


**FORWARD OF REVISED QUALITATIVE REQUIREMENT (QRs) AND
TRIAL DIRECTIVES (TDs) OF MULTI GRENADE LAUNCHER (MGL) 40MM.**

The final Revised QRs and TDs of Multi Grenade Launcher (MGL) 40mm duly approved by competent authority is forwarded herewith for your information and necessary action please.


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Enclosures : As above

Distribution :-

1.	JS (PM), MHA, Jaisalmer House, New Delhi	For information please.
2.	Senior Technical Director, NIC, MHA, North Block, New Delhi Email : soit@nic.in	You are requested to upload the same on MHA website PM Division- QRs under Weaponry Category in approved QRs/TDs and delete the old QR TDs shown at SI No. 18 of Weaponry category please.
3.	IG/Director (R&D), BPR&D, Mahipalpur, New Delhi Email :igmod@bprd.nic.in / dd-mod@bprd.nic.in	
4.	ADG, PP & T, Room No 37, H Block, DGQA, Govt of India, Min of Defence, Department Defence Production, Directorate of Quality Assurance, New Delhi-110011, Email : saarnt-dgqa@gov.in	
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12.	Ops (WE), HQ NSG	

QUALITATIVE REQUIREMENT (QR) AND TRIAL DIRECTIVES (TDs) OF MULTI GRENADE LAUNCHER (MGL) 40MM

Note: User based on requirement can opt for either Option -1 or Option-2

OPTION-1 : 40mm Multi Grenade Launcher (MGL) for Low Velocity (LV) Ammunition

S/N	Parameter	Specification	Trial Directive
1	Caliber	40 x 46mm (for low velocity amn).	OEM to provide certificate confirming the Caliber of the weapon. Certificate to be checked by the BOO.
2	Number of chambers	Not less than six	To be physically checked by the BOO.
3	Grooves	MGL should have grooves in barrel to achieve desired range and accuracy	To be physically checked by the BOO.
4	Accuracy at 75 meters	Grouping of 0.95m x 0.95m or smaller on a vertical target of steel plate with dimensions of 2000x2000x2mm	30 Grenades (inert/practice) to be fired with a mechanical mount and out of 30 Grenades, 27 Grenades to hit within a group size of 0.95x0.95 meters from a distance of 75 meters on a vertical target of steel plate with dimensions of 2000x2000x2mm. Firm to provide the Grenades for the test.
5.	Effective Range	MGL should achieve a range not less than 375 meters with low velocity amn.	To calculate the effective range, 10 Grenades to be fired and average of achieved range should be calculated. In-case of Blind/misfire additional grenades to be provided
6.	Type of Fire	Single shot and semi-automatic fire	To be physically checked by BOO.
7.	Rate of fire	Not less than 20 grenades per minute	To be physically checked by BOO by firing 6 grenades from fully loaded MGL and all 6 grenades should be fired in 18 seconds.
8.	Weight	Weight without ammunition and sight should not be more than 5.5 kg.	To be physically checked by the BOO.
9.	Length (stock closed)	Maximum 700mm	To be physically checked by the BOO.
10	Length (stock open)	Maximum 780mm	To be physically checked by the BOO.



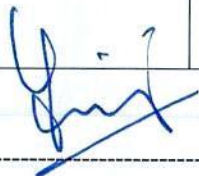
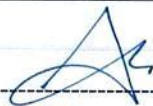
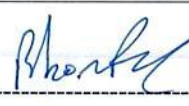

