



Republic of the Philippines
NATIONAL POLICE COMMISSION
NATIONAL HEADQUARTERS PHILIPPINE NATIONAL POLICE
BIDS AND AWARDS COMMITTEE
Technical Working Group on Weapons
Camp Crame, Quezon City

MEMORANDUM:

FOR : Chairman, NHQ-BAC/TDCO
THRU : Head Secretariat, NHQ-BAC
FROM : Head, TWG on Weapons
SUBJECT : **Result of the Conduct of Post Qualification Test and Evaluation of LMG 5.56mm (K3) Made by Daewoo, Korea.**
DATE : October 12, 2009

1. References:
 - a. Memo from Head Secretariat, NHQ BAC dated August 6, 2009, subject: Post Qualification Test of 5.56mm LMG K3 submitted by S & T Daewoo Philippines Incorporated. (TAB "A"); and,
 - b. MIRDC-DOST Magnetic Particle Test Result (TAB "B").
2. Per above references, please be informed that the members of Technical Working Group (TWG) on Weapons and in the presence of the proponent, Mr Yang Lee, conducted Post Qualification Test and Evaluation on two (2) unit samples of Light Machine Gun, 5.56mm (K3), made by Daewoo, Korea at the Carmona-Cavite, Integrated Shooting Range (CCIS), Carmona, Cavite on September 17 and 18, 2009.
3. Initially, on September 17, 2009, the team conducted the physical and dimensional evaluation on the two (2) unit samples of LMG 5.56mm (K3) at the said venue. In attendance were representatives from the different units/offices of the PNP (TAB "C"- Attendance List). Result of the initial evaluation revealed that the said firearm have conformed with the standard specifications for LMG 5.56mm pursuant to NAPOLCOM Resolution Number 2000-42.
4. On September 18, 2009, the actual functional test and evaluation on the two (2) unit samples of LMG 5.56mm (K3) were conducted by the technical team at the same venue. Present during the conduct of the functional testing were the proponents, Mr Yang Lee and three (3) other representatives from Korea (TAB "D"-Attendance List). The sample units were fired with Five Thousand (5,000) rounds each of 5.56mm using both M193 and SS109 ammunition made in Korea and ARMSCOR of the Philippines.
5. Final results revealed that the two (2) samples of 5.56mm LMG (K3), made by Daewoo, Korea which were submitted for testing to the PNP by the proponent S @ T Philippines, has incurred three major malfunctions during the adverse condition test enumerated, as follows:

- a. Sand Test
 - FA "A" Failed to Fire (major defect); and,
 - FA "B" Failed to fire during the 2nd round (minor defect).
- b. Water Immersion Test
 - FAs "A" and "B" Failed to Fire All Round (FA "A" and "B" Critical Defects).

6. Citing PNP Memorandum Circular No. 2005-06 which provides for the classification of defects for eligibility tests for rifles prescribes that one (1) critical defect noted is considered FAILED. Based on the facts stated above, the sample firearms 5.56mm LMG (K3) made by Daewoo, Korea which were submitted for testing to the PNP by the proponent S @ T Philippines be recommended for **"POST DISQUALIFICATION"** for failure to pass the criteria of the PNP test parameters pursuant to the above cited memorandum circular (**Attached TWG Report Number-W2009-002 TAB "E"**).

7. For the information and notation of the NHQ-BAC.

Enclosures:

TAB "F"– Endurance Test Result

TAB "G"– Pictures taken during the Test and Evaluation



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TWG REPORT NUMBER : W2009-002

DATE : October 12, 2009

SUBJECT : Post Qualification Test and Evaluation of
LMG 5.56mm (K3) Made by Daewoo, Korea

PROPONENT : S & T Daewoo Philippines Incorporated

SOURCE : Foreign (Korea)

SAMPLES : Two (2) Units of LMG 5.56mm (K3)

