



UNITED STATES SKI AND SNOWBOARD ASSOCIATION

ADVANCED TIMING & CALCULATIONS - ALPINE

2011-2012

STUDY GUIDE

This Study Guide is intended as an educational and review aid for individuals interested in alpine officiating. Downloading, printing and reading the Study Guide must not be substituted for actual attendance at a USSA-approved Clinic or used as a replacement for actual instruction at any USSA-approved Clinic.

PLEASE NOTE: The Chief of Timing and Calculations is responsible for supervising, documenting and enforcing the quality control of actual timing and results and the purpose of this Clinic is refinement of the skills required by the position. With the exception of lower-level events where availability of personnel makes it necessary, the Chief of Timing and Calculations should not also be the individual operating the electronic timing equipment or the timing/race result software. However, the result of training in the use of timing equipment and/or timing/result software will be higher qualified officials, so it should be included in the curriculum. In an effort to address this issue, materials have been made available for a Timing Workshop that can be used to facilitate this addition.

A video for Gate Judge instruction, "**The Most Important Person on the Hill...**", is available on the USSA website. The video, however, does not include correct passage of a missed gate in single pole Slalom or single gate Giant Slalom; a separate presentation is planned and, when ready, will be posted on the USSA website to aid in training for these situations.

REFERENCE PUBLICATIONS:

1. USSA Alpine Competition Regulations (ACR)
2. ICR of the FIS, Online Edition
3. ICR Precisions
4. Rules of the FIS Points
5. USSA Alpine Officials' Manual
6. FIS Timing Booklet, v. 2.45 (available on FIS website)

CERTIFICATION EXAMINATION:

Advanced Timing & Calculations (Level 3) Certification Examination will be available at USSA-approved Alpine Officials' Clinics. Allowed time limit is 2.5 hours. The examination is an open book exam and must be administered only at scheduled Clinics. It is NOT A TAKE HOME EXAM and using computers for the calculation sections is STRONGLY DISCOURAGED! Completed examinations are to be retained by the Clinic examiners; they are not returned to the individuals taking them. Please refer to Regional/Divisional/State publications for schedules. ***The Study Guide is not intended as a replacement for taking notes for use during an open-book examination at any USSA-approved Clinic.***

If you have problems with this Study Guide or have suggestions for improvements, please contact the current Chair of the Alpine Officials' Education Working Group. Thank you.

The current Chair is: Thelma Hoessler
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ADVANCED TIMING & CALCULATIONS - ALPINE 2011-2012

There is much information available to us - no one can possibly know it all. What we SHOULD know is WHERE to find it. Most of the sections of this Study Guide require research by the user. This will aid in the ability to understand the layout of the applicable rule books and publications and will reinforce their content.

NOTE: The USSA Schedule Agreement requires that the Chief of Timing & Calculations be appropriately certified; certification requires USA AO Membership. In addition, the Chief of Timing & Calculations for National Championship, NorAm Cup and World Cup events **should** be a Level 3 or higher certified Chief of Timing & Calculations.

REFERENCE DOCUMENTS:

The following reference items can be found at the end of this Study Guide. Document numbering is not sequential because it agrees with document numbering in the “Master Packet of Forms”. The “Master Packet of Forms” can be found on the USSA website. It is suggested that forms be printed for easy reference while using the Study Guide.

- 39. Timing Checklist
- 40-41. Timing & Data Technical Report Form & Example
FIS List Cover Page (USSA/FIS websites)
- 36. FIS Penalty Calculation Form
Installation and Maintenance of FIS Computer Programs (Misc. Study Guide Forms)
FIS Alpine Timing Guide 2.45 (Misc. Study Guide Forms & FIS website)
- 27-28. Replacement Time (Hand) Time of Day (TOD) EET Simplified Example/Form

I. Focus of this Study Guide is FIS-level events

- A. Regional FIS
- B. NorAm
- C. World Cup, World Championship and Olympic Winter Games

II. Characteristics of Events

- A. Competitors are top level racers
- B. Team Captains are highly astute and knowledgeable professionals
- C. Organizing Committee is committed to a quality event
 - 1. Media exposure means that any statement can be news
 - 2. Financial commitment entails large \$ sponsors
 - 3. Technical Delegate, Referee, and Assistant Referee as appointed by the Technical Delegate (speed events only) [601.2.3, 601.4]

NOTE: Assistant Referee may be appointed for USSA non-FIS events for training purposes only. They participate with the Jury but have neither voice nor vote, and their names do not appear on the official documents.

