DRAFT

to: Air Sport General Commission (CASI)

Proposal: On precision of values claimed for records

Observation: The value of record claims forwarded to, and accepted by the FAI, are often to a degree of precision that cannot be measured by the recording equipment being used.

The recent claims for the parachuting free fall distance is an example, in which values were given to one tenth of a metre. GPS units cannot record height to that precision. Another was the gliding absolute altitude record in 1986, in which the NAC claimed a value of 14,938 metres (49,009 feet) based on a calculated height. Height differences of a metre cannot be distinguished on a barograph foil (used then).

Any data gathered, as well as any calibration tables/charts used, have an associated range of error. The arithmetical calculation of a final value may have any number of significant figures, but the necessary final step of rounding the calculated value to the accuracy of the *least accurate data* is being neglected.

- In the old gliding absolute altitude claim, the width of the line on the barogram at that altitude would have represented tens of feet, yet the advertised claim of 49,009 feet in the USA inferred a height accuracy of +/- six inches.

- In the recent free fall record, the calculated value, given to *six* significant figures, cannot be supported, as the best estimate of GPS altitude accuracy is tens of metres – not tenths, according to the GNSS Flight Recorder Approval Committee (GFAC). In this example, rounding the claimed altitude to four significant figures (38,970m) – inferring a +/-5 metre confidence – is closer to being a mathematically and realistically supportable value.

Proposal: Add text to General Section 7.4 directing NACs to round the claimed value of a record to reflect the measurement accuracy of the data recording equipment. GS-6.9 could also reference this as well.

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