PROCUREMENT MODE : Negotiated

VENUE : Carmona Cavite Integrated Shooting Range,
Carmona, Cavite

DATE CONDUCTED : September 17, 18 and 25, 2009

PARAMETERS	FA "A"	FA "B"	Remarks
Serial Numbers:	K0138874	K006895	
I. PRE-FIRING TEST			
Procedure: Check the conformity with the PNP specifications pursuant to NAPOLCOM Resolution No. 2000-42.			
1. Caliber: 5.56 x 45mm NATO	5.56x45mm	5.56x45mm	Conformed
2. Operating Principle: Gas Operated	Gas Operated	Gas Operated	Conformed
3. Overall Weapon Length (with fixed composite butt): 1,050mm or 41 inches (maximum)	40.5 inches	40.5 inches	Conformed
4. Barrel Length: 465mm or 18 inches (maximum)	18 inches	18 inches	Conformed
5. Weapon Weight: Overall			
a) Without Hydraulic Buffer: 7.1 kg (maximum)	7.1 kg	7.1 kg	Conformed
b) With Hydraulic Buffer: 7.22 kg (maximum)			
6. Weapon Height:			
c) Bipod Folded: 230mm or 9 inches (Maximum)	9 inches	9 inches	Conformed
d) On Bipod: 340mm or 13 inches (Maximum)	13 inches	13 inches	Conformed
7. Weapon Width: 110mm or 4 inches (maximum)	3.07 inches	3.07 inches	Conformed
8. Effective Range: 1000 Meters (maximum)	800 meters		Conformed
9. Mode of Fire: Full Auto	Full Auto	Full Auto	Conformed
10. Cyclic rate of fire: 700 to 1,000 RPM	700-900		Conformed
11. Accessories:			
e) Spare Magazine	2 pieces magazine	2 pieces magazine	Conformed
f) Carrying Sling	Carrying Sling	Carrying Sling	Conformed

g) Cleaning Kit	Cleaning Kit	Cleaning Kit	Conformed
h) Adaptor for M16	Adaptor for M16	Adaptor for M16	Conformed

Test Parameters for Rifle Pursuant to PNP Memo Circular Number 2005-06:

II. Both firearms will be fired using 30 rounds of ammunition using M16 standard magazine.	➤ 29 rounds fired. ➤ One round failed to fire.	➤ 29 rounds fired. ➤ One round failed to fire.	Passed
III. ZEROING: Procedure: Both firearms shall be subjected to zeroing for sight alignment at a distance of 25 meters. Ammunition requirements is 30 rounds each.			
IV. ACCURACY:			
a) 100 meters distance (30 rounds)	29 shots on target	27 shots on target	Passed
V. INTERCHANGEABILITY: Procedures: Two (2) rifles interchange its major parts, then fire 30 rounds standard magazine capacity and 30 rounds link. 1. Bolt Carrier Assembly 2. Lower Housing Assembly	Both firearms fired 29 rounds each and both have 1 round failed to fire/malfunction.		Passed
VI. MAINTAINABILITY TEST: Procedure: One (1) rifle will be disassembled and assembled and record the time, number of parts and tools used. Then, it will be fired using 30 rounds of ammunition.	FIREARM "A" Total Tool Used: 1 piece pin punch Disassembly Time: 29 seconds Assembly Time: 2 minutes No. of Parts: 5 pieces Fired 28 rounds and 2 rounds failed to fire/malfunction.		Passed
VII. ADVERSE CONDITION (Sand) TEST: Procedure: Fully loaded magazine will be inserted to the rifle, chambered with one (1) round then will be poured with sand for one (1) minute then will be fired.	Failed to fire during the 2 nd round (minor defect).	Failed to fire (major defect).	Failed (Rifle must fire at least 3 successive rounds)
VIII. ADVERSE CONDITION (Mud) TEST: Procedure: Fully loaded magazine will be inserted to the rifle, chambered with one (1) round then will be subjected to a 15 second mud immersion, then will be fired.	One (1) round fired.	One (1) round fired.	Passed (Rifle must fire at least 1 round)
IX. WATER IMMERSION TEST: Procedure: Fully loaded magazine will be inserted to the rifle, chambered with one (1) round, subjected to a one (1) minute immerse with tap water then will be fired. The rifle must fire all rounds.	Six (6) rounds fired (Critical Defect)	Three (3) rounds fired (Critical Defect)	Failed (Rifle must fire all rounds)