- D. Race Organizing Committee (ROC) is highly experienced and qualified
- E. Support Officials have a high level of certification, knowledge and experience

- F. Race Jury
 - 1. World Cup: FIS Chief Race Director and FIS Race Director serve as Referee and Assistant Referee (Assistant Referee for speed events only) [601.2.1]
 - 2. World Championships and Olympic Winter Games: All Jury members, including Start and Finish Referee, are appointed by FIS and have voting rights [601.2.2]

- G. Professional Timing Company and Timing System Requirements [611]

- H. FIS Computer Company
 - 1. FIS Points
 - a. Validity (4.2.4 – the current season)
 - b. Rule Observance (1.1 – not observed; race not scored)
 - c. FIS List (5.1 – FIS List is only available electronically; software that enables access is available at <ftp://fiski.ch>.) Software data and other publications are also available.
 - 2. NorAm Cup Points are used for seeding of the first group of fifteen (15). They are updated after each event.* (Due to greater number of athletes qualified for Europa Cup, different procedures apply for Europa Cup, e.g.: 30 in first group/special group = 450 points.)
 - a. Entry to NorAm Cup events are quota controlled.
 - b. Overall 400-point holders from prior and current season are seeded at 16th position
 - c. Overall 400-point holders who were injured and unable to utilize special seeding during previous season may use it at the first 3 races of the following season. This is valid for a maximum of 3 starts irrespective of the events.
 - d. Overall 400-point holders are followed by the present competitors ranked within the top 30 of the FIS points list.
 - 3. World Cup Points are used to seed first group of thirty (30). They are updated after each event.*
 - a. Overall 500-point holders from among top 30 WCSL present are seeded at 16th position
 - b. Overall 500-point holders from remainder of field are seeded no later than 31st position

***Refer to current Continental Cup Rules and World Cup Rules if more detail is required.**

III. What is SCORING?

- A. Dimensions of scoring are:

To ensure that ALL scoring functions come together and function as a unit: Classic ICR descriptions are found as follows: Chief of Timing & Calculations [601.3.6]

 - 1. Chief Timekeeper [612.4]
 - 2. Assistant Timekeepers [612.5]
 - 3. Finish Controller [612.6]
 - 4. Chief of Calculation [612.7] (When appointed.)

- B. Scoring interacts with:
 - 1. Timing Company
 - 2. Scoring Computer Company
 - 3. Announcer
 - a. A run or race that is rescheduled for a later time slot on the same day is **delayed**
 - b. A run or race that is rescheduled to a different date is **postponed**
 - c. A run or race that is started but cannot be completed is **terminated**. *There is no set number that has to start or finish. If even one forerunner has started and the Jury determines that the event cannot continue, it is a “terminated” event.*

- d. A run or race that will not be held is **canceled**; cancellation of an event vacates the USSA race code/FIS codex and invalidates the event liability insurance.
- e. Announcer should be available to announce competitors' *unofficial* times.
- f. Announcer should be available to announce DSQ's. When an announcer is announcing *unofficial* times, DSQ competitor data announcement can replace posting of Report by the Referee. Team Captains must be notified beforehand if announcement of DSQ information is going to replace actual posting. [617.2.2]
- 4. Secretariat
- 5. Press Chief
- 6. Technical Delegate
 - a. Verifies timely synchronization of timing equipment
 - b. Verifies accuracy of Results and signs "FIS Timing & Data Technical Report Form"
- 7. Referee (Report by the Referee).
 - a. Chief of Timing or Assistant should track/enter DNS and DNF bib numbers on the Report by the Referee
 - b. Chief of Timing should meet with Referee (and Assistant Referee for speed events) and assist with entering DSQ competitor data, e.g.: Name, team, Gate Judge, type of fault or rule number.

NOTE: Due to *force majeure*, the *Technical Delegate* may prepare, sign and post the Report by the Referee. A Report by the Referee signed by the *Technical Delegate* is valid.

- 8. Jury
 - a. In cases of system malfunctions, e.g. timing systems, Jury allows provisional reruns
 - b. In cases of doubt, Jury allows provisional reruns not based on system malfunctions
 - c. In cases of doubt, Jury allows provisional starts
 - d. Confirms validity of provisional starts and provisional reruns
 - e. In cooperation with Chief of Timing or assistant, establishes start intervals for Slalom
 - f. Confirms start intervals for Giant Slalom, Super G and Downhill and communicates any changes with Chief of Timing or assistant
- 9. Provides instruction to manual/hand timekeeping crew in order to provide required manual timekeeping that is consistent and accurate

C. QUALITY - Establish confidence in "Real Time" timing/scoring presentations

- 1. Familiarize yourself with available timing systems: Start, Finish, Net Time
- 2. Verify scoreboard is available with: Bib #'s, Names, Unofficial Times
- 3. Verify location of intermediate timing points
- 4. Verify location and accuracy of video displays
- 5. Furnish progress reports to media with respect for deadlines
- 6. Document DNS and DNF on Report by the Referee and be available to verify DSQ competitor data, e.g.: Bib, Name, Team
- 7. Aid in preparation of accurate official reports according to format

IV. Initial Actions of Scoring are:

- A. Establish presence with the following:
 - 1. Secretariat: Verify Race Secretary is using updated race result software, current/applicable Points List and confirmed technical data, etc.
 - 2. Timing Company: Verify use of homologated timing equipment
 - 3. Scoring Computer Operations: Verify scoring software has been updated and is compatible with race result software

