INTERNATIONAL PRACTICAL SHOOTING CONFEDERATION

INTERNATIONAL RANGE OFFICERS ASSOCIATION

STATS GUIDE

International Range Officers Association
PO Box 972, Oakville, Ontario, Canada L6J 5E8

Fax: +1 905 842 4323
Email: iroa@ipsc.org   Web: www.ipsc.org

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INTRODUCTION

This Guide is intended to provide advice, guidance and the how to for new as well as experienced Stats Officers on the running of a Stats Office for all levels and disciplines of IPSC competition, how the whole scoring system and procedures at competitions function and should function. It is not intended to be a step by step manual on everything to do with scoring or a guide on how WinMSS works although a lot of WinMSS is included in the Guide.

STATS GUIDE

ROLE AND RESPONSIBILITIES OF THE STATS OFFICER

Appointment as Stats Officer

1.   The Stats Officer is one of the match officials in an IPSC competition and falls under the direct authority of the RM. His/her appointment is subject to the same conditions as other match officials.

Role of Stats Officer

2.   The duties and terms of reference of the Stats Officer are defined in the IPSC rule book in Section 7.1.3:

> 7.1.3 Stats Officer ("SO") –collects, sorts, verifies, tabulates and retains all score sheets and ultimately produces provisional and final results. Any incomplete or inaccurate score sheets must be promptly referred to the Range Master (under direct authority of the Range Master).

This Rule only mentions what the SO does during the competition and nothing of what goes before it, all the planning and preparation to make stats flow smoothly.

3.   As the Stats Officer you are responsible for providing accurate, timely and correct results. You may be in charge of a complete stats team in larger competitions or possibly work alone in small competitions. Your responsibility will include the planning and preparation of all aspects of Stats for the match as well as the directing of other Stats officials and the smooth operation of the Stats Office. Other match officials will look to you to provide accurate match scores.

4.   The qualifications for Stats Officer are the willingness and ability to work. In practice you have to be organised and methodical, not to enter stats but keep track of score sheets. Stats can be boring so having reliable team members that you get on well with makes the whole job a pleasant one.

5.   It is also advisable to score few club matches and get used to WinMSS and sort out the scoring process, your team members and your organisation for Stats.

RULES AND THE STATS OFFICER

6.   All the IPSC Rules 2009 Edition relevant to stats, scoring and the Stats Officer are quoted below. This is quite lengthy but will clarify what the duties of the SO are. It is in many ways an eye opener to see what the Stats Officer's duties actually are and what he could, should and must do as well as be able to do.

7.   The IPSC Competition Rules are the basis of scoring and the Stats Officer's work. Everything starts and ends with a score sheet and scores. It is the only way that competitors' performance on the sports field can be compared. It is thus more than essential, it is critical that the Stats Officer knows the newest IPSC Competition Rules applicable and related to scoring and be able to apply them. Do not underestimate the role of the IPSC Competition Rules and the knowledge you must have of them. It is not the same as the Range Officer who must oversee competitor behaviour, but the principle it remains the same, you only apply the Rules, not interpret them.

IPSC COMPETITION RULES APPLICABLE TO STATS

5.6 Chronograph and Power Factors

5.6.1 The power factors for each Division are stipulated in Appendix D. One or more official match chronographs must be used to assist in the determination of the power factor of each competitor's ammunition. However, in the absence of official match chronographs, the power factor declared by a competitor cannot be challenged.

6.4 Regional Teams

6.4.1 Subject to the availability of allocated slots, only one official Regional team in each Division and/or Division/Category may be selected on merit by each Region for IPSC Level IV or higher matches. Approved Category teams are specified by the IPSC Assembly (see Appendix A2).

6.4.1.1 At Level IV matches, the only teams permitted are those representing Regions within the zone where the match is being held (e.g. at a European Championship, only teams representing Regions designated by IPSC as belonging to the European Zone can be fielded).

6.4.1.2 At Level IV and higher matches, official Regional Teams must be "seeded" in accordance to how they placed at the same immediately preceding event.

6.4.2 An individual competitor's scores will be used exclusively for a single team in a match.

6.4.3 Teams must consist of a maximum of 4 members, however, only the final scores of the 3 highest scoring team members will be used to calculate team results.

6.4.4 If a member of a team retires from the match for any reason before completing all of the stages, scores attained by that competitor will continue to stand towards the team score, however, the affected team is not entitled to replace the retired team member.

6.4.5 A team member who is unable to commence a match, may be replaced prior to commencement by another competitor, subject to the approval of the Match Director.

6.4.6 If a member of a team is disqualified from a match, the disqualified member's scores will revert to zero for all courses of fire. Teams will not be entitled to replace a disqualified team member.

6.5 Competitor Status and Credentials

6.5.3 At Regional and Continental Championships, only competitors who satisfy the residency requirements stated in Rule 6.5.1 are entitled to be recognized as the Regional or Continental Champion, by Division and/or by Division/Category, as the case may be. However when determining Regional or Continental Champions, match results of competitors from outside the applicable Region or Continent must not be deleted from the match results, which must remain wholly intact. For example:

Region 1 Open Division Championships
100% Competitor A - Region 2 (declared as Overall Match and Division Champion)
99% Competitor B - Region 6
95% Competitor C - Region 1 (declared as Region 1 Champion)

6.6 Competitor Scheduling and Squadding

6.6.1 Competitors must compete for score according to the published match and squadding schedule. A competitor who is not present at the scheduled time and date for any stage may not

attempt that stage without the prior approval of the Match Director, failing which the competitor's score for that stage will be zero.

6.6.2 Only Match Range Officials, match sponsors and dignitaries, who are members in good standing of their Region of residence, and IPSC Officers (as defined in Section 6.1 of the IPSC Constitution) may compete for score in a "pre-match", subject to the prior approval of the Match Director. Scores attained in the pre-match may, at the discretion of the Match Director, be included in the overall match results, provided dates of the pre-match are published in advance in the official match schedule. Competitors in the main match must not be restricted from viewing the pre-match.

6.6.3 A match, tournament or league will be deemed to have started on the first day that competitors (including those specified above) shoot for score and will be deemed to have ended when the results have been declared final by the Match Director.

9.2 Scoring Methods

9.2.1 The written stage briefing for each course of fire must specify one of the following scoring methods:

9.2.2 "Comstock" – Unlimited time stops on the last shot, unlimited number of shots to be fired, stipulated number of hits per target to count for score.

   9.2.2.1 A competitor's score is calculated by adding the highest value stipulated number of hits per target, minus penalties, divided by the total time (recorded to two decimal places) taken by the competitor to complete the course of fire, to arrive at a hit factor. The overall stage results are factored by awarding the competitor with the highest hit factor the maximum points available for the course of fire, with all other competitors ranked relatively below the stage winner.

9.2.3 "Virginia Count" – Unlimited time stops on the last shot, limited number of shots to be fired, stipulated number of hits per target to count for score.

   9.2.3.1 A competitor's score is calculated by adding the highest value stipulated number of hits per target, minus penalties, divided by the total time (recorded to two decimal places) taken by the competitor to complete the course of fire, to arrive at a hit factor. The overall stage results are factored by awarding the competitor with the highest hit factor the maximum points available for the course of fire, with all other competitors ranked relatively below the stage winner.

9.2.4 "Fixed Time" – Limited time, limited number of shots to be fired, stipulated number of overall hits to count for score.

   9.2.4.1 A competitor's score is calculated by adding the highest value stipulated number of required hits, minus penalties. The overall stage results are not factored, and competitors are ranked by the actual net points achieved by them.

   9.2.4.3 Fixed Time must only be used for Standard Exercises, Classifiers or Short Courses.

   9.2.4.4 Fixed Time must not be used in Level IV or higher matches except in respect of a Standard Exercise (see Rule 6.1.2).

