

HANDICAP REVIEW APPENDIX

For general (introductory) information on *Handicap Review (HR)* in this appendix, refer to the Explanatory Note on Handicap Review in section 3.15.

Clause 3.4.8 requires *handicap committees* and *national associations* to carry out a *HR* at least once a year, typically at the end of each playing season. The procedure has now been modified not only to apply to the *HR* process itself, but also to other *handicap committee* decisions (i.e. *General Play*, allotment of first handicap).

The *HR* is an important adjunct to the handicapping process and is mandatory for all players, in *handicap categories 1 – 5*. The *HR* will only use scores from the last 12 months of the player's handicap record. However, not all scores from within the time frame are eligible for *HR*. Neither cancelled rounds nor scores with *CBA -2&RO* are suitable for *handicap review*. 9-hole scores, however, must be included.

In order to compare scores posted from different sets of tees and courses, and to compare the score directly against the *EGA Handicap*, all scores must be ported to the Course of Standard Relative Difficult (COSRD, a course with *SR=113*). The Gross Differentials of such a course are fully comparable against the player's *EGA Handicap* at the revision date. Once all scores are comparable, the *HR* calculates their mean and standard deviation. With those two metrics, the algorithm will yield a range of expected handicap, which is the player's handicap expected handicap range. Finally, the algorithm will provide a proposed handicap; however, the proposed handicap will never be higher or lower than the current *EGA Handicap* plus/minus 3 strokes.

ELIGIBLE SCORES

1.- All individual *qualifying scores* are eligible scores for *HR*, with the following exceptions:

- rounds where *CBA* was -2&RO
- rounds cancelled by the committee

STANDARD GROSS DIFFERENTIAL (SGD) CALCULATION

1.- For every eligible round over 18 holes, calculate the SGD using the formula:

$$SGD = EGA\ HCP + ND * \frac{113}{SR}$$

Where:

ND: 36 - StablefordScore - CBA

2.- For every eligible round over 9 holes, calculate the SGD using the formula:

$$SGD = EGA\ HCP + 2 * ND * \frac{113}{SR}$$

Where:

ND: 36 - StablefordScore

Note: National Associations can include the SGD value in the Handicap Record Sheet.

REVIEW PROCESS

1.- Only players with 8 eligible scores in the last 12 months can be included in the *HR*. If a player does not have 8 scores, take enough scores from the previous 12 months, in chronological order (latest first), to add up to a total of 8 eligible scores.

2.- Calculate the mean of all SGD (\overline{SGD}) calculated previously.

3.- Calculate the Standard Deviation (Bessel's corrected) of all the SGD (σ_{SGD}).

4.- Calculate the Degrees of Freedom (DF) adding to the total number of 18-hole rounds, the number of 9-hole rounds divided by 2 (0.5 rounded up), and subtract one:

$$DF = N_{18} + \frac{N_9}{2} - 1$$

Where:

DF: Degrees of Freedom

N_{18} : number of 18-hole rounds

N_9 : number of 9-hole rounds

5.- Calculate the factor a using the two tails t-Student table⁽¹⁾ for an error of 0,01 and the Degrees of Freedom (DF) calculated in the previous point.

6.- Calculate the factor b using the two tails t-Student table⁽¹⁾ for an error of 0,05 and the Degrees of Freedom (DF) calculated in the previous point.

7.- Calculate the upper and lower estimated SGD using the formulas:

$$upper eSGD = \overline{SGD} + a * \frac{\sigma_{SGD}}{\sqrt{(n+1)}}$$

$$lower eSGD = \overline{SGD} - b * \frac{\sigma_{SGD}}{\sqrt{(n+1)}}$$

8.- Convert both upper and lower eSGD into upper and lower Index limits using the formula:

$$upper INDEX = \frac{(upper eSGD - 2.1)}{1.13}$$

$$lower INDEX = \frac{(lower eSGD - 2.1)}{1.13}$$

9.- If the player's *EGA Handicap* falls between the upper and lower Index limits ($[lower INDEX, upper INDEX]$) no adjustment is needed.

10.- If the player's *EGA Handicap* is below the lower Index limit $< lower INDEX$, such limit will be the Reviewed Handicap. Calculate the adjustment by subtracting the Reviewed Handicap from the *EGA Handicap*, rounding the positive difference up to the next integer (away from zero).

11.- If the player's *EGA Handicap* is above the upper limit $>_{upper}INDEX$, such limit will be the Reviewed Handicap. Calculate the adjustment by subtracting the Reviewed Handicap from the *EGA Handicap*, rounding the negative difference up to the next integer (towards zero).

12.- For each *handicap category* the following maximum adjustments must be applied:

CATEGORY	1	2	3	4	5
MAXIMUM	±1	±2	±3	±3	±3

13.- Calculate the Proposed Handicap adding to the *EGA Handicap* the adjustment calculated taking into account the maximum adjustments provided in table 12.

14.- Any player whose initial *EGA Handicap* is higher than the final *EGA Handicap* should not be adjusted up as a result of *HR*.

REVIEW RESULT

The review process will yield the following information:

1.-Expected Handicap Range: the range where the player's handicap is expected to be according to the results. It is represented by the range $[_{lower}INDEX, _{upper}INDEX]$

2.-The Reviewed Handicap: when the player's handicap falls out of the Expected Handicap Range an adjustment is needed. The Reviewed Handicap will be:

-if player's handicap $< _{lower}INDEX$, the Reviewed Handicap will be the $_{lower}INDEX$

-if player's handicap $> _{upper}INDEX$, the Reviewed Handicap will be the $_{upper}INDEX$

The Reviewed Handicap should be the handicap the player should have according to the scores.

3.-The Proposed Handicap: the handicap proposed by the *HR* algorithm. The difference between the Reviewed Handicap and the Proposed Handicap will be the rounding and the maximum adjustment (category dependent).

HOW TO READ THE RESULTS

Most times the review process will not change the player's handicap because the handicap will be inside the Expected Handicap Range. Some players will have handicaps falling outside the range; these players need a different handicap, the Reviewed Handicap. In exceptional cases the player's handicap will be very far from the Expected Handicap Range and the Proposed Handicap (the final result of the handicap review) will not be the same handicap as the Reviewed Handicap, because of the maximum adjustment constraint of *HR*. In such cases, the *handicap committee* should consider the player for further investigation, taking into account the player development, namely in non-qualifying competitions such as Match Play events, ProAms, team competitions, etc. When studying this kind of players, the Expected Handicap Range can provide the *handicap committee* with valuable information about the golfing level,

in handicapping terms, of the player. Such information may be considered to support a *General Play* adjustment to amend the player's handicap.

HR results may also be used for the purpose of studying players with a newly allotted handicap (see Guidance Note in section 3.11). When the player has submitted at least 8 eligible scores, a *HR* is strongly recommended. *Handicap committees* can use the Expected Handicap Range and the Reviewed Handicap to support a decision to adjust a player's handicap on the basis of *General Play* in such circumstances.