4. Chief of Manual/Hand Timing: Verify availability of supplies, equipment and knowledge of procedures
 5. Technical Delegate
 - a. Confirm timely synchronization of timing
 - b. Prepare Timing & Data Technical Report for Technical Delegate's review/signature
 - d. Provide consistency and accuracy
 - e. Be available to verify all official times
- B. Facilities and Schedules
1. Verify schedule for Team Captains' Meeting
 2. Verify schedule for creating seed board
 3. Verify location of Press Room and identify press room liaison personnel
 4. Verify location and availability of results reproduction facilities
 5. Inspect Finish Building and Finish Line/Finish Area [615.2]
 - a. Finish Photocells: Are they approved?
 - b. Width between Finish Posts
 - 1.) DH and SG finish line dimensions – no less than approximately 15 m*
 - 2.) SL and GS finish line dimensions – no less than approximately 10 m*
 - 3.) Line is marked horizontally with a coloring substance so that it is clearly visible to the approaching competitor
 - 4.) Timing equipment/competitor security installation

*Distance is between finish posts/banners not length of finish line. Timing posts must also adhere to these measurements.
 6. Start Area, Start Facilities and Start Gate/Area specifications [FIS Timing Booklet 2.45]
 - a. Homologated Start Gates
 - b. Dimensions
 - 1.) Width: Support posts should be 50 – 80 cm apart
 - 2.) Wand should be mounted approximately 35 – 50 cm from the snow
 - c. Start Wand Installation
 - 1.) Description: small diameter fiberglass rod
 - 2.) Mounting
 - a.) Only one wand is permitted
 - b.) Wand cannot be so stiff that it could cause injury or not break, but must be stiff enough to eliminate false starts
 - c.) Wand must stay open once it is triggered; *auto return wands are not permitted*
 - d.) Duplicate start wand must be on hand for replacement purposes
 - e.) Mounted horizontally above the starting line and at an elevation that places it at or below a racer's knees
 - f.) Mounted on a hinge. As the racer propels forward across the starting line, the wand is forced to swing forward and to the side by the racer's leg. Placement of hinge must be marked on the support posts.
 - g.) Replacement must be with identical gate, at same position and with same rotation\
 - h.) If two start gates are used in concert, they must be solidly mounted on same physical bracket. Both mechanisms and box must be stiffly connected together.

NOTE: Refer to current FIS Timing Guide for information regarding angular range and accuracy of the start wand.

 - 3.) Micro Switches
 - a.) Mounted on the start wand hinge
 - b.) Wired directly to timing equipment

- c.) As wand advances the micro switch is tripped
- d.) Tripped switch activates timing equipment that records the time of day when the micro switch opened and prints the time of day on a paper tape
- 4.) Communication
 - a.) Circuitry between the start wand and the timekeeper's booth is generally available through another pair or wires or is piggybacked onto an exiting pair – usually backup. Currently, Alge is the only company where the circuitry contains two-way voice communication wires,
 - b.) A headset may be plugged into a jack at the start so that the Starter can be in constant voice communication with the timing room
- 7. Accompany Jury on course inspection and check for the following:
 - a. Location of “yellow flag” zones and “blind” areas
 - b. Location and staffing of intermediate timing positions

V. Questions You Need to Ask:

- A. Are all entries in?
 - B. What computer-scoring program is being used and has it been updated?
 - C. Does it meet the requirements of 611.3.5 which requires that computer software that calculates net times must use precision of ToD as used in the timing device.
 - D. Is the correct and current Points List available?
 - E. Is the scoring computer up to date on entries?
 - F. Have all the preliminary reports been prepared?
 - G. What is preparation status of timing facilities? (**Refer to #39. Timing Checklist**)
 - H. Has all of the header data been entered in the computer?
 - I. What timing equipment is being used?
 - J. What system will be used to transfer data between results computer and timing
 - 1. Transfer of race file which does not allow the RA to perform race data editing during race
 - 2. Transfer of timing file which involves only bib numbers and times and does allow for race data editing
 - K. What start gate is being used?
 - L. What finish photocells are being used? Photo Finish timing has been approved for use at FIS events. Due to the cost of the equipment, it will mostly be used at the WC, OWG, WC levels.
 - M. Are timing equipment, start gates and finish photo cells all on the homologated lists? [611]
- NOTE: Timing equipment for FIS races will have to meet stipulated standards. Use of equipment that does not meet standards will result in an event not being considered (scored).**
- N. Are requirements for electronic data transmission of Official Results and Penalty – wireless, network or dialup – in place?

It may seem that we are delving into areas of responsibility belonging to other officials; however, it is necessary to be sure that the interfaces are going to function smoothly and efficiently. There is not enough time to try to fix things while the competition is in operation. Since the Chief of Timing & Calculations or Scoring should evaluate these interfaces and take whatever action is necessary to get the job done without sacrificing QUALITY!

VI. Quality Assurance Actions

- A. Team Captains' Meeting, Seeding and the Draw. According to USSA and FIS rules, the draw must be conducted (or confirmed) at a Team Captains' Meeting. An actual meeting, attended in person by Team Captains, Jury, and race officials is an inseparable and mandatory part of the competition and is important for communication of Jury instructions, support of the ROC, as well as conveying ROC requests and information. It is also a critical element for risk management and liability-related matters. (Refer to 621.8, 604.3; ICR Precisions.)

With the approval of the Jury and at a time and place announced to all Team Captains, and where a computer-assisted Draw has been approved or is not required (e.g. YSL where TRS by class and gender is used to determine the start order), an informational meeting is still required but may be held either immediately after the completion of a race for the next day's event or on the morning prior to a race.