   9.2.4.5 Fixed Time courses of fire do not incur failure to shoot at or miss penalties.

9.2.5 Stage results must rank competitors within the relevant Division in descending order of individual stage points achieved, calculated to 4 decimal places.

9.2.6 Match results must rank competitors within the relevant Division in descending order of the combined total of individual stage points achieved, calculated to 4 decimal places.

9.3 Scoring Ties

9.3.1 If, in the opinion of the Match Director, a tie in match results must be broken, the affected competitors must shoot one or more courses of fire, nominated or created by the Match Director, until the tie is broken. The result of a tiebreaker will only be used to determine the final placing of the affected competitors, and their original match points will remain unchanged. Ties must never be broken by chance.

9.4 Scoring and Penalty Values

9.4.1 Hits on IPSC targets and no-shoots will be scored in accordance with the values approved by the IPSC Assembly. (See Appendices B and C and below).

9.4.2 Each hit visible on the scoring area of a paper no-shoot will be penalized minus 10 points, up to a maximum of 2 hits per no-shoot.

9.4.3 Each hit visible on the scoring area of a metal no-shoot will be penalized minus 10 points, up to a maximum of 2 hits per no-shoot, regardless of whether or not it is designed to fall (see Rules 4.3.1.7 and 4.3.1.8).

[Rifle and Shotgun]

9.4.4 Each miss will be penalized minus 10 points, except in the case of disappearing targets (see Rules 9.2.4.5 and 9.9.2).]

9.4.5 In a Virginia Count Course of Fire or a Fixed Time Course of Fire:

9.4.5.1 Extra shots (i.e. shots fired in excess of the number specified in a component string or stage), will each incur one procedural penalty. Additionally, during scoring, no more than the specified number and highest scoring hits will be awarded.

9.4.5.2 Extra hits (i.e. hits on the scoring area of scoring paper targets in excess of the total number specified in the stage), will each incur one procedural penalty. Note that hits on hard cover and/or no-shoots are not treated as Extra Hits.

9.4.5.3 If hits in excess of the total number required are visible on one or more targets, but the competitor has not fired more than the number of shots required (i.e. Extra Shots), Extra Hit penalties will not apply. If it is not obvious which hits were made by the competitor, he must be ordered to reshoot the string or COF, as the case may be.

9.4.6 In a Fixed Time Course of Fire:

9.4.6.1 Overtime shots are shots fired at the targets after the signal to cease fire has been given. Overtime shots will not count for score.

9.4.6.2 Where static scoring paper targets are used, it is assumed that overtime shots result in the highest value hits visible on the targets, so these are ignored for scoring purposes. For example, on a stage with 1xA, 6xC and 1xD hits, where 2 overtime shots have been

fired, the 2 highest hits (i.e. 1xA and 1xC) are ignored, with the final score being 5xC and 1xD hits.

9.4.6.3 Where static paper no-shoots are used, it is assumed that all hits occurred within the specified time, and will count in the scoring process, subject to Rule 9.4.2.

9.5 Scoring Policy

9.5.1 Unless otherwise specified in the written stage briefing, scoring paper targets must be shot with a minimum of one round each, with the best two hits to score. Scoring metal targets must be shot with a minimum of one round each and must fall to score.

[Shotgun]

Unless otherwise specified in the written stage briefing, scoring paper targets must be shot with a minimum f one round each, with the best hit to score in the case of slug ammunition or with the best two hits to score in the case of buckshot ammunition, i.e. the two highest scoring strikes of any pellets from any buckshot rounds fired. Metal targets must fall to score. Frangible targets must break with a visible piece missing or separated from the original target to be counted for score. If two or more targets receive scoring hits as a result of a single shot they will both, or all, be scored normally. Paper targets will be awarded the highest value hits and metal targets will be scored if they have fallen as a result of the shot. See Rule 9.5.6.

[Rifle]

Unless otherwise specified in the written stage briefing, scoring paper targets must be shot with a minimum of one round each, with the best hit to score. Scoring metal targets must be shot with a minimum of one round each and must fall or otherwise react to score. Frangible targets must break with a visible piece missing or separated from the original target to be counted for score.

9.5.5 The minimum score for a course of fire or string will be zero. A competitor who fails to shoot at the face of each scoring target in a course of fire with at least one round will incur one procedural penalty per target for failure to shoot at the target, as well as appropriate penalties for misses (see Rule 10.2.7).

9.6 Score Verification and Challenge

9.6.3 A competitor (or his delegate) who fails to verify a target during the scoring process loses all right of appeal in respect of scoring that target.

9.6.4 Any challenge to a score or penalty must be appealed to the Range Officer by the competitor (or his delegate) prior to the subject target being painted, patched, or reset, failing which such challenges will not be accepted.

9.6.5 In the event that the Range Officer upholds the original score or penalty and the competitor is dissatisfied, he may appeal to the Chief Range Officer and then to the Range Master for a ruling.

9.6.6 The Range Master's ruling in respect of the scoring of hits on targets and no-shoots will be final. No further appeals are allowed with respect to such scoring decisions.

9.7 Score Sheets

9.7.1 The Range Officer must enter all information (including any warnings given) on each competitor's score sheet prior to signing it. After the Range Officer has signed the score sheet, the competitor must add his own signature in the appropriate place. Electronic score sheet signatures will be acceptable if approved by the Regional Directorate. Whole numbers should be used to record all scores or penalties. The elapsed time taken by the competitor to complete the course of fire must be recorded to 2 decimal places in the appropriate place.

9.7.2 If corrections to the score sheet are required, these will be clearly entered onto the original and other copies of the competitor's score sheets. The competitor and the Range Officer should initial any corrections.

9.7.3 Should a competitor refuse to sign or initial a score sheet, for any reason, the matter must be referred to the Range Master. If the Range Master is satisfied that the course of fire has been conducted and scored correctly the unsigned score sheet will be submitted as normal for inclusion in the match scores.

9.7.4 A score sheet signed by both a competitor and a Range Officer is conclusive evidence that the course of fire has been completed, and that the time, scores and penalties recorded on the score sheet, are accurate and uncontested. The signed score sheet is deemed to be a definitive document and, with the exception of the mutual consent of the competitor and the signatory Range Officer, or due to an arbitration decision, the score sheet will only be changed to correct arithmetical errors or to add procedural penalties under Rule 8.6.2.

9.7.5 If a score sheet is found to have insufficient or excess entries, or if the time has not been recorded on the score sheet, the competitor will be required to reshoot the course of fire.

9.7.6 In the event that a reshoot is not possible or permissible for any reason, the following actions will prevail:

9.7.6.1 If the time is missing, the competitor will receive a zero score for the course of fire.

9.7.6.2 If insufficient hits or misses have been recorded on the score sheet, those which have been recorded will be deemed complete and conclusive.

9.7.6.3 If excessive hits or misses have been recorded on the score sheet, the highest value scoring hits recorded will be used.

9.7.6.4 Procedural penalties recorded on the score sheet will be deemed complete and conclusive, except where Rule 8.6.2 applies.

9.7.6.5 If the identity of the competitor is missing from a score sheet, it must be referred to the Range Master, who must take whatever action he deems necessary to rectify the situation.

9.7.7 In the event that an original score sheet is lost or otherwise unavailable, the competitor's duplicate copy, or any other written or electronic record acceptable to the Range Master, will be used. If the competitor's copy, or any other written or electronic record, is unavailable, or is deemed by the Range Master to be insufficiently legible the competitor will be required to reshoot the course of fire. If the Range Master deems that a reshoot is not possible for any reason, the competitor will incur a zero time and score for the affected course of fire.

