ALARACT 312/2013

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UNCLASSIFIED/
THIS MESSAGE HAS BEEN TRANSMITTED BY USAITA ON BEHALF OF//DAMO-TR/G-37//

SUBJECT: 5.56MM M855A1 (AB57 OR AB58) ENHANCED PERFORMANCE ROUND (EPR) ANALYSIS

1. PURPOSE: REQUEST M855A1 IMPACT ANALYSIS ON ARMY SMALL ARMS RANGES.

2. GENERAL.

2.A.1. GARRISON COMMANDERS ARE RESPONSIBLE FOR ESTABLISHING RANGE CONTROL AND EXPLOSIVES SAFETY PROGRAMS, IN ACCORDANCE WITH REF 2.A.3.1 AND 2.A.3.2 ENSURING THE SAFE CONDUCT OF MILITARY AND CIVILIAN PERSONNEL AND CONTRACTORS INVOLVED IN TRAINING OPERATIONS. IAW REF 2.A.3.2 DANGER ZONES WILL BE CREATED FOR ALL WEAPONS USED ON OPERATIONAL RANGES. THESE DANGER ZONES WILL BE PREPARED AND UPDATED AS APPROPRIATE ACCORDING TO REF 2.A.3.3, WHICH REPRESENT MINIMUM SAFETY REQUIREMENTS. REFS 2.A.3.1 AND 2.A.3.2 ALSO REQUIRES THE COMMANDER APPOINT RANGE CONTROL PERSONNEL THAT WILL SUPERVISE WEAPONS FIRING ON THE INSTALLATION, AND ENFORCE SAFETY AND OPERATIONAL REQUIREMENTS. ENSURE THAT AT LEAST ONE STAFF MEMBER OF THE RANGE ORGANIZATION IS A CERTIFIED GRADUATE OF THE INTER-SERVICE RANGE SAFETY COURSE (INTERMEDIATE) AND/OR RANGE SAFETY COURSE (LEVEL II).

2.A.2. THE M855A1 (5.56MM) INCREASED VELOCITY HAS IMPROVED THE RANGE AT WHICH ALL WEAPON SYSTEMS ACHIEVE TARGET EFFECTS. IMPROVED CHARACTERISTICS AND INCREASE IN VELOCITY HAS AN IMPACT ON THE MAXIMUM DISTANCE THE BULLET TRAVELS. THIS RESULTS IN AN 84 METER INCREASE IN THE MAXIMUM RANGE OVER THE M855 LEAD AMMUNITION AT SEA LEVEL AND 932 METER INCREASE AT 7000 FEET ABOVE SEA LEVEL. RICOCHET ANGLE FOR EARTH IMPACT MEDIA INCREASED FROM 34 DEGREES TO 60 DEGREES . RICOCHET ANGLE FOR ARMOR IMPACT MEDIA INCREASED FROM 18.8 DEGREES TO 45 DEGREES.

2.A.3. ANALYSIS REFERENCES INCLUDE:

2.A.3.1 AR 350-19, THE ARMY SUSTAINABLE RANGE PROGRAM, DATED 30 AUG 2005

2.A.3.2 AR 385-63, RANGE SAFETY, DATED 30 JAN 2012

2.A.3.3 DA PAM 385-63, RANGE SAFETY, DATED 30 JAN 2012

2.A.3.4 ARSMM 508, CHANGE TO DA PAM 385-63, DATED 24 JAN 13

3. ANALYSIS REQUIRED.

3.A. M855A1 ANALYSIS PROCESS: INSTALLATIONS WILL CONDUCT AN ANALYSIS OF FIRING RANGES USED FOR FIRING OF 5.56MM M855A1 AND ADDITIONAL IMPACT TO ADJACENT RANGES, TRAINING AREAS, AND RANGES WITH SIMULTANOUS USE. RANGES INCLUDE, BUT ARE NOT LIMITED TO, 25 METER ZERO (FCC 17801), FIELD FIRE (17802), AUTOMATED FIELD FIRE (17803), RECORD FIRE (17804), AUTOMATED RECORD FIRE (17805), MODIFIED RECORD FIRE (17806), NIGHT FIRE (17807), AUTOMATED NIGHT FIRE (17808), KNOWN DISTANCE (17810), AUTOMATIC RIFLE (17813), NON-STANDARD SMALL ARMS (17814), AND FIRE AND MOVEMENT (17892). INSTALLATION COMMANDERS MAY EVALUATE ADDITIONAL RANGE TYPES IF THE PRIMARY PURPOSE AND SDZ REQUIREMENT USES 5.56MM ROUNDS.

3.A.1 FOR EACH RANGE, IF THE M855A1 SDZ FITS WITHIN THE CURRENT IMPACT AREA, NO FURTHER ANALYSIS IS REQUIRED. FOR RANGES WHERE THE SDZ INCLUDES AREAS OUTSIDE OF THE CURRENT IMPACT AREA, FURTHER ANALYSIS IS REQUIRED IAW REF 2.A.3.3 AND REF 2.A.3.4. REF 2.A.3.4 IS AVAILABLE AT HTTPS://SRP2.ARMY.MIL/RANGEOPERATIONS/RANGESAFETY/ACTIVE%20ARSMMS/508%20CHG%20TO%20DA%20PAM%20385-63.DOC.