For all Team Captains' Meetings for all USSA-sanctioned events—both scored and non-scored, and regardless of where and when they occur, an Attendance List must be available and signed by everyone attending the meeting and Meeting Minutes must be generated and must be included in the submitted race result packet.

1. Keep in close touch with Secretariat
2. Attend Team Captains' meetings
3. Recheck the Seed Board before and after Draw
 - a. Verify accuracy of the Board
 - b. Verify seed-point ties are identified
 - c. Verify correct seeding of competitors entitled to 16th/31st position, if applicable (USSA "Golden Rule", FIS NorAm & FIS World Cup)
 - d. Verify grouping of competitors without points
 - e. Verify additional special seeding groups as authorized by the Jury
4. Verify correct application of rule regarding "Snowseed"?
5. Verify number of available Forerunners
6. Independently record the Draw
7. Recheck the Start or Training List against the Board
 - a. Verify header information against the appropriate source: Homologation file
 - b. Verify accuracy of footer information

NOTE: USE OF ELECTRONIC SEED BOARDS: Electronic seed boards must have the capability to simultaneously and legibly display the entire competition field. Simultaneous display of all competitors allows all Team Captains and officials to verify the overall accuracy as well as additions and deletions to the starting order in "real time". *Using the race result software to display portions of the competition field is not acceptable.*

B. Downhill Training

1. Verify all timing equipment and personnel will be in place for all training runs
2. Verify accuracy of Start List in scoring computer
3. Address intermediate timing considerations
 - a. Timing machine operators
 - b. Necessity of having on-hill operators
4. Multiple Time Bases

- a. Verify that score board, either electronic or paper, is available to display competitors' times
 - b. Verify that forerunners' times will not be displayed
 - c. Verify accuracy of Time-of-Day printouts
 - d. Verify status of press room video displays, if available
 - e. Verify status of Announcer's display, if available
 - 5. Press Reports (UNOFFICIAL) Standard format not required
 - a. Press report production and distribution
 - 1.) Verify accuracy of documents released to press
 - 2.) Keep copy of all documents released to press
 - 3.) Cooperate with electronic transmission to Press Room if no runner is available
 - 6. Other Reports
 - Accurately prepare all required reports in a timely manner
- C. Race Day - Be prepared for the unexpected.
- 1. First Run
 - a. If possible, attend Jury inspection
 - b. Verify schedule
 - b. Verify amount of 2nd Run "Bibbo" [Reverse 15? 621.11.3]
 - c. Assist TD with synchronization checks; assist with completion of "Timing & Data Technical Report" (required for all FIS and USSA-scored events) (**Refer to #40-41. FIS Timing & Data Technical Report Example & Form**)
 - d. Verify course and weather data for headers and communicate the information to RA/DM
 - e. Follow preparations of timing and computer operations
 - f. Verify instructions for manual/hand timekeeping crew
 - g. Verify measurement by wheel, tape or GPS for DH and SG has been accomplished
 - h. Recheck start order in computer
 - i. Plan press report production; follow plan
 - j. Keep "Report by the Referee" up to date by noting bib # for DNS and DNF competitors
 - k. Observe timing company operations
 - 1.) Verify accuracy of time-of-day printout
 - 2.) Verify accuracy of interval timing reports prior to distribution
 - 3.) Make notes on Start List
 - 4.) Track differential between main and backup timing
 - 5.) Identify five best (lowest) point holders who start race regardless of result
 - l. Print unofficial listing immediately after last competitor finishes
 - m. Meet Jury at finish with complete unofficial listing and "Report by the Referee"
 - 1.) Assist Referee/Assistant Referee with review of Gate Judge Cards
 - 2.) Provide a copy of unofficial competitors' ranking for the Technical Delegate
 - 3.) Deliver DSQ list to announcer
 - n. Publish Unofficial Results report
 - o. After protest period verify appropriate action taken on DSQ's with computer operations
 - p. Print/verify 2nd Run Start List or 1st Run Results
 - 2. For Second Run of Two-Run Events
 - a. Assist TD with synchronization checks; assist with completion of "Timing & Data Technical Report"
 - b. Verify 2nd Run cutoffs
 - c. Verify accuracy of Second Run Start List.
 - 1.) "Bibbo"; check for ties at last position of flipped group (30th or 15th)
 - 2.) Verify start order of ties outside of "bibbo"
 - d. Complete additional duties performed during 1st run

- e. If time permits, complete hand calculation of Penalty and include calculation draft when meeting with Technical Delegate after race.

VII. Review and Update

A. **Factors:** DH - 1330 SG - 1060 GS - 870 SL - 610 SC – 1130

B. **Photo Finish Timing (622.3.2.2 - Precisions):** A Photo Finish System may be used to determine a competitor's finish time. In case of a failure of system "A" and "B", and where the competition has been recorded by the Photo Finish System, this time must be used in place of hand times (manual times) using a correction factor.

The correction factor is the difference between the time taken by the Photo Finish System and the electronic times (where possible) of the 3 competitors before the missed time. Where there are not 3 previous competitors then the time of a competitor(s) immediately after the missed time can be used.

The sum of the 3 (or less) time differences divided by 3 (or less) is applied to the photo finish time of the competitor without an electronic time.

The photo finish time is taken when any part of the competitor's body first crosses the finish line.

Photo finish result is only provided to the Jury!

