

6.0 Electronic Target Scoring Rules

6.1 Key Components

Ranges equipped with electronic target systems must have the following fully functioning components:

6.1.1 Main Computer

A central ranking or main computer is used to control the targets. The main computer must have a software program that records the names of competitors, the bullet size for the rifle each competitor is using and functionality for managing the competition and producing preliminary and final results lists.

6.1.2 Competitor Monitor

Each firing point on the range must have an individual monitor that displays an image of the target, the competitor's name, locations of fired shots on the target being used, the values of fired shots and the totals of fired shots. Monitors must indicate whether sighting or record shots are being fired. Before starting a competition series, Range Officers and competitors must confirm that the monitor displays the correct target, the correct caliber of the cartridge being used by that competitor and correct name of the competitor.

6.1.3 Target

Each electronic target has a frame, a target face (front mask), a rubber belt that moves through the target, three microphones in the target base or four microphones in the corners, a backing target and a backing card. The microphones and space within the frame establish a sound chamber. Alternatively, electronic targets may use light or laser array to locate and score targets.

- a) *The front mask must have a hole sized according to the diameter of the aiming black on the SR1, SR, SR-3, MR and LR targets. Front masks must be changed on all targets according to the firing distance and target being used.*
- b) *The backing cards must be changed so that a maximum of 30-40 shots are recorded on the backing card.*

6.2 Competition Officials

When CMP sponsored or sanctioned competitions are conducted, the following Competition Officials must be on duty at the range: A Chief Range Officer and Range Officers are required to conduct the competition according to Rule 3.2.2, at least one Technical Officer who has specialized training and experience in EST operations and the operation of the main computer (Rule 3.2.5), and sufficient Target Assistants to change target faces during range distance changes. Other competitors can be assigned to serve as verifiers for competitors who are firing.

6.3 Target Checks

ESTs should be checked for proper function and scoring accuracy at least once a year. Target checking should be done on a practice day by placing clean backing cards on the targets and having competitors shoot 5-20 shots at the targets before removing the target cards. The Technical Officer can then print shot plots for the shots that were fired at each target. These shot plots must be compared with the shot holes on the backing card. If there are discrepancies between the shot plots and shot holes on the backing card, that target should not be used for competition until the target can be evaluated and rechecked.

6.4 Target Maintenance

ESTs require basic maintenance in order to keep the targets functioning and scoring accurately. Target masks need to be kept clean and patched. The sound chambers need to be kept clean and free of debris. Backing cards should be changed on schedule if the targets are being used for competitions.

6.5 Rapid Fire Time Tolerances

Electronic targets scoring times must be programmed so that the timing of rapid-fire series accounts for the time required for targets to rise out of the pits to their full height when rapid-fire times start. To compensate for this difference, 3.0 seconds must be added to rapid-fire times or there must be a 3.- second delay before starting rapid-fire times.

6.6 EST Issues or Complaints

If an irregular or missing shot should occur during a competition stage, Range and Technical Officers must follow these procedures to resolve issues concerned with such shots:

6.6.1 Protested Shot Value

If a competitor feels that the value of a shot registered on his/her monitor is incorrect, he/she may protest the value of that shot if the Range Officer is notified of the protest immediately after the shot or series in question and before the next shot or series is fired. If a competitor protests the value of a registered shot, Range and Technical Officers must follow these steps:

- a) **Confirm and Document.** Record the firing point, shot number and indicated value of the protested shot on an RIF, direct the competitor to continue firing to complete the series and to fire one extra shot at the end of the series (provisional shot).
- b) **Technical Officer Examination.** After that stage of fire is completed, the Technical Officer will examine the backing card, the shot logs and sensor records to determine if protested shot was scored correctly.
- c) **If Shot Was Scored Correctly.** If the examination of the backing card confirms that the protested shot was scored correctly, a two (2) point penalty must be deducted from the indicated value of the shot that was protested and the extra shot at the end of the series must be deleted. If the examination concludes that a protested shot scores within two (2) decimal rings of the score of the indicated shot, the protest must not be upheld.
- d) **If Shot Was Scored Incorrectly.** If the examination of the backing card confirms that the protested shot was scored incorrectly, the Technical Officer shall determine the correct score of that shot according to its location on the backing card and the extra shot at the end of the series must be deleted.
- e) **If the Correct Score Cannot Be Determined.** If the examination of the backing card confirms that the protested shot was scored incorrectly, but the examination is unable to determine the correct score of that shot, the protested shot shall be deleted and the extra shot at the end of the series shall be counted.
- f) **No Backing Card.** If backing cards are not used, score value protests cannot be accepted.