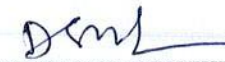








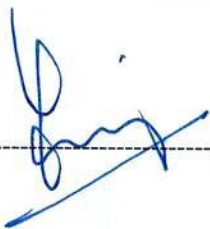

S/N	Parameter	Specification	Trial Directive
11.	Muzzle velocity	For Low velocity amn-76 \pm 3 m/s	OEM to provide certificate in this regard.
12.	Safety	Both Applied and mechanical safety should be available	To be physically checked by the BOO. Firm to provide OEM certificate for same.
13.	Sighting system	Red dot / Collimated Reflex sighting system. Sight should have arrangement that enable troops to engage target by direct & indirect firing.	To be physically checked by the BOO.
14.	Operating temperature	-45(\pm 3°C) to +55(\pm 3°C) degree Celsius and RH upto 90%	OEM to provide a certificate to the effect from DGQA/ National / international accredited laboratory.
15.	Robustness	(a) To comply with TOP 03-2-045 A/IAW DEF STAN 00-35/DGQA certification for bulk production on safety parameters	OEM to provide a certificate to the effect from a national / international accredited laboratory. However the following tests will be carried out by the BOO :- (i) Drop Test (ii) Mud Test (iii) Water Immersion Test
		(b) MGL should have anti corrosive coating.	(b) OEM to provide certificate for the same.
		(c) Barrel should have anti corrosive coating.	-
16.	Gauging	Weapon to be checked for gauging on following parameters: - (a) GO (b) NO GO (c) FIRING PIN PROTRUSION (d) HEAD SPACE (e) FLASH GAP GAUGE	OEM to provide gauges during field trials and to be physically checked by BOO.





S/N	Parameter	Specification	Trial Directive
17.	Compatibility with ammunition	Standard Low Velocity 40 x 46mm lethal and non lethal ammunition	BOO to physically check the same with their ammunition
18.	Life of barrel	Not less than 5000 rounds.	OEM to provide a certificate to the effect from a national / international accredited laboratory.
19.	Maintenance and Operability	a) Field stripping and assembling of the system to be done without use of any special tool.	To be physically checked by BOO
		b) List of gauges to be provided by OEM at the time of tender (pre bid meeting). Thereafter user may specify the requirement of gauges with quantity.	(b) Stripping and assembling to be physically checked by BOO.
		c) List of all spare parts to be provided by OEM.	
20.	Training	(a) Firm to provide one week of user level trg at the locations specified by the user.	Firm to provide undertaking for the same.
		(b) Firm to provide one week of repair level training at the locations specified by the user.	Firm to provide undertaking for the same.



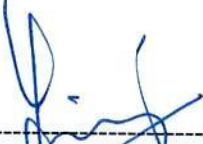









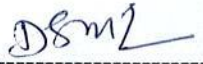

S/N	Parameter	Specification	Trial Directive
21	Misc	(a) Operator manual, trg manual, illustrated spare part list with diagram, tech brochure to be provided by firm.	Firm to provide undertaking for the same. Hard carrying case should be tested by a drop test. In this test, carrying case to be dropped from a height of 2 meter on a flat and hard surface, No cracks/deformation is acceptable.
		(b) Suitable Sling, Hard carrying case, Stripping tools, muzzle cover, Suitable cleaning kit to be provided.	



 (Vinay Verma) DC
 CRPF



 (Paramjeet) DC
 BSF


 (Bhompal) AC/Armr
 ITBP


 (Indra Kumar Singh) AC
 CISF


 (Darshan Singh) Insp/ Armr
 SSB


 (Anmol Kumar) AECQH
 DGQA


 (Bhupender Singh) AC-I
 SWS, NSG

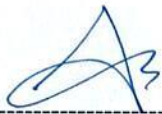

 (Hanish Ram Arya) Nb Sub
 Assam Rifles

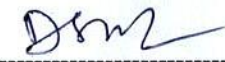

 (Lt Col RS Rawat)
 WE Br, HQ NSG


 K.L. PURI, SP
 BPR&D

OPTION-2 : 40mm Multi Grenade Launcher (MGL) for Medium Velocity (MV) Ammunition

S/N	Parameter	Specification	Trial Directive
1	Caliber	40 x 51 mm(for medium velocity amn)	OEM to provide certificate confirming the Caliber of the weapon. Certificate to be checked by the BOO.
2	Number of chambers	Not less than six	To be physically checked by the BOO.
3.	Grooves	MGL should have grooves in barrel to achieve desired range and accuracy.	To be physically checked by the BOO.
4	Accuracy at 75 meters	Grouping of 0.95m x 0.95m or smaller on a vertical target of steel plate with dimensions of 2000x2000x2mm.	30 Grenades (inert/practice) to be fired with a mechanical mount and out of 30 Grenades, 27 Grenades to hit within a group size of 0.95x0.95 meters from a distance of 75 meters on a vertical target of steel plate with dimensions of 2000x2000x2mm. Firm to provide the Grenades for the test.
5	Effective Range	MGL should achieve a range not less than 800 meters with medium velocity amn.	To calculate the effective range, 10 Grenades to be fired and average of achieved range should be calculated. In case of Blind/misfire additional grenades to be provided.
6.	Type of Fire	Single shot and semi-automatic fire	To be physically checked by BOO.
7.	Rate of fire	Not less than 20 grenades per minute	To be physically checked by BOO by firing 6 grenades from fully loaded MGL and all 6 grenades should be fired in 18 seconds.
8.	Weight	Weight without ammunition and sight (Not more than 6 kg)	To be physically checked by the BOO.
9.	Length (stock closed)	Maximum 750 mm	To be physically checked by the BOO.