C. **Wireless Timing:** According to Precisions, what is it and when can it be used?

D. **Early/Late Start** rule violations and penalty [613.6, 613.7, 805.3 & 805.4]

E. **Delayed Start** rule violations and penalty [628.5]

F. **Results for Limited Finishes:** How many racers have to finish in order for an event to be scored?

1. **USSA:** "Ghost" racers with maximum value points may be added to bring total of finishers to 5; no race penalty can be calculated when there are fewer than 3 finishers. [2011 Alpine Competition Guide: Rules for USSA Race Penalty Calculations - Fewer than Five Racers Finish.] *Penalty will have to be calculated manually; "ghost racers" must not be inserted into the race scoring software.*

2. **FIS:** 5 must be classified; 3 must have FIS points. [4.4.4, Rules of the FIS Points]

G. **Race Points** [4.4.3, 4.4.6] are not calculated higher than maximum.

H. **Category Adders** are competition level, gender and event specific.

I. **"Z" (Correction Value)** is gender and event specific. A positive number is added; a negative number is added.

J. **Validity of Result:** [4.2.4] A FIS result is valid for the current season.

K. **Fall in Finish** - when manual/hand timekeepers take time [611.3.1]

L. **Gate Fault Prior to Crossing Finish:** Status of a racer who commits a gate fault prior to crossing the finish line [611.3.1]

M. **Secondary Electronic Timing:** Used when primary fails

1. ICR ruling [611.3.2]

2. Fluctuations

If system allows manual intervention of timing, timing tape must be marked. [611.3.4] It is a good idea to mark times that will require a replacement time (EET).

3. It is not permitted to substitute time-of-day times from System B for use with System A for the purpose of net time calculations. [611.2.1]
- N. **Replacement Time (EET) - ICR** description [611.3.2.1] (**Refer to #27. & 28. Replacement Time (Hand) EET-Simplified**)
1. Use for secondary timing adjustment, if primary timing fails
 2. Use if both primary and secondary timing fails
 3. Use in reverse fashion to adjust electronic time to equivalent manual/hand time, if required
- O. **Timing Record:** Primary and, if required, secondary timing tapes are the official timing record for the event and must be used to proof computer input.
- P. **Timing Tapes:** Deliver timing tapes to Technical Delegate [611.3.3]. After Technical Delegate's review, the tapes remain with the ROC. *Force majeure may require that the Technical Delegate retain possession of the timing tapes.*
- Q. **Timing & Data Technical Report (TDTR):** Deliver Timing & Data Technical Report signed by Chief of Timing & Calculations to Race Administrator for Technical Delegate's signature. This document must be included in the race result packet submitted to the FIS Bureau
- R. **Penalty: (Refer to FIS List Cover Page and #36. FIS Penalty Calculation Form)**
1. Understand procedure [4.4]
 - a. Identify event level
 - b. Select gender
 - c. Select event for Adder and "Z" (Correction Value) [4.3.2, 4.5]
 - 1.) If the "Z" is positive, it is subtracted
 - 2.) If the "Z" is negative, it is added
 2. Understand procedure used when current seed points are above the maximum value or do not exist
 - a. Maximum value is assigned to competitors who are ranked in the top 10 in time whose actual seed points are above the maximum value
 - b. Maximum value is also assigned to competitors who are ranked in the top 10 in time and have not earned FIS points
 3. Understand how to recognize and apply rules regarding ties in Penalty calculation
 - a. Tie 10th place in time: consider all ties to select best (lowest) 5 seed points
 - b. Tie 5th best (lowest) seed points - higher race points
 - c. If competitors to whom maximum value has been assigned are being considered among the 5th best (lowest), competitors who had "actual" FIS Points are chosen first
 4. Penalty calculations - See **CURRENT RULES OF THE FIS POINTS**.
 - a. Minimum penalty - where found [4.5]
 - b. Best 5 who start [4.4.2]
 - c. Best 5 ***FIS Points*** [4.4.3]
 - d. Less than 5 with FIS Points – assignment of maximum value [4.4.4]
 - e. Negative penalty [4.5]
 - f. Rounding [4.4.8]
 - g. Penalties for OWG, WCS and WC [4.4.9]
 - h. Downhill in 2 runs [4.4.10]
 - i. ENL, Continental Cups, Junior Worlds, and Universiade [4.5]
 5. Category Adders and Minimum Penalties [4.5]

The relevant category adder is added to the calculated penalty. If the calculated penalty is less than the minimum, the minimum is assigned as the penalty.

6. **USSA RACES ONLY - APPLICATION OF VERTICAL DROP, MINIMUM TIME AND MINIMUM PENALTY:** *(No exceptions will be granted.)*

- a) If the minimum vertical drop requirement is not met, then a minimum penalty of 30.00 shall be applied.
- b) If the minimum vertical drop requirement and the minimum time requirement are not met, then the sum of the calculated penalty plus the additional penalty or the minimum penalty of 30.00 shall be applied.

NOTE: If the minimum vertical drop requirement is met, then the minimum time requirement does not apply.

