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

for the agenda of the 2023 IGC Plenary

31 December 2022

1. **New GFAC members required**. The current GFAC structure is listed in Annex A. All current members and Technical Advisors have been in post for many years. There is an urgent need for new members if GFAC activity is to continue because older members will have to give up. NACs are therefore requested to put forward suitable candidates. For basic GFAC membership, deep technical knowledge of FR technology is not essential, what is required is an understanding of IGC rules and procedures as they apply to GNSS Flight Recorders, but see 1.1 for FR testing.

1.1 Flight Recorder Testing. For many years, the UK members and advisers of GFAC have tested new types of FR, liaised with manufacturers and drafted IGC-approval documents for wider GFAC approval and posting on the web. This includes updating older documents in accordance with changes to the Sporting Code and the FR Specification. All those currently involved in physical and flight testing of FRs are getting older and a Succession Plan is needed so that the IGC-approval process can continue without a break.

2. **GNSS Flight Recorders**. A total of 62 types of GNSS Flight Recorders (FRs) from 21 different manufacturers are currently IGC-approved. If different models within types are included, the number increases to 79.

References: www.ukiws.uk/GFAC/igc_approved_frs.pdf or through www.fai.org/igc-documents

3. **IGC-approvals 2022**

6 February 2022 - Correction to Approval Level of Zander 941 - listed as Level 2, this should have been Level 3.
14 May 2022 - RC Electronics FenixN FR, added to the original Fenix approval document
12 July 2022 - Naviter Oudie-N-IGC FR, initial approval after GFAC ground and flight testing

4. **FR Specification**. The last amendment to the IGC FR Specification was published in January 2022. Work continues on an amendment to be published in 2023. Items include the following:

4.1 Three-Letter Codes (TLCs). More TLCs will be listed for use in IGC files

4.2 Post-flight security checks. For Post-flight security checks of IGC files, the ECC electronic security system is preferred over older systems such as RSA. ECC stands for Elliptic Curve Cryptography, a second-generation Public/Private Key-based Cryptographic (PKC) system. It has a smaller private key length for the equivalent level of electronic security compared to systems such as RSA and DSA, and is therefore preferred compared to systems with longer key lengths. As an example, for IGC FR purposes ECC with a 256 bit private key (ECC256) is accepted as equivalent to RSA with a 3072 bit private key

5. **IGC Agenda Items**

5.1 Pressure Altitude Calibration. A separate agenda paper has been produced on this important subject. The paper supports previous IGC policy on periodic Pressure Altitude calibrations. It opposes a previous Denmark/France proposal to eliminate periodic Pressure Altitude calibrations, and gives reasons based on evidence of IGC file pressure altitude drift over time.

Ian W Strachan
Chairman IGC GNSS Flight Recorder Approval Committee (GFAC)

Annex: Current GFAC membership

Annex to GFAC Report for the IGC Plenary Agenda

Current Structure of GFAC

Chairman

Strachan, Ian	FRAeS (UK)

Members - in alphabetical order of family name

Casado, Angel	PhD (Spain)
Madinabeitia, Miguel	MSc (Spain)
Purdie, Peter	BSc (UK)
Trautenberg, Hans	PhD (Germany)
Wharington, John	PhD (Australia)

Technical Advisors

Feakes, Dickie	Bicester Aviation Services (UK)
Newport-Peace, Tim	Specialist Systems (UK)