9.8. Scoring Responsibility

9.8.1 Each competitor is responsible to maintain an accurate record of their scores to verify the lists posted by the Stats Officer.

9.8.2 After all competitors have completed a match, the provisional stage results must be published and posted in a conspicuous place at the shooting range by the Stats Officer for the purpose of verification by competitors.

9.8.3 If a competitor detects an error in the provisional results at the end of the match, they must file an appeal with the Stats Officer not later than 1 hour after the results are posted. If the appeal is not filed within the time limit, the posted scores will stand and the appeal will be dismissed.

9.8.4 Competitors who are scheduled (or otherwise authorized by a Match Director) to complete all courses of fire in a match in a period of time less than the full duration of the match (e.g. 1 day format in a 3 day match etc.), are required to check their provisional match results in accordance with the special procedures and time limits specified by the Match Director (e.g. via a website), failing which scoring appeals will not be accepted. The relevant procedure must be published in advance in match literature and/or by way of a notice posted in a conspicuous place at the shooting range prior to commencement of the match (also see Section 6.6).

9.10 Official Time

9.10.1 Only the timing device operated by a Range Officer must be used to record the official elapsed time of a competitor's attempt at a course of fire. If a timing device is faulty, a competitor whose attempt cannot be credited with an accurate time will be required to reshoot the stage.

9.10.2 If, in the opinion of an Arbitration Committee, the time credited to a competitor for a course of fire is deemed to be unrealistic, the competitor will be required to reshoot the course of fire (see Rule 9.7.4).

9.11 Scoring Programs

9.11.1 The scoring programs approved by IPSC are the Match Scoring System (MSS) and Windows® Match Scoring System (WinMSS). No other scoring program must be used for any IPSC sanctioned match without the prior written approval of the Regional Director of the host Region. In the case of MSS and WinMSS the most recent versions of the scoring programs available from the IPSC website are to be used.

10.1 Procedural Penalties – General Regulations

10.1.1 Procedural penalties are imposed when a competitor fails to comply with procedures specified in a written stage briefing. The Range Officer imposing the procedural penalties must clearly record the number of penalties, and the reason why they were imposed, on the competitor's score sheet.

10.1.2 Procedural penalties are assessed at minus 10 points each.

10.2.3 Where multiple penalties are assessed in the above cases, they must not exceed the maximum number of scoring hits that can be attained by the competitor. For example, a competitor who gains an advantage while faulting a Fault or Charge Line where only 4 metal targets are visible will receive 1 procedural penalty for each shot fired while faulting, up to a maximum of 4 procedural penalties, regardless of the number of shots actually fired.

10.2.11 Special penalty: A competitor unable to fully execute any part of a course of fire due to incapacity or injury may, prior to making his attempt at the course of fire, request that the Range Master apply a penalty in lieu of the stated course requirement.

10.2.11.1 If the request is approved by the Range Master, a minimum of one procedural penalty, up to a maximum penalty of 20% of the competitor's points "as shot" (rounded up to the nearest whole number), will be deducted from the competitor's score. For example, if 100 points are available in the course of fire and the competitor actually scores 90 points, the special penalty is a deduction of 18 points. However, the Range Master may waive any or all procedural penalties in respect of a competitor who has a significant physical disability prior to the competitor making his attempt at the course of fire.

10.3 Match Disqualification – General Regulations

10.3.1 A competitor who commits a safety infraction or any other prohibited activity during an IPSC match will be disqualified from that match, and will be prohibited from attempting any remaining courses of fire in that match regardless of the schedule or physical layout of the match.

10.3.2 When a match disqualification is issued, the Range Officer must record the reasons for the disqualification, and the time and date of the incident, on the competitor's score sheet, and the Range Master must be notified as soon as possible.

10.3.3 Scores for a competitor who has received a match disqualification must not be deleted from match results, and match results must not be declared final by the Match Director, until the time limit prescribed in Rule 11.3.1 has passed, provided no appeal to arbitration on any matter has been submitted to the Range Master (or his delegate).

10.3.4 If an appeal to arbitration is submitted within the time limit prescribed in Rule 11.3.1, the provisions of Rule 11.3.2 will prevail.

10.3.5 Scores for a competitor who has completed a "pre-match" or main match without a match disqualification will not be affected by a match disqualification received while that competitor is participating in a Shoot-Off or other side match.

PLANNING AND PREPARATION

8.   A lot of effort goes into the planning of a match. The activities indicated below have to be carried out to ensure that all the aspects requiring attention are indeed attended to. They are mentioned so that the Stats Officer is aware of all the aspects that have an influence on the planning and preparation for running a Stats Office:

> Allocate human resources to the match e.g. Match Director; Range Master, Chief Range Officer; Range Officers, Stats Officer, people to construct stages, etc.
> Create a match schedule.
> Develop course designs that comply with the current IPSC Shooting Principles and Rules.
> Obtain match sanctioning, if it is to be a recognised IPSC match.
> Prepare match documents.
> Enter IPSC members into the match as competitors.

9.   The complexity of these tasks depends on the size of the match. For example, a match schedule could be as simple as stating that you will have an IPSC match every Wednesday. It is essential to plan what you can prepare before the competition starts, to do contingency planning for poor weather conditions and to make sure you can work in the space you'll have available.

10.   Often the running of the Stats is not given due consideration. It is taken for granted that Stats is well organised and will produce the results correctly, on time and in the required format, without the Range Master or Match Director having to pay any attention to it.

11.   It is advisable to involve the official responsible for Stats in the planning and preparation phase. The registration of the competitors, the squadding schedule, and the score sheet design are the areas where the Stats Officer might contribute a lot and might help to make decisions that will help the Stats Officers to fulfil their roles efficiently and accurately.

ESTIMATING RESOURCES REQUIRED FOR MATCH SCORING

Calculating the number of Score Sheets to be Processed (score sheet transaction rate)

12.   For a Stats Officer, planning begins with calculating how much work there is to be done during the match. To a large extent, the resources required to score a match depend on the daily score sheet transaction rate: how many and how quickly will the score sheets have to be processed per day.

13.   The average of how many scores must be processed in a day is calculated by multiplying the number of competitors by the number of stages and dividing this number by the number of shooting days for the match. This provides a very good indicator of the resources required to score the match.

14.   Processing score sheets includes the following activities:

> Collecting
> Sorting
> Verifying written totals
> Entering scores into WinMSS
> Verifying data entry
> Filing

15.   To calculate the hourly score sheet transaction rate, divide the daily score sheet transaction rate by the number of hours you have available to process score sheets that day. Do not include the time before the first batch of score sheets arrives. For example, if shooting starts at 08:00, but the first batch of score sheets arrives at 10:00, don't include the two hours between 08:00 and 10:00 in your calculations.

16.   According to the IPSC Competition Rules, the results should be available for the shooters for one hour before becoming final. This hour shouldn't be included in your calculation when estimating the available hours of the last day. Additionally, you must ensure ample time for printing and publishing the results and/or the verification lists. This might be quite time consuming for large matches, especially when using slow printers.

17.   Even though there may be multiple stages on one score sheet, you still have to do most of the above operations on each stage. For simplicity, use the same procedure for all.

Examples:

> 1.   A 10 stage match with 100 competitors over 2 days.
>
> Daily score sheet transaction rate is equal to 10 x 100 / 2, or 500 score sheets per day.
>
> The match starts at 08:00 each day. Score sheets are delivered every 2 hours, so your first batch arrives at 10:00. You want to have finished handling score sheets by 20:00, which gives you about 10 hours each day to process the scores. That works out to about 50 score sheets per hour, or less than one a minute. This is quite comfortable and can probably be managed with one computer.
>
> 2.   A 15 stage match with 200 competitors over 3 days.

Daily score sheet transaction rate is equal to 15 x 200 / 3, or 1000 score sheets per day.