7. **MINIMUM VERTICAL DROP PER RUN, ALTERNATE MINIMUM TIME STANDARDS AND ADDITIONAL PENALTY:**

<u>EVENT</u>	<u>MIN VD</u>	<u>ALT MIN TIME</u>	<u>ADDITIONAL PENALTY</u>
DH	400 m	60 seconds combined/max 2 runs	26.00
SL	100 m	50 seconds combined for 2 runs	12.00
GS	250 m	50 seconds combined for 2 runs	17.00
SG	300 m	40 seconds for 1 run	21.00

8. **USSA RACE MEETS ALL TECHNICAL STANDARDS:**

If a USSA non-FIS race meets all technical standards, and the Official Penalty calculates to less than 15.00, a minimum penalty of 15.00 must be applied.

- S. **FIS SOFTWARE:** Understand use of MySQL, FIS List software, FIS Calendar software. If necessary, assist with data transmission of results to FIS Bureau. MySQL, required software and data is available for free download at <ftp://ftp.fis.ch>
- T. **START STOP/YELLOW FLAG STOP Procedures:** Ski Patrol personnel assigned to the event – not Team Doctors, Team Captains, spectators, etc. - are “first responders” to a competitor requiring medical assistance; this also applies to manual/hand timekeeping personnel.
- U. **“XML”:** XML format is required for electronic transmission of results to FIS
 - 1. Results not produced in “XML” format will not be entered into the database
 - 2. Verify transmission format by opening file in WordPad or Notepad or similar utility. If errors are found, do not attempt to edit in Word or Word Perfect as this may damage the file; all errors should be corrected through the original software followed by repeating the verification process.
 - 3. Verify keyboard characters such as an ampersand (&) have not been used; these characters will not be recognized, and electronic transmission will fail. FIS error message will state:
The XML page cannot be displayed
Cannot view XML input using XSL style sheet. Please correct the error and then click the [Refresh](#) button, or try again later.

Whitespace is not allowed at this location. Error processing resource 'file:///C:/Documents and Settings/xmlfiles/Local Setti...

THE DATA CONTAINING THE KEYBOARD CHARACTER WILL BE DISPLAYED HERE

VIII. FIS RACE PENALTY

FIS Technical Delegates must be aware of minimum/maximum Penalties that apply to the race being scored. The minimum is the lowest Penalty at which the event will be entered into the Points List. If the calculated Penalty is lower than the minimum, the minimum figure must be used. If the calculated Penalty is greater than the minimum, the calculated figure is used. Maximum/minimum Penalties can be found on the cover of the FIS Points List.

Correction of Penalties. The correction value (Z) - gender and event specific - is taken into account in the Penalty calculation for each race. This ensures that all Results can be compared to each other from list to list.

Category Adder and Minimum Penalty: The relevant adder - competition level, gender and event specific - is added to the calculated Penalty. If the calculated Penalty is less than the minimum, then the minimum Penalty is applied.

2011-2012 Changes for Calculation of FIS Points:

4.2 FIS Points

4.2.1 Base FIS Points list (BL)(*)

The Base FIS Points list (BL) will be published middle of June.

4.2.1.1 The average of the best two results in each event during the past season will be used for the calculation of the BL list.

4.2.1.2 For a competitor who has obtained only one result in any of the alpine events (Downhill, Slalom, Giant Slalom, Super G or Super Combined), during the past season period, 20% (+) of his result will be added to the result.

4.2.1.3 For a competitor who has not obtained results in any of the alpine events (Downhill, Slalom, Giant Slalom, Super G or Super Combined), during the past season period, 50% (>) will be added to the previous BL points.

4.2.1.4 If the status as injured is approved, and a competitor has not started more than five (5) times in one event and/or fifteen (15) times across all events during the valid season 10% (#) will be added to the competitor's BL if the current points are not better than the protected points.

4.2.1.6 If a competitor drops out of the top 30 of the WCSL at the time of the BL calculation he will receive his real FIS Points (min. 6 FIS Points).

4.2.1.7 Correction Value (z):

Before the allocation of points for the top 30 WCSL takes place at the beginning of the season a correction (z) will be made to all FIS points which comprises the difference between the points of the 31st competitor and 6 FIS points for the BL.

4.2.2 Normal FIS Points list (NL)

The list number one will be published 1st July based on the BL.

4.2.2.1 The NL will reflect the average of a competitor's best two results in each event during the current period if the points are better than the BL.

4.2.2.2 If a competitor drops out of the top 30 of the WCSL during the current period he will receive his real FIS points if the calculated points are better than the BL (min.6 FIS Points).

4.2.2.3 Only one Result

With BL points: this result will be added to his BL points and divided by two. Without BL points: 20% will be added to his result.

4.2.3 Anti-Doping Rule violation

An athlete subject to an anti-doping rule violation will have previously achieved FIS points deleted, according to article 10.1.2 FIS Anti-Doping Rules.

4.2.4 Validity Period The validity period of the results is the current one season.

4.3 Integration of the World Cup Starting List (WCSL)

The top 30 competitors on the WCSL will be allocated FIS points between 0 and 5.99.

IX. FIS Timing Requirements (Please refer to current FIS Alpine Timing Guide 2.45; found on the FIS website.)

Review entire Timing & Data Technical Report form for proper completion, accuracy and required signature(s).

