Report from Chairman of the
GNSS Flight Recorder Approval Committee (GFAC)

for the agenda of the 2018 IGC Plenary

7 January 2018

1 **GNSS Flight Recorders**. A total of 58 types of GNSS Flight Recorders (FRs) from 20 different manufacturers are currently IGC-approved.

1.1 GFAC Approval. Activity in 2017 was as follows:

12 February 2017 – LXNAV Nano 4, initial approval issued
April-May 2017 - three new recorder types tested, faults found, returned to the manufacturer
June-July 2017 - the three new recorders re-tested, faults found, returned to the manufacturer
4 November 2017 - ClearNav FRs, update to 3 Approval documents with new Company address

1.2 Ongoing Work.

In November 2017 a new type of recorder arrived for testing and discussion is taking place before the IGC-approval can be issued. This is an FR in which the main firmware is a Flarm module, and some issues about its interface with other features and the maker of the case are being discussed as this report is written.
20 December 2017 - the three new types of recorder (returned earlier, see 1.1) arrived for further testing.

2 **GPS Lat/Long Accuracy**. Accuracy in Lat/Long position from recorders tested recently have shown average errors at accurately surveyed ground positions of between 4 to 7 metres.

3 **IGC File Analysis**. Many IGC files have been analysed including those from FRs being tested, and those sent to GFAC for analysis and advice. Advice has been given to NACs, competition organisers, pilots, OOs and FR manufacturers.

4 **Amendments**

4.1 FR Specification. The last amendment to the FR Specification was dated 10 April 2016. Amendment 5 to the FR Specification is under discussion and a report will be made to the Plenary. Some subjects include:

4.1.1 Recorder Type in the IGC file header. This should be unique, and correspond to labelling on the recorder case and other documents such as Instruction Manuals.

4.1.2 Front-Engine Electric Systems (FES). Originally these were "sustainers" for use in flight. Wording is being updated because many are now powerful enough to allow self-launching.

4.1.3 New Glider Types. For IGC files, it must always be possible to make manual inputs of Glider Type in addition to the list of types provided by some FR manufacturers. This is because it is not possible for such lists to cover all glider types, particularly new ones. This was a point raised by the Sporting Code Committee after a claim had been refused due to an inaccurate glider type in the IGC file.

4.1.4 Starting the IGC file. Recording should always begin when the FR is switched on and movement is detected. An IGC file should not be lost due to special switching requirements before flight.

4.1.5 Engine Recording. A few FRs have both ENL and MOP systems inside the FR, with different frequency sensitivities. This needs to be covered as well as MOP systems connected by cable.

4.1.6 Three-Letter Codes (TLCs). These are being reviewed, for instance to include those relevant to the latest FR designs.

4.2 Annex B to the Sporting Code. The last amendment to SC3B was Amendment 10 dated 1 October 2015. Amendment 11 for 2018 is being considered. It is intended to add references to the Front-engine Electric System (FES), and refine the wording on High Altitude Flight Recorders (HAFRs) as a result of the new Appendix 6 to SC3C and experience gained by the Perlan project.

5 **Plenary**. An update will be given to the Plenary.

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