.	Compliant/ Non Compliant	
8.	<u>Technical Parameters</u>		
(a)	<u>Durability and Service Life Required.</u>	Compliant/ Non Compliant	
(i)	<u>Storage.</u> Storage of the system should be possible in field conditions (under shed). The storage temperatures of munitions are as follows:-		
(aa)	Maximum - 40 <sup>o</sup> C.	Compliant/ Non Compliant	
(ab)	Minimum - minus 30 <sup>o</sup> C.	Compliant/ Non Compliant	



<u>Ser No</u>	<u>Criteria and Sub Criteria</u>	<u>Vendor Response</u>	<u>Remarks (if Any)</u>
	(b) <b><u>EMI/ EMC Compliance.</u></b> The system should be EME/ EMC compliant as per test standards of MIL STD 460 E/ F or later.	Compliant/ Non Compliant	
	(c) <b><u>Shelf Life.</u></b> (i) Ground Support Equipment (GSE) - 20 years or more. (ii) Loiter Munition - 15 years or more.	Compliant/ Non Compliant Compliant/ Non Compliant	
9.	<b><u>Maintainability and Ergonomic Parameters.</u></b>		
	(a) <b><u>All Weather Capability.</u></b> The system should be operational both during day and night in all weather conditions.	Compliant/ Non Compliant	
	(b) <b><u>Design and Construction.</u></b> (i) The design should cater for component Standardization in the launcher. (ii) The system should be designed to protect adjacent munition during launch.	Compliant/ Non Compliant Compliant/ Non Compliant	
	(c) <b><u>Reliability Parameters.</u></b> (i) Mean Time Between Failure (MTBF) - 500 hours. (ii) Mean Time To Repair (MTTR) - Not more than 3 hours (In-situ).	Compliant/ Non Compliant Compliant/ Non Compliant	



<b>Ser No</b>	<b>Criteria and Sub Criteria</b>	<b>Vendor Response</b>	<b>Remarks (if Any)</b>
10.	<b>Enhanced Performance Parameters (EPP) for Desirable Parameters.</b>		
	(i) <b>Range.</b> 60 Km (Credit Score for Enhanced Performance Parameters (EPP)-1%).	For information only. Compliance not required during submission.	
	(ii) <b>Accuracy.</b> 2 meters CEP (Credit Score for Enhanced Performance Parameters (EPP)-2%).		
	(iii) <b>Attack Direction.</b> Capability to engage from any direction (Credit Score for Enhanced Performance Parameters (EPP)-1%).		
	(iv) <b>Damage Assessment.</b> Live video feed till last few seconds prior to impact (Credit Score for Enhanced Performance Parameters (EPP)-2%).		
11.	<b>Compliance Certificates.</b>		
	(a) Correctness Certificate (As per Appendix G)	Compliant/ Non Compliant	
	(b) Confidentiality Agreement (As per Appendix E)	Compliant/ Non Compliant	
	(c) EoI Compliance Certificate (As per Appendix F)	Compliant/ Non Compliant	

Station:

Signature

Company Seal

Date :

**Note**

1. All submissions must be on printed copy of Appendix as uploaded on MOD website and should be supported by referenced documents duly authenticated.

Any input with incorrect or missing reference will not assessed.



**INFORMATION PERFORMA**

1. Name of the Company.
2. Name of CEO with Designation.
3. Address of the Registered Office.
4. Address of the Factory / Factories.
5. Company Website(s).
6. Date of Incorporation.
7. Brief History of the Company.
8. Category of Industry (Large / Medium / Small / Micro).
9. Nature of Company (Public Limited/ Private Limited).
10. Nature of Business (Manufacture / Trader / Sole selling or Authorised Agent/ Dealer / Assembler / Processor / Re packer/ Service Provider). Please give broad product range as applicable
11. Details of Current Products :-
  - (a) Type / Description.
  - (b) Licensed / Installed Capacity.
  - (c) Annual Production for Preceding 3 Years.
12. Credit Rating.
13. Details of IPRs if any.
14. Details of Foreign Collaborations if any planned for execution of project.



15. Technology Received from abroad and assimilated / planned for execution of project.
16. Products Already Supplied :-
- (a) To Indian Army / Air Force / Navy.
  - (b) PSUs.
  - (c) DRDO and its Laboratories.
  - (d) Ordnance Factories.
  - (e) Any other Defence Organisation.
  - (f) To other Principal Customers.
17. Details of Developmental Facilities :-
- (a) R&D Facilities Available.
  - (b) Number of Technical Manpower.
  - (c) Percentage of Total Turn-Over Spent on R&D during the Last Three Years.
18. Turn-Over during the last Three financial Years.
19. Any other relevant information.
20. Contact Details of the Executive nominated to co-ordinate with the Assessment Team (Please provide telephone, mobile and e-mail address).

Station:

Signature

Company Seal

Date :



**Appendix E**  
(Refers to Para 30 of Eol)

**CONFIDENTIALITY AGREEMENT**

1. It is certified that Expression of Interest document for the project of Medium Range Precision Kill System (MRPKS) will not be shared with any agency in part or full any other agency. Only relevant details, as applicable, will be shared with technology partners including foreign technology partners. However, the Eol document itself will not be shared with any technology partners.
2. The company understands the security sensitivity of such an operational systems and any information pertaining to deployment and usage of the system including system scaling will not be discussed with third party without a written permission from the Project Facilitation Team. The company understands that failure to observe this agreement will lead to disqualification from the project.

Signature with Company Seal

**Note :**

1. All submissions must be on printed copy of Appendix as uploaded on MoD website and should be supported by referenced documents duly authenticated.
2. Any input with incorrect or missing reference will not assessed.



**Appendix F**

(Refers to Para 35 of EoI)

**EoI COMPLIANCE CERTIFICATE**

It is certified that all the aspects mentioned in the Expression of Interest for the procurement of Medium Range Precision Kill System (MRPKS) are being complied to. It is acknowledged that the company will be disqualified from further participation if any aspect mentioned in Expression of Interest is not complied with.

Signature with Company Seal

**Note :**

1. All submissions must be on printed copy of Appendix as uploaded on MoD website and should be supported by referenced documents duly authenticated.
2. Any input with incorrect or missing reference will not assessed.



**Appendix G**  
(Refers to Para 34 of EoI)

**CORRECTNESS CERTIFICATE**

It is certified that information submitted in the documents as part of the response to Expression of Interest for the project of Medium Range Precision Kill System (MRPKS) is correct and complete in all respects. It is acknowledged that the company will be disqualified from further participation if any information provided is found to be incorrect.

Signature with Company Seal

**Note :**

1. All submissions must be on printed copy of Appendix as uploaded on MoD website and should be supported by referenced documents duly authenticated.
2. Any input with incorrect or missing reference will not assessed.