UNITED STATES SKI AND SNOWBOARD ASSOCIATION

TIMING CHECKLIST

- Interconnects 1. Is there wire? Does it work? Are you sure?
- Equipment 2. Is the equipment on the current list of timing equipment homologated by the FIS Timing Working Group? (www.fis-ski.com)
- Setup 3. Do the timer tapes each report time to at least 1/1000th (.001) precision?
- Software 4. If timing software is used to calculate times, is it calculating net times using the precision of ToD as used in the timing device?
- Hand Timing 5. Is manual/hand timing that records to 1/100th (.01) precision available?
- Quality 6. Is the timing crew aware that manual/hand times, even if not used, should be within acceptable limits?
- Start Gate 7. Does the Start Gate meet the following requirements?
a. Separate contacts?
b. One wand?
c. Installed at proper height?
d. Is an identical Start Gate mechanism available for replacement?
e. Is the placement marked on the Start Posts?
f. Are the Start Posts solidly installed?
- Finish Eyes 8. Do the Finish Photocells meet the following requirements?
a. Are 2 sets available?
b. Are 4 posts available for mounting photocells?
(2 are acceptable; replacements must be available)
c. Is the vertical separation between the beams no greater than 20cm?
- Power On 9. Is the Power-On Time (this is the “warm-up” time, which is not the same as the Synchronization Time) done at least 30 minutes prior to synchronization in order to allow the quartz time bases to stabilize?
- Synchronization 10. Have system A and System B been synchronized no more than one hour (60 minutes) prior to first racer start time for each run?
11. Has the synchronization been performed from start wand installed at the Start or from one single contact switch for all timing devices?
- Systems 12. If System B times are used, is the timing crew aware of the requirement for an EET as per manual/hand timing techniques?



Timing & Data Technical Report

Alpine

CODEX example 0247

1837

Version 7.1

To accompany TD Report immediate transmittal.- One form required for each Codex

Location:	WINTER PARK, COLORADO	DH: <input type="checkbox"/> SL: <input type="checkbox"/> GS: <input type="checkbox"/> SC: <input type="checkbox"/> SJ: <input type="checkbox"/>
Nation:	USA	MEN: <input type="checkbox"/> LADIES: <input type="checkbox"/>
Event Name:	U.S. ALPINE NATIONAL CHAMPIONSHIPS	
Date (dd/mm/yy):	03/04/11	

	Brand	Model	Serial Number	Homologation #
Sys A Timer:	TAG HEUER	CP540	2004	TAG.070T.08
Sys B Timer:	TAG HEUER	Minitimer HL440	1015	TAG.076T.09
Start Gate:	TAG HEUER	HL 7-1	996	TAG.S54.03
Finish Cells A:	TAG HEUER	HL 2-32	121	TAG.L49T.10
Finish Cells B:	TAG HEUER	HL 2-32	122	TAG.L49T.10

Software	Brand	Version	Date	Results = Tapes
Scoring and Results Preparation:	National/FIS Scoring Software	Version 6.23, rev 2	11-Aug-11	Confirmed

Connections to Start:	System A	System B	Voice Comm.
Cable, Radio or other- (Specify)	CABLE	CABLE	CABLE/RADIO

POWER ON Time (warm-up): At least 30 minutes before Synchronization.

Time of day expressed in thousandths.	1st Run			2nd Run		
	System A (TOD) #	System B (TOD) #	Hand Sync.	System A (TOD) #	System B (TOD) #	Hand Sync.
Synchronization Time	8:39		8:01	12:23		8:01
Synch confirm at +1 minute	08:39:59.9716	08:39:59.9724		12:24:00.365	12:24:00.366	
Start TOD First Competitor *	09:02:05.8033	09:02:05.8041	Net Time	12:48:53.9964	12:48:53.9961	Net Time
Finish TOD First (1) (40) *	09:02:56.8502	09:02:56.8538	51.04	12:49:46.5626	12:49:46.5628	52.56
Hand Time First Competitor *			51.05			52.56
Start TOD Last Competitor *	10:32:18.5549	10:32:18.5549		13:47:12.2427	13:47:12.2421	
Finish TOD Last (96) (28) *	10:33:18.2002	10:33:18.1999	59.64	13:48:22.9526	13:48:22.9519	1:10.70
Hand Time Last Competitor *			1:13.73			1:10.76
* First and Last to Finish with complete data.						
Best run-time System A		Bib : (2)	50.70		Bib : (7)	51.42
Were all Results from system A?	Indicate: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					

List any or all bib numbers used in the results timed on any system other than system A in all runs (indicate run):

WHY? Batteries Snow obscuration wire break Photocell alignment Other? (describe)

Data Source for replacement system A time. (resp. ICR 611.2.1) ? System B System C Manual

Comments:

We certify that the timing and calculations of this event adhered to the FIS rules.

