

US Army Reserve Test & Evaluation Results

PSATS-MIL

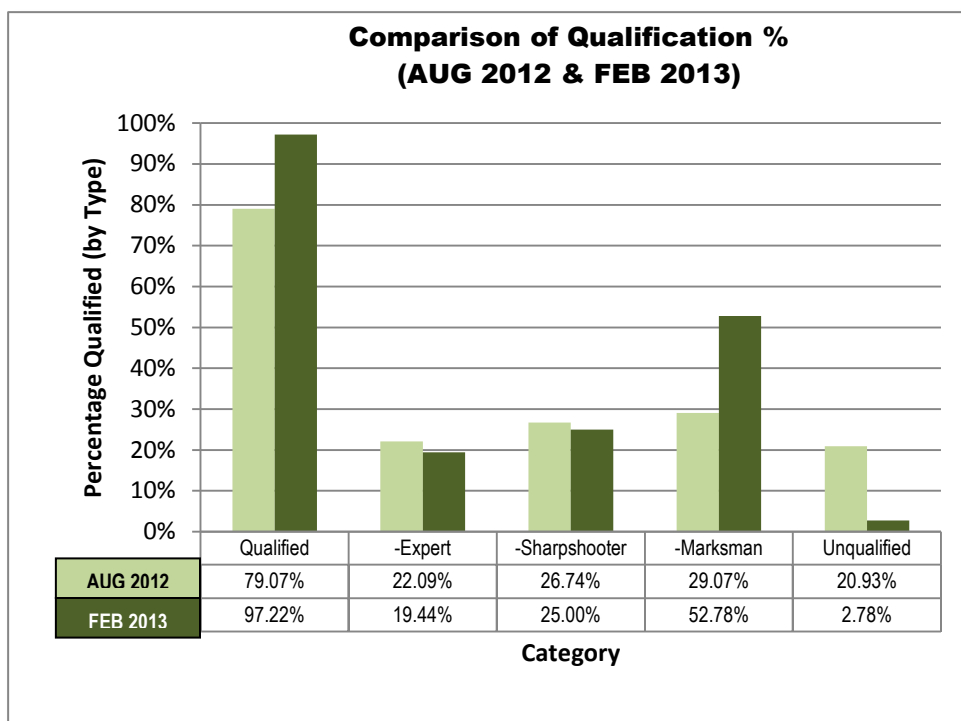
9 JAN – 6 MAR 2013

All data provided by SFC Randall Brown, Training NCO, 75th Training Command, US Army Reserve

Background

A Temporary Duty Assignment (TDA) unit from the US Army Reserve (USAR) participated in a test and evaluation of the Portable Small Arms Training Simulator (PSATS-MIL) (NSN: 6920-01-614-6935). The unit has no assigned weapons and must borrow M-9s and M-16s/M-4s in order to conduct mandatory annual weapons qualification. The unit is based in near proximity to several other units from the various branches, and has readily available access to Engagement Skills Trainer (EST-2000) and Laser Marksmanship Training System (LMTS). The LMTS belongs to the Navy Reserve and is located in the same building as the USAR unit. The EST-2000 is within 200 yards and belongs to another USAR unit. The LMTS and EST-2000 were available for training use during this test period, although they had to be scheduled in advance and were not convenient to the unit.

The unit conducted annual qualification in August 2012 (TY-12) and again in February 2013 (TY-13). Although the sample size differs from the two instances, significant results can be drawn and the positive training value of the PSATS-Mil can clearly be illustrated. To aid in direct comparison, only the results of the M-9 pistol qualification will be used for both dates.



PSATS-MIL Usage

The unit setup the test and evaluation unit in their Headquarters Orderly Room and left it in operation for most days. On occasion, the PSATS-MIL was taken to other locations within the building and offsite for after hours training. There was no requirement to sign in or register in order to use the system – users simply walked in and shot on it as their time allowed. It is unknown exactly how much time each shooter utilized the system.