Assuming a 10 hour day (from 10:00 to 20:00), that's about 100 score sheets per hour, or just over 1½ score sheets per minute. This is about the maximum for one computer.

3.   A 30 stage match, with 300 competitors, over 5 days. Some score sheets have more than one stage on them.

Daily score sheet transaction rate is equal to 30 x 300 / 5, or 1800 per day.

Again, assuming a 10 hour day that's about 180 score sheets per hour, or 3 score sheets per minute. This probably can't be done on a single computer.

Note: The processing time in the above examples does not include time for printing results, making back-ups, etc. The time taken to print results at the end of the day can easily add 2 hours or more to the working day.

18.   In case of small matches the competitors are registered only on the morning of the match. Even in case of level III matches, the match directors may allow late registration in order to maximise profit. If the match has no pre-registration deadline, the Stats Officer must enter the registered competitors on the scoring program a they arrive. Depending on the size of the match and the number of competitors, it might happen that the first score sheets arrive before the latest competitors are entered. You must take this into consideration when calculating the available hours for the first day of the match.

19.   Even if pre-registration takes place, competitors have to confirm their presence. The Stats Officer must deal the no-shows and the last minute equipment changes anyhow. Therefore, the time before the first score sheets find their way into Stats will be taken up with verifying the registrations. In case of Level IV and V competitions, the confirmation usually happens a day before the shooting starts. In case of the other levels, this might have some impact on the number of available hours.

Determining Resources Required

20.   You can plan the resources required to carry out the scoring by calculating how much work must be done. Most of the aspects that should be considered are listed below.

21.   <u>Human Resources</u>

   a.   <u>Score Keepers</u>. This is the responsibility of the Range Master as they are part of running the courses of fire. Dedicated score keepers are preferred in large important matches.

   b.   <u>Score Sheet Collectors</u>. Use people who are specifically authorized to collect score sheets. They should check to ensure that all score sheets for each squad are present, including the no-shows.

   c.   <u>Stats Officers</u>. Must know how to score a match. Should have a good knowledge of IPSC Competition Rules, basic computer skills, and a working knowledge of the WinMSS application. In large important matches use certified Stats Officers if possible.

   d.   <u>Stats Director</u>. Must be a Stats Officer and his responsibility is to organise and manage the work of the other officials responsible for any part of the Stats work. This is not necessarily a full time job, but if more Stats Officers work on the match, one of

them must be appointed in charge.

   e.   Data Entry People. People who are good at the keyboard. Balance speed with accuracy. They should be familiar with WinMSS, but data entry skills are more important.

   f.   Casual Help. People who can help with adding up scores, sorting and filing score sheets etc. They don't have to know anything about IPSC matches, computers or WinMSS.

   g.   Competitor Service Agent. Must be a Stats Officer with good soft skills (must have a diplomatic and polite manner). He is the sole person responsible for accepting queries and challenges coming from the competitors. This is not a full time job, but dealing with complaints coming from frustrated competitors might be a challenging task, and the competitors' felt level of service will be better if that is handled on the most efficient way. On large matches it usually is the Stats Director who also fulfils this role.

The number of people required in Stats must be balanced against the number of competitors and stages, because this equals the number of score sheets, etc. Although a good data entry person can easily enter four score sheets per minute, he cannot continue that for hours. Also the faster he is the less accurate he will be. Besides, even on large matches, really good data entry persons are scarce. To be on the safe side, 1½ score sheets per minute is the maximum one should plan for. If the number of score sheets per hour is already calculated, then the number of computers could be determined. One person per computer is required. In some cases, to improve accuracy, two persons per computer can be considered.

Checking and sorting the score sheets when they enter also needs human resources. Approximately five sheets per minute is manageable, but one cannot keep that load up all day long, therefore four is more acceptable. The flow should be sufficient to avoid starving the data entry people – alternatively, if they are certified Stats Officers on their own, then they might help during this phase too.

Finally, the post-processing tasks also require human resources. Filing and sorting the score sheets, handling the complaints, printing the several lists, dealing with the exceptions (incorrect, unreadable or missing score sheets, and so on) are the tasks that belong to this phase. One dedicated person alone can handle all, and he might also be the one who organises the work of all of the Stats people.

Example:

   A normal shooting day may be 140 competitors shooting 10 stages for a level II match. Repeat for a minimum of 2 to a maximum of 3 days (Friday to Sunday). So you are dealing with 140 x 10 = 1 400 score sheets per day. There are 10 hours available for scoring on the first and second day; therefore the match should have 2 computers and two Stats Officers. In each hour, when the score sheets come in, they have to check 140 score sheets. For two people that's about 15 minutes. Then they have 45 minutes to enter these score sheets, which is about 1,5 score sheet per minute. Therefore, the two Stats Officers can handle this load easily. However, at the end of the day, the shooters should wait approximately one and a half hour before they can see their results. (It takes time to collect the sheets, verify them, enter them, validate the entered data, and publish them.)

   You can split the 350 competitors up into 3 lots 140/140/70. On Day 1 only 140 shoot the 10 stages and they are finished shooting and can go home, repeat the same for days 2 and 3 to all have finished shooting and on the final day scores are finalised and posted. The only consideration is that on the last day 30 minutes should be reserved for printing all the papers and one full hour should be reserved for verification. Considering also that one hour is

required to enter the last score sheets, the last stage should close two and a half hours before the closing ceremony.

If the match director is going to shorten the waiting time at the end of the day, then he must allocate one more computer and one more Stats Officer to the match.

22.   Hardware

a.   Computers. Get the fastest computers you can, with a fast processor and a fast hard drive. Nowadays it is easy to fulfil this requirement; even the "slower" computers are fast enough for the scoring purposes.

b.   Printers. The fastest you can find, with laser printers being preferred. Printing can take a long time in large matches, especially at the end of the match. If you want to post interim results and verification lists frequently, then the bottleneck will be the speed and load of the printers. The regular desktop laser printers can produce two pages per minute. If you have three divisions and two categories, then you have to print 6 result lists. If you want to post the interim stage results and you have 10 stages, then that's already 60 pages even if the number of competitors is less than 70 in each division. Even with the better desktop printers that takes over 15 minutes and the sample match is not that big at all.

c.   Paper. Have enough paper on hand to produce all of the printouts required during the match. Large matches can use quite a lot of paper, depending on how often you post results. The following tables show approximately how many pages of paper are required to print stage and match results twice a day:

	Three Day Match				Five Day Match		
	No of Competitors				No of Competitors		
No of Stages	100	150	200	No of Stages	200	300	400
10	100	140	180	20	550	1150	1490
15	150	200	260	30	810	1150	1490
20	190	260	340	40	1070	1520	1970

Note.   Additional paper is required for Competitor Lists, Verification Reports, Final Match Results, etc. You should have at least 200 pages available for a 10 stage match with 100 competitors over 3 days and you should have at least 500 pages available for a 20 stage match with 200 competitors over 3 days. These figures are barely enough to print the verifications lists (thrice) and the match results. Remember, each division and each category requires one full sheet of paper.

d.   Power Supply. Use power extensions to provide enough outlets to each computer and printer. Consider the use of surge suppressors, uninterruptible power supplies [UPS], etc. depending on your knowledge of the venue. If you have to use extension cords or other wires (eg. network cables), make sure their paths are safe, and no-one will fall and/or cause the wires to be kicked off from the outlet. Uprooting cords from the outlets by accident might even cause short circuits.