YES : NO

Chief of Timing - Name (Print)	Email, Telephone	Signature
LNAME, Fname	email address XXX-XXX-XXXX	
Technical Delegate - Name, NAT (Print)	Email, Telephone	Signature
LNAME, Fname NAT	email address (+ 1) XXX-XXX-XXXX	
		FIS TD # NNN

Download this form from www.fis-ski.com



Timing & Data Technical Report

Alpine

CODEX example 0247

To accompany TD Report immediate transmittal.- One form required for each Codex

Version 7.1

Location:		DH <input type="checkbox"/> SL <input type="checkbox"/> GS <input type="checkbox"/> SG <input type="checkbox"/> SL <input type="checkbox"/>
Nation:		MEN: <input type="checkbox"/> LADIES: <input type="checkbox"/>
Event Name:		
Date (dd/mm/yy):		

	Brand	Model	Serial Number	Homologation #
Sys A Timer:				
Sys B Timer:				
Start Gate:				
Finish Cells A:				
Finish Cells B:				

	Software	Brand	Version	Date	Results = Tapes
Scoring and Results Preparation:					

Connections to Start:	System A	System B	Voice Comm.
Cable, Radio or other- (Specify)			

POWER ON Time (warm-up): At least 30 minutes before Synchronization.

Time of day expressed in thousandths.	1st Run			2nd Run		
	System A (TOD) #	System B (TOD) #	Hand Sync.	System A (TOD) #	System B (TOD) #	Hand Sync.
Synchronization Time						
Synch confirm at +1 minute						
Start TOD First Competitor *			Net Time			Net Time
Finish TOD First () () *						
Hand Time First Competitor *						
Start TOD Last Competitor *						
Finish TOD Last () () *						
Hand Time Last Competitor *						
<small>* First and Last to Finish with complete data.</small>						
Best run-time System A		Bib : ()			Bib : ()	
Were all Results from system A?	Indicate: <input type="checkbox"/> Yes <input type="checkbox"/> No					

List any or all bib numbers used in the results timed on any system other than system A in all runs (indicate run):

WHY? Batteries Snow obscuration wire break Photocell alignment Other? (describe)

Data Source for replacement system A time. (resp. ICR 611.2.1) ? System B System C Manual

Comments:

We certify that the timing and calculations of this event adhered to the FIS rules.

YES NO

Chief of Timing - Name (Print)	Email, Telephone	Signature

Technical Delegate - Name, NAT (Print)	Email, Telephone	Signature	FIS TD #

Download this form from www.fis-ski.com



ALPINE SKIING

2011/2012

1ère LISTE DES POINTS FIS - 1st FIS POINTS LIST - 1. FIS PUNKTELISTE

Valid from 7/1/2011 to 8/31/2011

Category/Catégorie/Kategorie	Race level	Minimum penalty	Maximum penalty
OWG WSC WC		0	0
COM		0	4
WJC ANC EC FEC NAC SAC UVS ECOM	1	6	999
NC	2	8	999
FIS JUN NJC NJR CIT UNI CORP CISM	3	9	999
ENL	4	40	999

MEN					GENERAL			LADIES					
ADDER				Z-Value	Men/Ladies		ADDER				Z-Value		
Dis.	Level 1	Level 2	Level 3	Level 4		F Value	Max points	Dis.	Level 1	Level 2	Level 3	Level 4	
DH	0	2	3	13	0.00	1330	310	DH	0	2	3	13	0.00
SL	0	2	3	13	0.00	610	145	SL	0	2	3	13	0.00
GS	0	2	3	13	0.00	870	200	GS	0	2	3	13	0.00
SG	0	2	3	13	0.00	1060	250	SG	0	2	3	13	0.00
SC	0	2	3	13	0.00	1130	250	SC	0	2	3	13	0.00

FÉDÉRATION INTERNATIONALE DE SKI
INTERNATIONAL SKI FEDERATION
INTERNATIONALER SKI VERBAND



PENALTY CALCULATION
CALCUL DE LA PENALITE
PUNKTEZUSCHLAGSBERECHNUNG

Name of event <i>Nom de l'événement</i> Name der Veranstaltung		
Date <i>Date</i> Datum	Event <i>Événement</i> Veranstaltung	Name of the TD <i>Nom du DT</i> Name des TDs

The best 10 at finish / 10 meilleurs à l'arrivée/ / Die besten 10 im Ziel

Result <i>Résultat</i> Resultat	Number <i>Dossard</i> Nummer	Name <i>Nom</i> Name	Nat <i>Nat</i> Nat	FIS-Points <i>Points FIS</i> FIS-Punkte	Best 5 <i>5 meilleurs</i> 5 besten	Race points <i>Pts de course</i> Rennpunkte
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

The best 5 at start / 5 meilleurs points FIS au départ / Die 5 besten FIS-Punkte am Start

TOTALS / TOTALS / SUMMEN

(B)	FIS Points of best 5 at start Points FIS des 5 meilleurs au départ Die 5 besten FIS-Punkte am Start			
(A)	FIS Points of best 5 to finish in top 10 Points FIS des 5 meilleurs dans les premiers 10 Die 5 besten FIS-Punkte aus den ersten 10			
(C)	Race Points of corresponding competitors Points compétition de ces concurrents Rennpunkte der entsprechenden Wettkämpfer			

Calculated penalty / Pénalité calculée / Berechneter Zuschlag

A + B - C = : 10 =

Correction value / Valeur de correction / Korrekturwert (-z → +z Art. 4.4.6)

Category Adder / Additif de catégorie / Kategorie-Adder

Penalty applied / Pénalité appliquée / Angewandter Punktezuschlag

Signature TD / Signature du DT / Unterschrift des TDs	Nr/No/Nr
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