X. MAGAZINE DROP TEST: Procedure: Two (2) fully loaded magazines will be dropped at a height of 1.5 meters (BP down Position and (FL down position) then, will be fired after drop test.	Not Conducted (Test requires special equipment for magazine drop test)		
XI. COOK-OFF TEST: Procedure: To determine the barrel and metal strength of the rifle if it fires without pulling the trigger.	Not Conducted (LMG's are fired in an open bolt position)		
XII. ENDURANCE TEST: Procedure: Two (2) rifles were subjected to a 10,000 rounds continuous firing.	Total defects/malfunctions noted on the two (2) samples = 74 (Please See TAB "F").		
XIII. PROOF LOAD TEST: Procedure: Two (2) rifles will be fired with one (1) round each of high-pressure ammunition to determine the reliability of the barrel.	Not Conducted (No available 5.56mm high pressure (HP) ammunition).		
XIV. MAGNAFLUX TEST (c/o MIRDC): Procedure: Firearms barrel sample are subjected to Magnetic Particle Test at MIRDC-DOST.	Negative to Surface Cracks	Negative to Surface Cracks	Passed

OBSERVATIONS:

Initially, during the physical and dimensional examinations of the two (2) sample firearms revealed that the same have complied with the PNP standard specifications for 5.56mm LMG pursuant to NAPOLCOM Resolution No. 2000-42.

During the conduct of the adverse condition test particularly on sand and water immersion test, both sample firearms failed to pass the required parameters (non-attainment of required number of shots) of the PNP however during mud test, the sample firearms passed the test parameters criteria.

During the conduct of the endurance test the two (2) sample firearms incurred very minimal stoppages/malfunctions when fired using the Korean made 5.56mm link and loose ammunitions. On record, both firearms incurred a total of 77 (0.77% of the total 10,000 rounds fired) stoppages/malfunctions such as failed to fire, failed to eject and failed to extract when fired using the locally manufactured ammunition from ARMSCOR of the Philippines and likewise when fired using the standard M16A1 magazines from the PNP SAF.

However, the 77 total stoppages/malfunctions incurred represents 0.77% of the total 10,000 rounds of ammunition and does not exceed the 5% allowable stoppages/malfunctions for the two (2) samples pursuant to PNP Memorandum Circular No. 2005-06 hence, the 5.56mm LMG (K3) made by Daewoo, Korea has passed the test parameters criteria of the PNP on enduance test.

CONCLUSIONS:

The two (2) samples of 5.56mm LMG (K3), made by Daewoo, Korea which were submitted for testing to the PNP by the proponent S @ T Philippines, have incurred three major malfunctions during the adverse condition test enumerated, as follows:

Sand Test

- FA "A" Failed to Fire (major defect); and,
- FA "B" Failed to Fire during the 2nd round (minor defect).

Water Immersion Test

- FAs "A" and "B" Failed to Fire All Round (FA "A" and "B" Critical Defects).

Citing PNP Memorandum Circular No. 2005-06 which provides for the classification of defects for eligibility tests for rifles prescribes that one (1) critical defect noted is considered FAILED. Based on the facts stated above, the sample firearms 5.56mm LMG (K3) made by Daewoo, Korea which were submitted for testing to the PNP by the proponent S @ T Philippines be recommended for **"POST DISQUALIFICATION"** for failure to pass the criteria of the PNP test parameters pursuant to the above cited memorandum circular.