6.6.2 Missing Shot, Slow Fire

A missing shot is one where the competitor claims to have fired at his/her target, but no shot is registered on the monitor. Missing shots usually occur when the competitor crossfires on another target or fires an off-target miss. If a competitor complains about a missing shot during a slow-fire stage, Range and Technical Officers must follow these steps in the order they are listed:

- a) **Confirm and Document.** Record the firing point, shot number and the time remaining when the complaint was made on an RIF. Check with the competitor's Verifier to determine if there is any possibility of an off-target miss (competitor did not have a zero at the start of the stage; competitor is shooting low-scoring shots, etc.). In this case, the Range Officer may discuss with the competitor whether further action is necessary.
- b) **Check for a Crossfire.** Check with the Verifiers on adjacent targets (two on either side) to determine if one of those targets received an extra shot. If yes, score the missing shot as a crossfire miss (0), inform the competitor and instruct the competitor to continue firing to complete the stage.
- c) **Provisional Shot.** If there is no likelihood of an off-target miss or evidence of a crossfire, direct the competitor to fire a provisional shot. If that shot registers on the monitor, direct the competitor to continue firing to complete the series. The Range Officer must initial the provisional shot on the competitor's scorecard.

- d) **Technical Officer Examination.** *After that stage of fire is completed, the Technical Officer will examine the backing card, the shot logs and sensor records to determine if the missing shot can be located on the target or in the computer record.*
- e) **If Missing Shot is Found.** *If the analysis determines the location of the missing shot, the missing shot will be scored accordingly, and the provisional shot must be nullified.*
- f) **If Missing Shot is Not Found.** *If the missing shot is not found on the backing card or in the computer record, the missing shot must be scored as a miss (0) and the provisional shot must be nullified.*
- g) **If the Technical Officer Examination is Inconclusive.** *If the analysis cannot determine a shot location or missing shot with reasonable certainty or if a backer is not used, disregard the missing shot and count the provisional shot in the competitor's score.*
- d) **If Provisional Shot Does not Register.** *If the provisional shot is fired as directed in para. c) above and it **does not register**, move the competitor to a spare (hospital) target and allow the competitor to complete the remaining shots in that series, plus two additional shots to replace the missing shots (original missing shot and provisional shot), within the time that was remaining when he/she complained plus five (5) minutes.*

6.6.3 Missing Shot, Rapid-Fire (Insufficient Hits)

Missing shots or insufficient hits in a rapid-fire series usually occur when the competitor does not fire all ten rounds, crossfires on another target or fires an off-target miss. If a competitor complains about a missing shot during a rapid-fire stage, Range and Technical Officers must follow these steps in the order they are listed:

- a) **Confirm and Document.** *Record the firing point, shot number and the time remaining when the complaint was made on an RIF. Check with the competitor's Verifier to determine if there is any possibility of an off-target miss (competitor did not have a properly zeroed pistol; competitor is shooting low-scoring shots, etc.). In this case, the Range Officer may discuss with the competitor whether further action is necessary.*
- b) **All Shots Fired?** *Confirm with the competitor's Verifier whether the competitor fired all 10 shots or had saved rounds. If there were any saved rounds, score those shots as misses (0).*
- c) **Check for a Crossfire(s).** *If the competitor fired all 10 shots and there are nine or fewer shots indicated, check for excessive hits on adjacent targets. If a crossfire is confirmed by identifying an excessive hit on an adjacent target or through an examination of the time logs, score the missing shot as a crossfire miss (0).*
- d) **Technical Officer Examination.** *If the competitor fired all 10 shots and there are nine or fewer shots indicated, and there are no excessive hits on adjacent targets, remove the backing card and count the hits on the backing card to determine if the missing shot hit the target.*
- e) **If Missing Shot(s) is Found.** *If the analysis determines the location of the missing shot, score the missing shot according to its location.*
- f) **If Missing Shot(s) is Not Found.** *If the missing shot is not found on the backing card or in the computer record, score the missing shot as a miss (0).*
- g) **If TO Examination is Inconclusive.** *If the analysis cannot determine a shot location for the missing shot with reasonable certainty or if a backing card is not used, score the missing shot according to the value of the lowest scoring shot in that series.*

6.6.4 Unclaimed or Extra Shot, Slow Fire

In slow-fire stages, extra shots can be caused by a crossfire from another target or, in rare cases, by a ricochet or debris from a shot fired at another target. ROs should follow these steps in the order they are listed:

- a) *If an **unclaimed or extra shot appears on the monitor**, the competitor may complain: 1) when he/she discovers the extra shot, 2) when the competitor has one shot to fire and the monitor indicates that all shots in that series have already been fired, or 3) after firing his/her last shot, when the competitor's monitor indicates an extra shot has been fired.*
- b) *Record the firing point, shot number and the time remaining, if any, when the complaint was made on an RIF.*
- c) *If the unclaimed shot appears before the completion of the series, check for missing shots on adjacent targets. If there is a missing shot on an adjacent target, direct the competitor to continue firing to complete the series,*

including what will be indicated as an extra shot at the end of the series. Nullify the unclaimed shot on the competitor's target and score the crossfire shot from another target as a miss (0) on that competitor's target.

- d) If the extra shot cannot be identified before the end of the series, examine the log prints for the competitor's target and any adjacent targets where there are missing shots. Use the shot timing log to determine if the extra shot can be identified as a crossfire from an adjacent target. If a crossfire is identified, nullify that shot and count the shots fired by the competitor including the indicated extra shot.
- e) If the crossfire shot cannot be identified, nullify the lowest value shot as the crossfire shot and count the remaining ten (10) shots as the competitor's score.
- f) If a target receives two or more unclaimed extra shots in a slow-fire series and the crossfire shots cannot be identified, nullify the lowest value shots and count the remaining ten (10) shots as the competitor's score (Rule 3.10.9 e).
- g) If there is an unclaimed extra shot, it is also possible (very rare) that the extra shot (usually indicated as a frame hit or miss) was caused by a piece of debris from an off-target miss or frame hit on an adjacent target (ricochet hit). In this case, the shot timings for the unclaimed shot may coincide with the shot timings for a frame hit on an adjacent target. If a ricochet hit is identified, nullify the unclaimed extra shot and count the 10 or 20 record shots fired by the competitor.

6.6.5 Extra Shot(s), Rapid-Fire (Excessive Hits)

In rapid-fire stages, extra shots can be caused by a crossfire(s) from another target or, in rare cases, by a ricochet or debris from another target. ROs should follow these steps in the order they are listed:

- a) Record the firing point and numbers of shots displayed on the competitor's monitor on an RIF
- b) If more than 10 hits are indicated in a rapid-fire series, obtain the log print with shot timings for the competitor's firing point and any adjacent targets where there are missing shots (insufficient hits) determine if there are any out-of-sequence shots that can be identified as crossfire shots. Nullify that shot or shots and count the remaining ten (10) shots as the competitor's score.
- c) If more than ten (10) hits are indicated in a rapid-fire series and a shot timing analysis cannot identify the crossfire shot(s), nullify the lowest value hit(s) and count the ten (10) highest value shots as the competitor's score.

6.6.6 Failure of One or More Targets

If the target(s) or monitor(s) are not functioning (indicating scores) or there is an indication that the target is malfunctioning (failure to indicate a fired shot or shots) or scoring erratically, the following actions must be taken:

- a) **Competitor Claims that the Target is Scoring Inaccurately.** This problem could occur if the rubber belt on targets with moving belts is not advancing, was installed incorrectly or when there is tear in the rubber belt. If this complaint is made, the Range and Technical Officers must attempt to determine if the rubber belt on that target is advancing properly and remains in good condition (check with a spotting scope). If the Range and Technical Officers determine that the rubber belt is not advancing properly, the competitor must be moved to a spare (hospital) target and allowed to refire the series in which the complaint occurred as a range alibi.
- b) **Power Failure.** If there is a power failure and the targets stop working, the computer memory will have stored the shot data and scores for all shots fired, except for any shots that may have been fired between the power outage and a **CEASE FIRING** command. If there is a power outage during a slow-fire series, competitors must be allowed to complete the series they were firing within the time remaining when the **CEASE FIRING** command was given. Any shots fired after the power outage and before the **CEASE FIRING** command that were not scored and indicated on the competitor monitors or in the main computer must be refired. If there is a power outage during a rapid-fire series, all shots fired must be nullified and the complete series must be refired as a range alibi.
- c) **Delayed Shot Display, Rapid Fire.** If the location of the first two shots during a rapid-fire series is not displayed when the competitor begins his/her reload, the competitor may elect to stop firing and refire the entire series as a range alibi. The failure of the monitor to display the first two shot immediately after they were fired must be confirmed by the Verifier.