23.   Location/Venue. The location of Stats is usually at the range itself. It could also be off-site if facilities at the range are insufficient. The decision will lie with the Range Master and Match Director, in consultation with the Stats Director. Consider these factors:

   a.   Work area. Is the work area large enough? Surface areas are required for a computer and printer, handling score sheets, entering scores, etc. You need at least a 1 m x 0.6 m surface area for a computer workstation. A long narrow table is ideal for handling score sheets. The table must be large enough to provide space for the score sheets of all stages (one pile for each stage).

   b.   Working Conditions. Is there enough light? Is there any air conditioning/heating? Access to Stats should be controlled so that you can work in relatively quiet surroundings with few interruptions.

   c.   Access to Facilities. Will you have access to food and beverages? Are washrooms close by? The availability of these facilities will influence how you schedule your Stats people.

   d.   Communications. You need to be able to communicate with the Match Director and/or the Range Master. If you are off-site, access to a telephone, fax, CB radio or walkie-talkie is essential. You may also need runners/drivers to transport or deliver documents.

   e.   Publishing the Information. Although it is not the responsibility of the Stats Officer to publish the verification lists and results, this task is very often delegated to him. In this case the Stats Officer must have access to a wall or other surface big enough to put up the lists.

24.   Office Administration

   a.   Stationery Items. You need pens, note pads, and one or more calculators.

   b.   Filing System. Score sheets that have been entered and verified should be sorted into competitor number within stage, and filed. Any competitor queries can then be resolved quickly. Some sort of filing boxes or trays is useful for this. Keep a separate box or tray for anomalies and deferred decisions, such as DQs. If the competitors are assigned to squads, then sorting all the score sheets is not absolutely necessary. Instead, after entering the scores of a squad, put the score sheets back into an envelope and file the envelopes by stage. If that's not yet printed on the envelope, write the number of the stage and the number of the squad on the envelope.

Scoring Programs

25.   WinMSS is the officially supported scoring program prescribed for scoring IPSC matches. This Guide is not a guide on WinMSS as it is only an aid to Stats and scoring. To use WinMSS, print the WinMSS user manual and read and apply. It has all the information on the features of the WinMSS scoring system and how to setup and run WinMSS for Stats. It takes some time to understand properly as with any program, how it reports exceptions and results and using the tools to make the whole scoring process easy.

26.   It is essential that for any scoring program, you should first ensure that your membership database is up-to-date and complete. In WinMSS this is done using the Membership Administration feature that will assist you in:

   a.   Verifying that match applicants are current IPSC members, as a Level II or higher

match can be de-sanctioned for allowing non-current members to compete. Those individuals that are not current IPSC members may compete in a Level I match, providing they meet the appropriate qualifications.

    b.   Maintaining IPSC membership information e.g.: Contact Information and Classifications.

    c.   Preventing errors in your competitor information e.g.: date of birth, spelling of name, IPSC Alias, etc.

    d.   Ensure that the division, category and power factor attributes are correct. Competitors may change their equipment even on the very last day before travelling to the match, therefore even the pre-registered competitors should be checked by using the registration form they submitted when applying for the match.

27.   After registering all the competitors, the next step is to initialise the match. It is also possible to initialize the match before the competitors are registered. Enter all of the stages, and mark the proper number of targets for each. If the stage contains optional targets (eg. disappearing targets), then care must be taken to mark it appropriately, because the scoring programs in use today all check the total number of hits and won't let you continue easily until it is met.

Match Scoring

28.   The primary concern of an IPSC Stats Officer is to determine who won an IPSC match by scoring each competitor's performance in accordance with the requirements and recommendations of the IPSC Shooting Principles and Competition Rules. You do this by:

    a.   Preparing score sheets for the match if asked to do so. Usually the host organisation or the Match Director prepares the score sheets in advance. In some cases the MD shifts this responsibility; therefore it might be the responsibility of the Stats Officer. In some rare cases it also might happen that the pre-printed score sheets are lost, damaged, or the supply of them runs out.

    b.   Distributing and collecting completed score sheets if asked to do so. Usually it is the Match Director who distributes the score sheets (either in the range bag or the competitor's bag), and the Range Master takes care of their collection. However, always check with the MD and the RM what procedures they have implemented and suggest changes if necessary.

    c.   Scoring the competitor's results and sort the results. Nowadays this task is highly automated, and your responsibility is entering the scores into the scoring program, ensuring that all score sheets are correctly entered, and that each and every score sheet is entered.

    d.   Determining the final results of the match. When using a scoring program this task is as simple as printing the final results.

Entries

29.   Each competitor must complete an entry form. This applies to match and range officials who will be shooting too. This will enable Stats to populate the database accurately. The entry form must contain at least the following information: the full name of the shooter, his date of birth [to enable stats to place him in the correct category – junior, senior, etc], gender to avoid misunderstanding as names may not necessarily clearly indicate if the competitor is male of female, his registration number, and the division, category, and power factor data. In many cases the IPSC region is also required. The

squadding information might be added too, but in some cases, a separate table contains it.

30.   Entries usually fall under the host organisation/Match Director. However, especially on small matches, the Stats Officer might want to assist the Match Director with the content and handling of the entry forms. Collecting the missing information later is difficult.

Preparing Score Sheets

31.   Score sheets can be printed from WinMSS after entering the targets, etc. Consult the IPSC Competition Rules especially 9.7 every time you compile the score sheets. Take care to set the scores sheets up correctly for the different disciplines - there are differences in scoring between the disciplines.

32.   Scores sheets can be printed from WinMSS for smaller matches or specially printed for larger matches. It depends to a large extent on the number of competitors compared to the cost. Print the score sheets for all the stages for all the competitors. Print labels for the competitors as their entry fee is confirmed and they are allocated to a squad. This should all be completed at the latest a week before the competition.

33.   After you have prepared the score sheets to your liking, consider the following, should you wish to take them to a printer for reproduction:

        a.   For smaller matches: You may want to reduce WinMSS score sheets and photocopy more than one on a single sheet of paper.

        b.   For larger matches: Use self carbonising [NCR] paper, so that the competitor can easily get an accurate duplicate of the score sheet.

        c.   If you don't have too many stages, colour coding the score sheets can be useful especially when handling score sheets in Stats.

34.   A cheap option is to have envelopes big enough to put all of the score sheets of the largest particular squad for each stage into.

35.   Write the name and number of the stage on the envelopes and the squad number. Give these envelopes to the Ros each day, and ask them to put the whole squad into the proper envelope as soon as the squad has finished. If you could, print the name and registration number of the competitors shooting in that particular squad on the envelope too. It may help the RO on the range, and may help you when you have to deal with complaints. It also allows Stats to make notes on the envelope for the RO and Stats about DQ, changes in squads, etc.

36.   The only numbers on the competitor label on the score sheet should be the competitor number for the competition and the squad number. Beware of a Stats assistant mistakenly using the squad number instead of the competitor number when entering scores.

37.   Get your score sheets and labels laser printed or photo copied if you live in a wet climate, inkjet printer ink runs when wet.

Squadding Name Lists

38.   The squadding list is the range official's mandate for a competitor to shoot a specific stage at a specific time. The squadding schedule and the assignment of the competitors to squads is the responsibility of the Match Director. The squad numbers may help the Stats Officer when checking for the missing score sheets. It might be that one score sheet was hidden in the envelope when the others were entered and if the score sheets are filed in envelopes by stage and squad, then the squad number

helps to check the appropriate envelope first.

Time Table

39.   The time table indicates to squads what time they have to be at what stage. It also indicates to the range officials when to expect which squad at a specific stage. It also makes it easy for the match officials to find a specific competitor.

40.   Competitors who are not at the stage on time have to have the Match Director's approval to shoot that stage. By using the one squad in one envelope approach, the Stats Officer will see if someone shoots outside of his home squad. Then, if no written approval from the MD appears on the score sheet, he should bring the fact to the attention of the Range Master.