3.B. RANGE SAFETY ANALYSIS.

3.B.1 IF RANGE MANAGERS TOOLKIT (RMTK) SDZ TOOL IS USED FOR THE ANALYSIS, ENSURE THE CURRENT VERSION IS USED. THE CURRENT VERSION OF THE SDZ TOOL IS VERSION 10.1.0.1.3 AND IS AVAILABLE FROM HTTPS://SRP2.ARMY.MIL/RANGEOPERATIONS/PAGES/RMTK%20TOOLS.ASPX. DODIC AB57 (ENHANCED PERFORMANCE ROUND BALL M855A1 CLIP) OR AB58 (ENHANCED PERFORMANCE ROUND BALL M855A1 CLIP) SHOULD BE SELECTED IF USING RMTK FOR THE ANALYSIS.

3.B.2. MANUAL METHOD MAY ALSO BE USED (I.E., CONSTRUCTING SDZ USING MAP, COMPASS, PROTRACTOR, AND RULER/STRAIGHTEDGE). THE MANUAL METHOD MUST INCLUDE THE FOLLOWING: IDENTIFY WEAPON(S) TO BE USED, IDENTIFY AMMUNITION TO BE FIRED, PLOT FIRING LOCATION(S), PLOT TARGET LOCATION(S), ESTABLISH THE GUN TARGET LINE/LIMITS OF FIRE TO THE MAXIMUM RANGE OF THE AMMUNITION USED. ESTABLISH DISPERSION AREA TO THE MAXIMUM RANGE OF THE AMMUNITION USED AND ESTABLISH RICOCHET AREA.

3.B.3. FOR EITHER METHOD, ENSURE APPROPRIATE ALTITUDE IS USED IN CONJUNCTION WITH TABLE 4-8, REF 2.A.3.3. THE BATWING IS THE PRIMARY SDZ FOR ANALYSIS HOWEVER, THE CONE SDZ MAY BE USED FOR NON-MANEUVER RANGES; THE USE OF THE BATWING SDZ IS ONLY MANDATORY FOR MANEUVER TYPE RANGES REF 2.A.3.3.

3.C. ANALYSIS WILL INCLUDE EXAMINATION OF DIFFERENT MITIGATION COURSES OF ACTION TO CAUSE THE RESULTANT SDZ TO FALL ENTIRELY WITHIN AN IMPACT AREA WITHOUT COVERING UPRANGE/OCCUPIABLE PORTIONS OF OTHER ACTIVE RANGES (E.G., RANGE OPERATIONS AND CONTROL AREA (ROCA). MITIGATING COURSES OF ACTION INCLUDE, BUT ARE NOT LIMITED TO, RESCHEDULING TO AVOID CONFLICTS, CLOSING FIRING LANES, REORIENTING DIRECTION OF FIRE, RELOCATING FIRING POINTS OR TARGETS, EXPANDING IMPACT AREAS, RESTRICTING WEAPON ELEVATION, USING OTHER AMMUNITION, CONSTRUCTING BERMS OR BAFFLES, ACQUIRING MORE LAND. NOTE THAT SOME OF THESE COURSES OF ACTION MAY REQUIRE DEVIATIONS IAW REF 2.A.3.2.

4. REPORTING REQUIREMENTS.

4.A. COMMANDS WILL PROVIDE HQDA G-3 (DAMO-TRS) M855A1 ANALYSIS RESULTS. SUBMITTED REPORT SHALL INCLUDE, IN EXCEL FORMAT, FOR EACH RANGE REQUIRING MITIGATION: COMPONENT, COMMAND, INSTALLATION, RANGE NAME, FACILITY CATEGORY CODE (FCC), REAL PROPERTY UNIQUE IDENTIFER (RPUID), SDZ TYPE (CONE/BATWING), MITIGATION DESCRIPTION, MITIGATION COST ESTIMATE(S), AND POINT OF CONTACT (POC) . COMMAND SUBMISSIONS SHOULD INCLUDE COMMAND VALIDATION OF INSTALLATION SUBMISSIONS.

4.B. COMMAND RESPONSE IS DUE TO HQDA G-3 (DAMO-TRS) NLT 17 FEB 14. NEGATIVE RESPONSE IS REQUIRED.

5. THIS MESSAGE IS EFFECTIVE UPON RECEIPT.

6. TCM LIVE POINT OF CONTACT IS: TCM LIVE RANGE OPERATIONS/RANGE SAFETY -RANGE_SAFETY@SRP.ARMY.MIL, 757-878-0226/0484/0516.

7. HQDA G-3 RANGE OPERATIONS POINT OF CONTACT IS MR DAN SMITH, DANIEL.R.SMITH130.CIV@MAIL.MIL, 703-692-6412.

EXPIRATION DATE CANNNOT BE DETERMINED

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