

Appendix B

MLRS Operations

U.S. Army Multiple Launch Rocket System (MLRS) units may be attached or placed under OPCON of Marine Corps artillery regimental headquarters. Marine artillerymen must be familiar with various definitions and terminology used by MLRS units in order to operate more effectively. MCRP 3-16.1C, Tactics, Techniques, and Procedures for MLRS Operations, illustrates doctrinal procedures utilized by MLRS units.

Planning Considerations

a. Platoon Operations Area (OPAREA). Ideally a platoon OPAREA is a 3 X 3 KM area.

b. Firing Point (FP). Each platoon OPAREA should have a minimum of nine FPs (three per launcher). Under normal conditions, a FP is only used once. The following considerations apply to FP selection.

- (1) The launcher should not fire from slopes greater than 89 mils (5 degrees).
- (2) There should be no immediate mask in the probable direction of fire.
- (3) The FP should be within 100 m of a Hide Area (HA). However, longer distances are acceptable if response times remain optimal.
- (4) The FP may be located on a road. For rocket missions, the road should be perpendicular to the general azimuth of fire. For missile missions, the road should parallel the general azimuth of fire. This siting reduces ground signature, response time, and displacement time.
- (5) The FP should be 500 m from any other FP (800 m preferred) and 800 meters from any other position element except HAs.

c. Hide Area (HA). A HA should be a concealed position near the designated FP (within 100 meters). A launcher in a HA should be able to communicate with the Battery Operations center (BOC) and with the Platoon Headquarters. If possible, the HA should be on a road leading to the FP to reduce ground signatures, response time, and displacement time. Survey control at a HA is optional.

d. Reload Point (RL). Each platoon OPAREA should have at least two RLs. The following considerations apply to RL selection:

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1 **(1)** A RL should provide cover and concealment for a heavy expanded mobile tactical
2 truck (HEMTT)/heavy expanded mobile ammunition truck (HEMAT) and a launcher in the
3 same location at the same time. This is the most vulnerable position for both crews.
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5 **(2)** Maneuver room for the 100 foot turning radius of the HEMTT/HEMAT
6 combination and boom operations.
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8 **(3)** Firm ground or pavement to support vehicle and ammunition traffic.
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10 **(4)** RLs should be at least 800 m from FPs and at least 500 m from any other
11 element.
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13 **e. Survey Control Point (SCP).** SCPs should be collocated with RLs to reduce travel
14 time of the launchers.
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16 **f. Platoon Headquarters.** This position should be large enough to position the
17 M577A2 Command Track, applicable HMMWVs, maintenance vehicle(s), and inoperable
18 launchers. Survey control at the platoon HQ is optional.
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20 **g. Ammunition Holding Area (AHA).** The AHA is where the ammo section
21 positions its vehicles while awaiting transload or delivery of ammunition. It can be collocated
22 with the platoon HQ if the ground threat is greater than the air attack or counterfire threat.
23 Otherwise, the AHA should be 100 to 300 meters from the platoon HQ and astride the main
24 entrance route into the platoon HQ for entry control. The AHA is not an issue point for the
25 firing sections.
26

27 **h. MET Requirement.** MLRS units require the same computer met as cannon units.
28

29 **i. Survey Requirement.** The Positioning Determining System (PDS) aboard the
30 MLRS launcher requires two SCPs, four to six km apart with a straight route of travel between
31 them, located to at least fifth-order accuracy in order to calibrate. The PDS allows an error of
32 up to 0.4 percent of the distance traveled. Crews should update launchers every six to eight
33 km of travel. The PDS requires calibration after the following occurrences:
34

- 35 • At least every 30 days.
- 36 • After replacement of stabilization reference package (SRP)/PDS
- 37 • Change in operating conditions.
- 38 • After track or suspension maintenance.
39

40 **j. Communications Requirement.** The S-6 will coordinate frequencies, hopset data,
41 net ID, and crypto with the attached MLRS unit. The Regimental Operations Chief will
42 coordinate applicable Tab J information for MLRS units.
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44 **k. Capabilities**
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1 **(1) Rate of fire.** The crew can fire one to 12 rockets in less than 60 seconds at a
 2 maximum range of 30 kilometers. Similarly, they can fire one or two ATACMS missiles in
 3 less than 20 seconds to ranges in excess of 100 kilometers.

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 5 **(2) Ranges.** The actual MLRS range limits are classified. At ranges less than 10
 6 km the submunition dud rate increases significantly. For planning purpose use table 2-1.
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NOMENCLATURE	DODAC	TYPE	SUBMUNITION	RANGE (km)
M26	1340-H104	Rocket	M77	10-32
Extended Range	1340-H186	Rocket	M77	10-45+

8 **Table 2-1. Planning Ranges for MLRS Fires.**

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 10 **I. Fire Planning.** MLRS fire plan processing can be referenced in MCWP 3-16.1C,
 11 *Tactics, Techniques, and Procedures for MLRS Operations*, chapter 5. All fire planning
 12 procedures contained in the MCWP 3-16.2, *Tactics, Techniques, and Procedures for the*
 13 *Marine Corps Fire Support System*, are applicable when planning for MLRS fires. However,
 14 fire plans cannot be executed as per MCWP 3-16.2. The MLRS Fire Direction System (FDS)
 15 cannot process NNFP;FC, NNFP;XTGT, and NNFP;XSCD message formats which are
 16 generated by the IFSAS during execution or transmission of the Targets in the Schedule of
 17 Fires (TISF). This is overcome by transmitting the NNFP;TARGET message format. All
 18 other MCFSS fire planning procedures contained in MCWP 3-16.2 are applicable to MLRS
 19 units. However, the NNFP function for all IFSAS-based systems does not lend itself to
 20 change. If last minute changes are anticipated to planned targets, then the COC has several
 21 options based on anticipated reaction time to changes as illustrated in table 2-2.
 22

ANTICIPATED REACTION TIME	METHOD
30 Minutes	Use the NNFP function and assign H-hour
20-30 Minutes	Use the NNFP function. Do not assign H-hour. Once the actual H-hour is identified, enter it and process.
10-20 Minutes	Transmit each of the targets as AMC missions to the launchers. This requires them to move to the firing point and lay on the target. Once the TOT time is known, transmit an amended call for fire.
5-10 Minutes	Transmit each of the target as AMC missions to the launchers. "Back-off" the highest time of flight and coordinate trigger points with the aviation unit (through the appropriate FSCC). When the aviators cross the trigger point, the FSCC transmits the fire message.

23 **Table 2-2. Fire Plan Change Reaction Times.**

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