EXECUTION

Facilities for Stats

41.   Stats needs a dedicated office/room away from noise, dust free with sufficient light and constant acceptable temperature. There should be sufficient power for all the Stats equipment to run at the same time. An uninterrupted power supply [UPS] is advisable if desktop computers are used, in case power is lost for any reason. Also to smooth out the power if a generator is used to provide power or if the power supply is erratic. Stats have to be accurate at all times and the right facilities are essential for good and accurate stats.

42.   Air conditioning would be ideal.

Equipment for Stats

43.   The equipment very much depends on the size of the competition. At Level I and II with a restricted number of competitors, less equipment is required. Stats should at least have a computer complete with printer, CD/DVDs for backup, paper for the printer to print score sheets and results, etc. A laptop computer is preferable as it is much less influenced by power surges and can be taken anywhere to continue working on the stats. The following office furniture and other stuff may be needed:

>   Sufficient sturdy and suitable tables and chairs.
>   Trays to place score sheets in.
>   Envelopes to put scores sheets in before, during and after checking.
>   Different coloured pens for checking score sheets.
>   Different coloured markers to put marks on envelopes, lists, etc.
>   Rulers and erasers.
>   Spare score sheets.
>   Spare printer cartridges
>   Staple guns or other appropriate means to put up announcements.
>   If possible a spare computer and printer if the one/s in use should become unserviceable.

44.   Other important tools are a radio in the Stats Office to contact the Range Master. The radio keeps Stats and the RM in touch should a problem arise and usually means a speedy response to calls for RM assistance/decisions.

45.   A list of the ROs and on which stage they are so you can follow up with the Range Master for missing score sheets, incorrectly competed score sheets, etc. It helps if the signature samples of the ROs are also included to the list. The signature helps the Stats Officer to identify the RO in case the hand writing is unreadable for him.

46.   On large international matches when ROs of many countries are officiating, the ROs might be asked to give samples how they write the digits. The 1 and the 7 for example could easily be mistaken, as in some countries the digit 1 is a single line, whereas in other cultures there's a small skew line on the top left – which is interpreted as 7 for some.

Preparing Range Officials' Box/pack

47.   Stats may assist the Range Master in preparing the day's score sheets, DQ forms, arbitration request forms, chrono ammunition packets, etc for each day for each stage. This is very competition and Region specific and will differ from place to place and the level of the competition. Preparing these is the responsibility of the Range Master.

Score Sheet Distribution

48.   There are three ways to distribute score sheets for the match:

   a.   Package them by competitor, and include them in the competitor's package. This requires less work up front on the part of the match organizers, but it can lead to problems on the range during the match. Competitors sometimes forget their score sheets, or they bring the wrong ones to a stage.

   b.   Package them by squad and stage, and deliver the packages to the stage. This requires a lot more work up front. All competitors have to be squadded in advance, so that the score sheet can be packaged per stage before the match starts. Last minute changes may require new score sheets to be printed and delivered to the stage.

   c.   Supply the competitors on arrival with labels for each stage only that they have to provide to the range officers on arrival at a stage. The range officers on the stage thus have only blank score sheets for that stage, and they have to prepare the score sheets for each squad as the competitors hand in their labels for that stage.

49.   The first option is easier on the match organizers, and provides greater flexibility, but places more responsibility on the competitors. The second option puts less responsibility on the competitors, but requires more on the part of the match organizers. The third one doesn't really rely on the competitors (in the worst case, the RO will write their name by hand), and it is easy to organise.

50.   Regardless of the chosen distribution method, the ROs must have a small supply of blank score sheets in their range bag. This is necessary eg. for handling reshoots. It is a good practice to mark these score sheets differently (it is possible only if the a. or b. method is chosen), which helps Stats to identify the reshoots easily.

51.   When the competitors are supplied with labels, it is advisable to give them a few more than the absolutely necessary supply. They have to use it on the chrono stage anyhow, but they come handy in case of reshoots, too.

52.   Regardless of the chosen distribution method, the Range Officers might be supplied with envelopes large enough to cover all of the score sheets of one full squad. In case of large competitions, it is advisable to print the squad number and the names of the squad members on the envelope. This information helps both the ROs and Stats.

53.   Provide some spare envelopes to the Range Officers. They may put the reshoots and other exceptional score sheets into these envelopes. This may help the Stats Officers when handling the score sheets, but be aware of the dangers of this method – the ROs and the score sheet collectors may forget to bring these score sheets into the Stats Office.

Printing Competitor Lists

54.   When competitor information is complete, you may wish to print final copies of the following Competitor Lists:

      a.   By Competitor Number. This lists competitors in competitor number sequence.

      b.   By Surname. This lists competitors in name sequence. You may need to look up a competitor's name to find out their competitor number.

      c.   By Squad. This lists competitors in squad number order. You should provide each range crew with a copy of the Squad list, so that they can see who the members of a Squad are without shuffling through score sheets to verify attendance.

      d.   By Team. This lists competitors in teams.

55.   Depending on the purpose of the list, its content may differ. However, the by number and by name lists should contain the registration number, the full name, the division, the category, and the power factor information, because these lists might be published to allow the competitors to verify whether they are entered into the proper division, category, and power factor. These lists may contain further information, like the squad number, IPSC region of the competitor, and the team information, too.

Collecting Sore Sheets

56.   Stats can't function if the score sheets don't reach them. The responsibility rests with the Range Master to ensure that they are collected and delivered to Stats, and with the range officials to take them to Stats, and with Stats to collect them if they have sufficient time. It is the Range Master's responsibility to ensure that Stats functions correctly.

57.   The SO and/or helpers will routinely visit all the stages about every hour to pick up score sheets. Often the Range Master will also pick up score sheets and the Range Officers bring them in to Stats, depending on the competition and the distance to Stats. Always check with the Range Master well before the match what will be the preferred way to collect score sheets. It must be an organised activity. Therefore, check with the Range Master to set up a dismiss procedure by the end of each and especially the very last day. Part of this procedure is to ensure that there are no score sheets are stored in the pockets or bags of the ROs.

58.   Ask the score sheet collector to check the envelopes before leaving the stage, to ensure that all the competitors are included in the squad score sheets. Even if the names of the shooters are marked on the envelope, do not rely simply on these marks, always check the score sheets. Mark the non-shows, and if there are extra sheets, write the name of the shooter it belongs to upon the envelope. If the competition is large, or if envelopes are used, then only the score sheets of full squads should be collected. If the squad is not finished yet, collect their score sheets later.

59.   The score sheet collector always should ask the RO whether reshoots or any other exceptional cases have happened or not. In case of any, he must mark the case on the envelope he collects. If the exceptional score sheets are stored separately by the Range Officers, then this question helps to ensure that these sheets won't be forgotten. In either case, he must ensure that the exception is clearly marked on the corresponding score sheet, too (eg. the word "reshoot" must be clearly written on the score sheet).

60.   It might be a good idea to have a list of squads with the RO, and the scorekeeper, after verifying that all score sheets of a particular squad are indeed put into the envelope, signs the corresponding squad on the list. This way the path of the score sheets is easier to be tracked down if

needed.

61.   Consider having waterproof wallets on stage to keep score sheets dry are essential so you don't end up scoring papier mache. If you can arrange it, hand them out in plastic bags to competitors if expecting rain and get some spare blank sheets on each stage.

Recommended Scoring Routine

62.   The Stats Office is usually still working after all the shooters have left, the ROs have been debriefed, etc as the work on the verification, checking, encoding, and processing the result and sorting winners of division, categories and special awards carry on.

63.   For level 3 and above with 150 to 300 a day and 1 000 plus in at some level IV and the level V matches, knowledge of networking is helpful as you need more computers to ease the job.