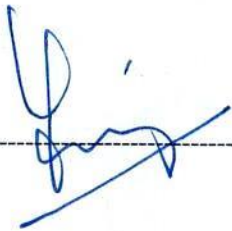
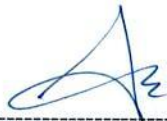








S/N	Parameter	Specification	Trial Directive
10	Length (stock open)	Maximum 830 mm	To be physically checked by the BOO.
11.	Muzzle velocity	For Medium velocity amn-124 ± 3 m/s	OEM to provide certificate in this regard.
12.	Safety	Both Applied and mechanical safety should be available.	To be physically checked by the BOO. Firm to provide OEM certificate for same.
13.	Sighting system	Red dot / Collimated Reflex sighting system. Sight should have arrangement that enable troops to engage target by direct & indirect firing.	To be physically checked by the BOO.
14.	Operating temperature	-45($\pm 3^{\circ}\text{C}$) to +55($\pm 3^{\circ}\text{C}$) degree Celsius and RH up-to 90%	OEM to provide a certificate to the effect from DGQA/ National / international accredited laboratory.
15.	Robustness	(a) To comply with TOP 03-2-045 A/IAW DEF STAN 00-35/DGQA certification for bulk production on safety parameters	OEM to provide a certificate to the effect from a national / international accredited laboratory. However the following tests will be carried out by the BOO :- (i) Drop Test (ii) Mud Test (iii) Water Immersion Test
		(b) MGL should have anti corrosive coating.	OEM to provide certificate for the same.
		(c) Barrel should have anti corrosive coating.	
16.	Gauging	Weapon to be checked for gauging on following parameters: - (a) GO (b) NO GO (c) FIRING PIN PROTRUSION (d) HEAD SPACE (e) FLASH GAP GAUGE	OEM to provide gauges during field trials and to be physically checked by BOO.

S/N	Parameter	Specification	Trial Directive
17.	Compatibility with ammunition	Medium velocity 40x51mm lethal and non lethal ammunition.	BOO to physically check the same with their ammunition
18.	Life of barrel	Not less than 5000 rounds.	OEM to provide a certificate to the effect from a national / international accredited laboratory.
19.	Maintenance and Operability	a) Field stripping and assembling of the system to be done without use of any special tool.	To be physically checked by BOO
		b) List of gauges to be provided by OEM at the time of tender (pre bid meeting). Thereafter user may specify the requirement of gauges with quantity.	Stripping and assembling to be physically checked by BOO.
		c) List of all spare parts to be provided by OEM.	
20.	Training	Firm to provide one week of user level training at the locations specified by the user.	Firm to provide undertaking for the same.









S/N	Parameter	Specification	Trial Directive
21	Misc	(a) Operator manual, training manual, illustrated spare part list with diagram, tech brochure to be provided by firm.	Firm to provide undertaking for the same. Hard carrying case should be tested by a drop test. In this test, carrying case to be dropped from a height of 2 meter on a flat and hard surface, No cracks/deformation is acceptable.
		(b) Suitable Sling, Hard carrying case, Stripping tools, muzzle cover, Suitable cleaning kit to be provided.	



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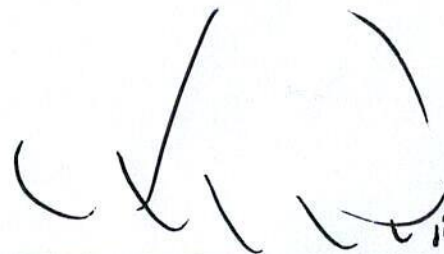
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Lt Col RS Rawat
WE Br, HQ NSG



K.L Puri, SP
BPR & D



Nalin Prabhat
Director General, NSG