

9.0 Electronic Target Scoring Rules

9.1 Key Components

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

9.1.1 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 caliber of the cartridges being fired and functionality for managing the competition and producing preliminary and final results lists.

9.1.2 Competitor Monitor

Each firing point on the range must have an individual monitor that displays the target being used, the competitor's name, locations of fired shots on a facsimile of the target being used, the values of fired shots and the totals of fired shots. Monitors have the capability of indicating 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 and correct name of the competitor.

9.1.3 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.

- a) The front mask must have a hole sized according to the diameter of the aiming black on the SR or SR1 Rifle targets and the 25/50 yard Pistol 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.

9.2 Match Officials

When CMP sponsored or sanctioned competitions are conducted, the following competition officials must be on duty on the range: A Chief Range Officer and Range Officers are required to conduct the competition according to Rule 1.7.2, at least one Technical Officer who has specialized training and experience in EST operations and the operation of the main computer (Rule 1.7.5), 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 (Rule 1.7.7).

9.3 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 backing 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.

9.4 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.

9.5 EST Issues or Complaints

9.5.1 Competitor Name Is Not Correctly Displayed

Competitor's names must be correctly displayed on their firing point monitors before firing starts. ROs must check the names on the computer monitors before firing starts and confirm that competitors are on the correct firing points.

9.5.2 Protested Shot Value

A competitor may protest the indicated (scored) value of a shot. When this occurs, the RO must record the firing point, shot number and indicated value of the protested shot and then direct the competitor to continue firing to

complete the series. After that relay is completed, match officials will remove the backing card from the target and locate the protested shot on the backing card. They will use a scoring template to verify the score of the protested shot.

- a) 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 series in which the shot was fired.
- b) If the examination of the backing card confirms that the protested shot was scored incorrectly, the score determined by using the scoring template will be counted in lieu of the indicated score and the indicated shot value in the computer record must be corrected.
- c) Using a scoring template to score a protested shot on a backing card cannot be used to rescore shots that are within -0.2 decimal rings of the indicated scoring ring. *Note: If, for example, a shot is displayed as a 9.8 and the backing card confirms that the shot was properly located, a template cannot be used to determine if the shot is a 10.*
- d) If backing cards are not used, score value protests cannot be accepted.

9.5.3 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 normally occur when the competitor crossfires on another target or fires an off-target miss. ROs must follow these steps:

- a) Record the firing point, shot number and the time remaining when the complaint was made.
- b) Check with the verifiers on adjacent targets (two or more) to see if one of those targets received an extra shot. If yes, inform the competitor. If the competitor agrees that the crossfire is his/hers, score the missing shot as a miss and instruct the competitor to continue firing to complete the stage of fire.
- c) If the competitor disagrees that he/she fired a crossfire or there is no indication of a crossfire on adjacent targets, direct the competitor to fire his/her next record shot. **If that shot registers on the monitor**, direct the competitor to continue firing to complete the series, plus one extra shot at the end of the stage. After that stage of fire is completed, remove the backing card and count the shots on the backing card to determine if the missing shot hit the target.
- d) If the missing shot is not found on the backing card, score the missing shot as a miss (0) and nullify the extra shot at the end of the stage.
- e) If the missing shot is found on the backing card, use a scoring template to determine the score of that shot. Count that shot and nullify the extra shot at the end of the stage.
- f) If it is impossible to determine whether the missing shot is on the backing card or if a backing card was not used, count the extra shot at the end of the series in lieu of the missing shot if there are no shots in that stage outside of the aiming black (9 ring at 200 yards, 8 ring at 300 yards, 7 ring at 600 yards).
- g) Or, if it is impossible to determine whether the missing shot is on the backing card or if a backing card was not used and there are shots in that stage outside of the aiming black, score the missing shot as a miss and nullify the extra shot.
- h) If the competitor fires his/her next record shot as directed in Rule 9.5.3 f) and **that shot does not register on the monitor**, this indicates that the target is not functioning correctly. 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, within the time that was remaining when he/she complained plus five (5) minutes.

9.5.4 Missing Shot, Rapid-Fire (Insufficient Hits)

Missing shots or insufficient hits in a rapid-fire series normally occur when the competitor does not fire all ten rounds, crossfires on another target or fires an off-target miss. Range Officers must follow these steps:

- a) Record the firing point number and confirm the complaint with the competitor and verifier.
- b) If the verifier confirms that the competitor did not fire all 10 shots (competitor had saved rounds), count the scored hits.
- c) If the competitor fired all 10 shots and there are nine or fewer shots indicated, check for excessive hits on adjacent targets. If there are excessive hits equal to the number of missing shots, score the missing shot(s) as a miss (0).
- d) 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 the missing shot is not found on the backing card, score the missing shot as a miss (0).
- f) If the missing shot is found on the backing card, use a scoring template to determine the score of that shot. Count that shot in the competitor's score.
- g) If it is impossible to determine whether the missing shot is on the backing card or if a backing card was not used, and if there are no shots in that series outside of the aiming black (9 ring at 200 yards, 8 ring at 300 yards, 7 ring at 600 yards), score the missing shot as equal to the value of the lowest scoring shot in that series.
- h) If it is impossible to determine whether the missing shot is on the backing card or if a backing card was not used, and if there are shots in that series outside of the aiming black (9 ring at 200 yards, 8 ring at 300 yards, 7 ring at 600 yards), score the missing shot as a miss (0).

9.5.5 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:

- a) If an **unclaimed or extra shot appears on the monitor**, the competitor may complain a) when he/she discovers the extra shot, b) when the competitor has one shot to fire and the monitor indicates that all shots in that series have already been fired, or c) after firing his/her last shot, the competitor observes that the monitor indicates an extra shot has been fired.
- b) Record the firing point number and the time remaining when the complaint was made.
- 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, obtain the log prints for the competitor's target and any adjacent targets where there are missing shots. Use the shot timings 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 3.7.7 d)).
- 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.

9.5.6 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:

- a) Record the firing point number and confirm the complaint with the competitor and verifier.
- 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.

9.5.7 Failure of One or More Targets

If the target(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 RO and TO 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 RO and TO 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 nullified and 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.