64.   Usually Stats are finished with the scoring about an hour after the last shot has been fired. It takes another about an hour to verify entered scores for top stage results in each division, and top competitors in each division (all stages) for a level III match. For Level IV and V matches the time taken to verify scores will be proportionally longer for provisional scores to be posted.

65.   A data entry routine should be followed for each batch of score sheets which has to be entered. If you get into the habit of using the same routine every time, it becomes automatic, smooth and efficient. A recommended routine is presented here for people who are looking for a place to start. The steps to be followed are:

a.   Separate the score sheets into piles by stage. In a large match, the more hands you have helping here, the better. The score sheets do not have to be sorted into competitor number order at this point. The WinMSS allows scores to be entered in random order. In case the score sheets enter in envelopes, unpack them.

b.   Add up the scores in each of the columns and write in the totals. Do not blindly accept the sums the RO already wrote. During this process, check for completeness. For each stage on the score sheet:

   i.   Each target should have the required number of hits and misses. If on target 3 there are two As and one C scored, and on target B there is only one A, then it is an incorrectly filled score sheet, which must be presented to the Range Master. It is a common error that on the all-steel stages, the range officer only writes the total to the sum line, but doesn't mark the hits for the targets. This is an incorrect score sheet, and the Range Master must decide.
   ii.   The total hits and misses should equal the minimum rounds.
   iii.   The hits on the no-shoots and the procedural penalties must be summarised too. It is a common error especially on the long courses of fire that the procedural is marked at the first target, but it is forgotten to copy it into the sum line.
   iv.   The time should be present. For Virginia Count stages, use a calculator to add up string times. Sideline any anomalies (DQs, missing scores/times); do not try to resolve them at this time.

   Only allow the proper sheets to be entered. In this case the entering process is not just faster, but also more accurate too. If it is you who enter the sheets, then the pre-checking phase is even more important. One cannot hope to catch all these errors while entering. It's better to double-check than not checking at all.

c.   Then enter the scores into the computer. If a single person enters the score sheets,

then first select the stage (if not yet selected), then check on the screen whether the correct stage is selected. Then enter the competitor's number, and check the screen whether the name is correct. This step is a must if the competitor's number is written by hand on the score sheet. Now enter the hits, misses and penalties, and the time. Check the screen to ensure that the entry is accurate, then close that competitor, and continue. If two persons enter the score sheets, then one of them dictates the stage number, the competitor number, the hits, misses and penalties, and the time. The one who has entered then re-reads the same information plus the name of the competitor from the screen aloud.

d. Print verification reports for all stages that have been entered. You can specify a reporting time period, if desired. It might be more entertaining for the shooters if instead of the verify lists, the stage results are printed. It is slower and more paper consuming, because the divisions won't be mixed as in case of verify lists they would.

e. Check the verification reports against the score sheets to make sure they have been entered correctly. A different person should go through the score sheets that someone else entered. Use a ruler or a straight edge of some kind to move down through each line on the verification report. For each score sheet

   i. Match the competitor number on the score sheet with the competitor number on the verification report.
   ii. Make sure the competitor name on the score sheet is the same as on the verification report.
   iii. Match the totals and the time on the score sheet with the corresponding columns of the verification report.
   iv. Check off the line on the verification report. If there is a discrepancy, turn the score sheet sideways and mark an X on the verification report.

   While it is highly recommended that this verification step be executed at any cost, in reality it is often omitted due to the lack of human resources. However, even in this case, the score sheets of all of the stage winners and the top ten of each division and top five of each category match winners should be verified. For the stage winners, it is enough to check whether that particular score sheet is accurate. In case of the division and category top rankers, their all score sheets should be verified.

f. Re-enter any scores for which errors were found.
g. Print verification reports for corrected scores and check them.
h. Enter any competitor changes. Defer DQs until you hear from the Match Director or Range Master.
i. Back-up the WinMSS database.
j. Print results, if required.
k. File the entered score sheets with the others that have been entered, in competitor number order by stage. In case the score sheets arrive in envelopes, it is also sufficient enough to put them back to their envelope, and pile the envelopes by stage. In this case, always write the squad and stage number on the envelope.

66. Local circumstances may require you to make changes to this routine, and you may find your own improvements and variations. Incorporate these changes as required, but don't sacrifice accuracy for speed. A Stats Officer is responsible for ensuring that **all** competitor scores are entered accurately and completely.

67. Extra care must be taken for the stages where disappearing targets are scored. In this case, the number of hits and misses might or might not contain the hits of the disappearing targets. The best practice is to previously agree with the range officers running the stage that in which line they are

going to score the disappearing targets. Ask them to always use that particular line. In this case, if the number of hits and misses is any less than the maximum possible number, check whether it is the disappearing target which has fewer hits. It is also advisable to check if any misses are recorded for the disappearing target by mistake. Even better if you may ask the range officers to mark the misses on the disappearing targets right on the score sheet (the best place for that mark is the comment column).

68.   The scoring programs warn the Stats Officer when the scores of the same competitor are entered twice on the same stage. If that happens, always search for the score sheet that was entered previously. The easiest way is to search by the time, then make the final decision by the number of hits. Always check all of the score sheets – although it is not very likely, but still possible that two score sheets have the same time and number of hits/misses recorded on them. If it turns out that the same competitor shot the stage twice, then you must determine which score was later (that is, which score sheet contains the result of the reshoot). If it is not marked on the score sheet, then let the RM handle the issue. If it turns out that someone else's score sheet was entered under the wrong registration number, then enter the score sheet for the correct competitor this time.

Chronographing

69.   Chronographing is mandatory for a sanctioned Level III Match or higher, to verify the integrity of the competitor's declared Power Factor. This is the responsibility of the Range Master. Stats need to update the competitor details in case of downgrading.

70.   It is a good practice to have the list of the competitors in the Stats Office where the power factor of the competitors is listed. In case of downgrading, always mark the reason on the list. Sometimes the competitors may claim that they are scored by using the wrong power factor. These claims also should be marked on the list.

Scores

71.   Keeping scores by stage and competitor number usually works, most competitors can remember their number when making a query and usually remember the stage number from the verification sheet and/or provisional stage result they want to challenge.

72.   When setting up WinMSS for Disappearing Targets [DT] you must subtract that target from the Number of Targets; if you don't you will end up with an extra target on the score sheet.

> Example. We use DTs in our club a lot, so in the case of a CoF with 10 Paper Targets that includes 1 DT you would put 9 in your Targets and 1 in DT; this will calculate the correct number of Shoot Targets in the CoF. The same would apply for any other type of DT including plates and poppers.

Queries on Score Sheets

73.   Queries can either be from competitors or internally from Stats itself. In the first case get a written query from the competitor. Make sure that the current time is registered on that query, and that the shooter has signed it. After signing, give a copy to the shooter, too. Verify that the query is valid. Take it up with the Range Master if necessary. In the second case Stats solves it internally or refers it to the Range Master for decision.

74.   It is a good practice to validate the query immediately; in this case, the felt level of service towards the competitors will be higher.

Match Verification Reports

75.   The Stats Officer has the responsibility to ensure that all competitor scores are entered accurately. Verification reports can assist in this task. You can print them by competitor number, by squad or by stage.

76.   When you select a verification report, you will be asked to specify the range of stages that you want included. You may also specify a time period.

77.   Verification reports show all of the data keyed in for each competitor right down to the A's, C's, D's scoring and penalty targets per selected stage. The reports are printed in competitor number order.

78.   Printing the scores by squad report allows you to distribute a squad's scores to each squad for verification of accuracy. This can use a lot of paper in a large match.

79.   Printing the scores by competitor number allows the competitors to verify their results easily. However, this method requires a lot of papers, and huge areas to publish the lists on.