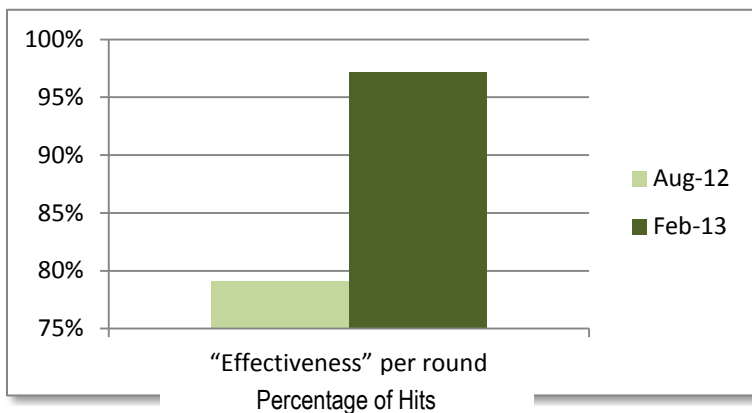
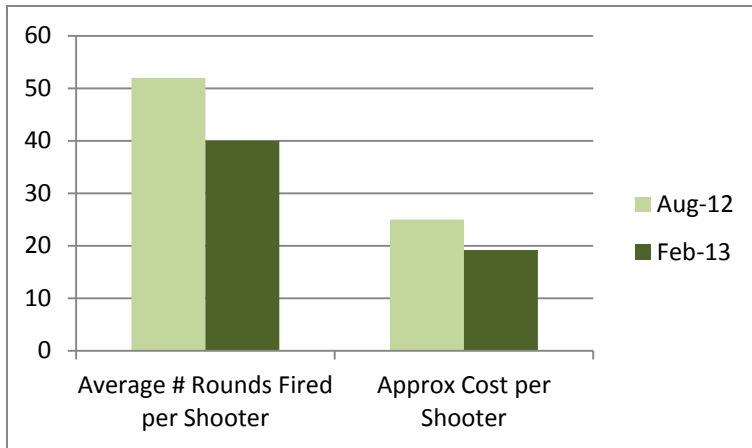
Prior to the August 2012 qualification, the unit conducted the normal preliminary marksmanship activities and utilized subject matter experts and the LMTS / EST-2000 along normal schedules (one weekend with briefings on marksmanship, ad hoc basis usage of the other trainers).

The PSATS-MIL delivered to the unit on 9 January 2013 and was immediately placed into operation. Key unit members received training on start-up/shut-down and operational procedures (around 30 minutes of training). The only significant difference between the August 2012 qualification and the February 2013 qualification was the implementation of the PSATS-MIL. Standard briefings and subject matter expert training were conducted similarly between both qualifications.

Conclusion

The unit went from an overall success rate of 79.07% qualifying in August 2012 to 97.22% qualifying in February 2013. Of very significant note, the unit went from multiple attempts to qualify (per person) in August to everyone qualifying on their first attempt in February (significantly reducing time and money required). Since the PSATS-MIL was the only variable changed in the unit's normal marksmanship training curricula, it is assumed that the use of simulations significantly contributed to the success of the unit. The PSATS-MIL also created a sustained desire to shoot by Soldiers; even though they were not required to (they shot on their own time and quite often). PSATS-MIL provides an exceptional marksmanship training tool when it is used.

USAR PSATS-MIL T&E Results				
	Aug-12		Feb-13	
Number of Shooters	86		36	
Number of Attempts	112		36	
Qualified	68	79.07%	35	97.22%
-Expert	19	22.09%	7	19.44%
-Sharpshooter	23	26.74%	9	25.00%
-Marksman	25	29.07%	19	52.78%
Unqualified	18	20.93%	1	2.78%
Average # Rounds Fired per Shooter	4480	52	1440	40
Percent Qualified	79.07%		97.22%	
Percent Unqualified	20.93%		2.78%	
"Effectiveness" per round	79.11%		97.22%	
Approx Total Cost of Ammunition	\$2,150.40		\$691.20	
Approx Cost per Shooter	\$25.00		\$19.20	



Definition / Variable Meaning

Number of Shooters – total number of personnel attempting to qualify

Number of Attempts – number of iterations fired (each shooter is assumed to have fired a minimum of 40 rounds if they qualified on their first attempt; many shooters required multiple attempts)

Qualified – number of personnel who achieved at least 24 hits

Expert – 36-40 hits (out of 40)

Sharpshooter – 29-35 hits (out of 40)

Marksman – 24-28 hits (out of 40)

Unqualified – number of personnel who failed to achieve minimum qualification standards (0-23 hits)

Total Number of Rounds Fired – 40 rounds x number of attempts

Average Number of Rounds Fired – assumes each attempt constituted 40 rounds fired, does not account for any familiarization fire or alibi / stoppage type rounds

Percent Qualified – number of personnel qualified as a percentage of the total number of shooters

Percent Unqualified – number of personnel unqualified as a percentage of the total number of shooters

“Effectiveness” per round – percentage of hits (Average Number of Rounds Fired x Number of Unqualified Personnel / Total Rounds Fired: converted to a percentage)

Approx Total Cost of Ammunition – using \$0.48/round (obtained from Internet search on 20130307), based on 1000 round quantity purchase. This amount assumes rounds are actually available for purchase.

Approx Cost of Ammunition per Shooter - \$0.48 / total number of rounds fired