



**16 March 2022**

**Equipment Research - Areas of Interest**

On 1 February 2021 the USGA and The R&A issued a Notice and Comment that included three proposals:

- (1) a reduction of allowable club length to 46 inches, available as Model Local Rule (MLR),
- (2) an update on the testing method for golf balls using optimized launch conditions; and
- (3) a revision to the testing tolerance for measuring the Characteristic Time using the pendulum test.

As per our communication of 12<sup>th</sup> October 2021, we have made MLR-G10, for the restriction of club length, available for use from 1<sup>st</sup> January 2022. We have decided not to separately proceed with the proposal to review the testing method of golf balls to use optimized conditions or to separately proceed to reduce the testing tolerance for the Pendulum test for spring-like effect. Both of these proposals will be further considered as part of a broader review as discussed below.

In addition to the Notice and Comment, the USGA and The R&A published an Area of Interest (AoI) communication on the same day. That 1 February 2021 AoI specified a set of research topics relating to potential Equipment Rule changes intended to address the findings from the Distance Insights Report and the Conclusions from the Distance Insight Project: Implications of Hitting Distance in Golf.

Findings from the research that has been conducted for the topics included in the 1 February 2021 AoI will be published over the next several weeks.

Today's AoI communication serves to inform stakeholders of our interest in:

1. Investigating an increase to the launch speed used to determine conformance to the Overall Distance Standard (ODS) that reflects the clubhead speeds of the longest hitters of the golf ball. The launch speed would be determined using a clubhead speed of at least 125 mph. In addition, use of optimum conditions of angle and spin in conjunction with this higher clubhead speed will be evaluated as part of this investigation.
2. Narrowing the focus of the research topics presented in the 1 February 2021 AoI communication, specifically in the context of potential Model Local Rules, to explore (i) reduction of the spring-like effect in drivers; and (ii) changes to the Moment of Inertia (MOI) limit of drivers to enhance the reward of a central impact.

## 1. Potential changes to the testing methods for golf balls

The 1 February 2021 Notice and Comment proposed changing the launch conditions used for determination of a golf ball's conformance to the ODS from the current method which uses the

Actual Launch Conditions (ALC) of the golf ball, to testing conditions which would use a ball's optimum launch conditions within a bounding window.

The 1 February 2021 Notice and Comment also proposed that the ball speed would still be determined using the mechanical golfer to hit balls with a calibration driver swinging at a clubhead speed of 120 mph. Based on further research, the USGA and The R&A are now interested in exploring an increase of the clubhead speed used to evaluate balls within the ODS in conjunction with the use of optimized conditions.

The rationale for considering this increase in test speed is rooted in the history and original intent of the ODS, as well as in the pattern of previous increases to the ball test speed over time to reflect the continued increases in the impact speed of the game's longest hitters of the golf ball. When the ODS was originally adopted in 1976, a Notice to Golf Ball and Golf Club Manufacturers provided the rationale for the standard:

*“Through developments in both the ball and the club over the years, many courses are becoming obsolete and further developments affecting the distance a ball could travel would continue this trend which the [Governing Bodies] considers unhealthy for the expansion of the game – and in fact its survival as a game that can be enjoyed by people of all economic levels. Longer courses with real estate and maintenance costs increasing year by year would result in the game becoming too expensive for the average person.”*

The last time that the ball test conditions of the ODS were updated was in 2004. Details of those changes were announced in the Notice to Manufacturers dated July 3, 2003, when manufacturers were advised that the clubhead test speed would be increased from 109mph to 120mph to better reflect the clubhead speeds of the longest drivers of the day. The Notice also advised manufacturers that the governing bodies were interested to observe changes to equipment and players to determine if further updates to testing methods were necessary.

Today's longest drivers of the golf ball achieve clubhead speeds that exceed the current test speed of 120mph. The average of the Top 10 players in clubhead speed on the PGA TOUR during the 2020-21 season was 124.8mph (ball speed 184.5 mph), while the average of their maximum measured clubhead speeds exceeded 130mph (ball speed 191.5mph).

The USGA and The R&A will also study the effect of using the ball's optimum launch conditions, using bounds similar to those set out in the 1 February 2021 Notice and Comment, i.e. a launch angle between 7.5 and 15 degrees, and backspin between 2200 rpm and 3000 rpm. Based on comments received in response to the 1 February 2021 announcement, the USGA and R&A will investigate incorporation of a golf ball's spin properties in determining these bounds.

There is interest in considering a launch speed which would be determined at a clubhead speed of at least 125 mph such that the ball's total distance is optimized at conditions that represent the longest drivers of the golf ball, as noted above. The value obtained from testing at these conditions would be used to determine the conformance of the ball against the current limit of 317 yards plus the current testing tolerance of 3 yards.

In parallel, the USGA and The R&A are interested in researching areas which might facilitate innovation for recreational golfers with slower swing speeds. Specifically, in conjunction with the

new test conditions for the ODS, the USGA and The R&A are also interested in understanding the impact of the elimination or modification of the Initial Velocity test.

## 2. Model Local Rules - Club performance characteristics

The 1 February 2021 Notice and Comment also proposed a revision to the testing tolerance for the Pendulum Test for spring-like effect. The current tolerance within the Pendulum Test protocol of 18 microseconds was designed to replicate the allowance within the preceding cannon test (Communicated on 2 December 2003). However, as detailed in the “Technical Description of the Pendulum Test” issued in November 2003, a gauge repeatability and reproducibility study determined that the actual testing tolerance for the Pendulum Test was 6 microseconds.

The USGA and The R&A received numerous comments on this proposal. In consideration of those comments, as well as other data and input, the USGA and The R&A have decided not to proceed separately with the proposal on tolerance reduction at this time. Instead, the subject of reducing the current Pendulum Test tolerance of 18 microseconds to 6 microseconds will be considered as part of a more focused study of the spring-like effect in drivers.

With this current AoI communication, the USGA and The R&A are also announcing our interest in the following, more focused specifications for drivers within the context of potential Model Local Rules:

- Reduction of the allowable spring-like effect (quantified using Characteristic Time) in drivers.
- Changes to Moment of Inertia to enhance the reward of a central impact.

As part of our consideration of these topics, the USGA and The R&A will review whether such a Model Local Rule, if adopted for elite competitions, could enable the removal of the MOI limit for recreational golfers, with the intention to facilitate innovation for recreational golfers.

## Summary

This AoI communication serves to narrow the focus of the research topics presented in the 1 February 2021 AoI. Specifically, we are exploring an increase in the clubhead speed used within the Overall Distance Standard and, in the context of potential Model Local Rules, we are investigating the reduction of the spring-like effect and the MOI limit for drivers.

The research topics discussed in this AoI communication are strictly areas of interest. No decisions have been made about possible solutions and no proposals are being made at this time. Any proposals for Rule changes that might result from this research will be communicated in accordance with the Equipment Rulemaking Procedures.

Comments regarding this Area of Interest communication are due by 2 September 2022.