80.   Exception Reports. This is one of the most useful reports for a Stats Officer. The scoring exceptions report shows exactly what you haven't entered yet, so you can follow up with the RM or whoever is responsible for making sure all the score sheets have come back to you.

Backup of Data

81.   If scoring is done electronically it is essential that backup is done regularly. A power surge, virus, inadvertent damage, deliberate action, or any other action may corrupt, destroy or lose the data. Regular backup will minimise any loss and enable quick recovery. Backup can be by way of CD/DVD, email/internet, flash drive/memory stick, stiffy, magnetic tape, hard copy, etc. The backup must enable speedy recovery of the data to enable the results to be available on time, therefore an electronic backup is recommended.

82.   In case the backups are made on rewritable materials, then never rewrite the very last backup. Instead, always store the latest, and rewrite the one before the latest (and thus it becomes the latest). You will need two rewritable materials for that. This method is called the Grandfather – Father backup method.

83.   In case the backups are made on non-rewritable materials (eg. on CDs), then always write the current time the backup was made on top of the material. In this case, the latest backup copy should be stored in a pre-agreed place, and the earlier backups should be stored somewhere in a less visible place.

84.   The fast electronic backup isn't worth much if you don't know what score sheets are missing from that backup. Therefore, when you make a backup, you also should mark the score sheets that were included. In case you have to restore the backup, you'll have to enter again all those score sheets which are not marked. If the backup uses the Grandfather-Father method, then two different kinds of marks are advisable. One of the backups should be "the green backup", and the other should be "the red backup". By using the corresponding colours when taking the marks, it is easy to follow which score sheets should be entered again, were the need arise.

85.   If you make changes in the competitor data (eg. correcting the division, category, or power factor attributes), then always generate a form about the change, and collect these forms. As part of the backup process, these forms should also be marked, in order to keep track which form came after the backup.

Penalties, Procedurals, DQ

86.   Refer any problems about penalties, procedurals, etc on score sheets to the Range Master. As a rule, the DQs should come from his hand. If a DQ is found among the other score sheets, put it aside and notify the RM as soon as possible.

87.   Do not enter the DQs. Put them aside, and enter them only at the end of the competition. In case of a multi-day match, you might enter them on the next day, but always ask the Range Master first.

Handgun, Rifle, Shotgun, Tournament Specific Aspects

88.   There are scoring differences in the various disciplines. Scores sheets must make ample provision for all this in a format that is easily understandable to range officials and scorers and Stats officials.

89.   Double value plates for rifle. It is not possible in WinMSS yet. For now it can be managed by adding these plates as 2 separate 5 point plates. When scoring you simply say two plates for each double value plate. Make sure the Range Master instructs the Range Officers correctly about this. The other option is to treat double value metal targets or frangible targets as a paper target and score 2 A's for each scoring hit.

90.   Let's not forget that WinMSS is a pistol scoring system that is also used for rifle and shotgun.

91.   With rifle it's usually no problem but with shotgun scoring Buckshot on paper you need to carefully co-ordinate the target and round count to get an accurate score (1 Shot = 2 hits on a paper) if you add disappearing targets with this kind of min/max check it will also need to cope with a shotgun stage where you have paper and disappearing targets (not unheard of) in this instance any min/max check applied may not work correctly.

Answering Queries

92.   Do not accept "knocks on the door" as this will interfere with the smooth flow of work at Stats. Require that the competitor fill out a form and leave it for review. Completing a form allows the competitor to formulate the query properly and enables Stats to answer only the query and not get involved in debate or discussion. It is easy for Stats to answer the competitor's query by handing the RM the answer on the competitor's request form to deliver to the competitor.

93.   As long as someone is appointed as the Competitor Service Agent, he should accept the competitor complaints. In case it is the Stats Director who also takes this role, then he may even solve the issue immediately. Otherwise, the Competitor Service Agent should prepare the query form, give a signed copy to the competitor, and take the necessary measures to settle the issue.

94.   Once you've entered competitor details and printed the entry verification sheet you print a big notice to the effect that it is up to the competitor to check their Division/Category etc and pin it to the sign-in desk, eg:

DEAR COMPETITOR

It is YOUR responsibility to ensure that your division and category are correct when signing in.
You will be placed in OPEN DIVISION if you have not declared a DIVISION.
If any of your details on the verification sheet are wrong please inform Stats before you start shooting the match.
Your details on the verification sheet are assumed to be definitive both for match and championship/grade score.
Competitor details will not be changed after announcement of results.

CONCLUSION

Match Results Reports

95.   Several match results reports are usually provided or may be provided, such as overall stage results and overall match results, and the match results by Category, Classification, Region, Tag, and Team.

Provisional results

96.   Provisional stage results may only be posted once all the competitors have completed the match. Competitors have an hour after the provisional stage results have been posted to request corrections. After that they are final.

97.   Whenever the provisional stage results are posted, the final deadline of accepting appeals must be clearly marked, too. According to the rules, the period of challenging the entered data starts "at the end of the match", and lasts for "one hour after the results are posted". Interim verification lists might be posted, but the appeal period deadline might be set only for the provisional stage results posted at the end of the match. In case of multi-day matches, the appeal period may start at the end of each day. In this case all of the score sheets belonging to that particular day must be entered before posting the verify lists, and the competitor may appeal only the scores he achieved on that particular day.

Determining the Final Results

98.   Posting Interim Results. Posting results twice a day is a popular and practical frequency. Print stage results and overall match results at the midpoint of the day (not necessarily noon) and at the end of the day. Post the results at the range, in a central location, and, if applicable, at the match hotel.

99.   In a large match a surface area big enough for posting the results can sometimes be a problem. This is actually a MD/RM responsibility but you must ensure that this is done and the surface area is available.

100.   The posting of provisional stage results is a mandatory prerequisite to the posting of the match's final results, as each competitor must have an opportunity to verify their scores. At the very minimum, provisional results are to be posted for a minimum of one hour, for this purpose. The deadline of accepting appeals must be clearly marked on the lists.

Making Final Results Available to Competitors

101.   The final results of a match can be presented by printing various results reports. The simplest final match results being reported by printing the Overall Match Results. Providing each competitor with a printed copy of all the results is expensive and impractical. Printing the results to file and distributing those files through the Internet is the most efficient method of distribution.
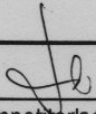
Final Results

102.   Final results are usually published on the relevant host's website within hours or days of the competition ending. If the host does not have a website or access to one, then in a newsletter in paper or electronic format, on a notice board available to all, etc.

Submission of Results to IPSC

103.   Results of Level III and higher competitions must be submitted to IPSC within two weeks of the competition ending. If this is not done, the competition is removed from the IPSC competition calendar and competitors and match officials cannot claim points for it.

104.   WinMSS can send Match Results Summary to IPSC Headquarters via a direct TCP/IP connection, for publication on its Match Results web page. These Match Results are also used for awarding the President's Medals. A match must be a sanctioned Level III or higher match, before WinMSS will permit this feature to be used

TARGET	Points				Penalties			COMMENT(S)
	A	B	C	D	Miss	P/T	Proc	
P1	1							
P2	1							
T1	2							
T2	1		1				1	Foot Fault
T3	2							
T4	2							
T5	2							
T6	2							

	A	B	C	D	Miss	P/T	Proc	Hits + Misses = (14)	Time:
Totals :	13		1	–	–	~	1	Possible Points = 70	12 . 20

_____
Competitor's Signature

_____
R.O.'s Signature

Time of day : 10:40

Competitor #: **1**   Alias: DVCUY

Power Factor: Major   Division: Open

Squad #: 0   Category: Senior

Name: **Beltrami, Jose L**

Check: _____
Score: _____
Enter: _____
Verify: _____

Match: Seminar Services Championship

Stage: 1   Seminar Nightmare