TO: IGC Delegates 17Jan10

SUBJ: Mar10 IGC Meeting ANDS & EnvCom report
FROM: Bernald S. Smith
IGC ANDS Committee Chairman
IGC and NAA EnvCom delegate, EnvCom VP
SSA & FAI RTCA representative
SSF/SSA EGU co-representative
NAA's FAI Commission on Airspace/Navigation Systems delegate

Acronym List in Appendix I

ACTION ITEM - Current GFAC members and the expiry dates of their 3-year terms of office are Ian Strachan (UK-IGC meeting of 2011), Hans Trautenberg (Germany-IGC meeting of 2012), Angel Casado (Spain-IGC meeting of 2011), Tim Shirley (Australia-IGC meeting of 2012) and Marc Ramsey (USA-IGC meeting of 2010). As usual, a nomination by ANDS will be presented at your meeting for your consideration for election to fill the expiring term.

RTCA - My involvement is mainly with SC-186 (ADS-B) and SC159 (GPS) altho I participate in others. More often now, some RTCA meetings are conducted concurrent with EUROCAE folks in Europe utilizing WebEx/telcon, relieving much travel time/expense (no FAI/IGC/SSA funds).

In the USA, FAA response has continued re my push in SC186, as previously reported to you, for what I've come to call VFR ADS-B. Steve Northcraft (Chairman), Hal Becker (retired from FAA and SSA Advisor) and this writer were appointed by SSA Chairman of the Board Phil Umphres to form an ad hoc group to work with FAA to develop an FAA/SSA MOA. It was signed in early Nov09 by FAA's Surveillance and Broadcast Sercices' Contracting Officer, Stephen Manley, and for SSA by Chairman Umphres, under whose watchful/supportive eye we work. See Appendix II for excerpts from the MOA document and our Project Plan.

The current GPS constellation consists of 32 Block II/IIA/IIR/IIR-M satellites. The system continues to serve well. Recently launched SVN49 has problems, tho, with interference from its L5 frequency system. It was launched to secure the L5 frequency, and the problems seem to be known and will of course be fixed prior to new lauches w/L5.

I plan to attend the CANS and EnvCom meetings in Frankfurt, an RTCA SC159 meeting in Washington DC, and EGU meeting in Switzerland in the few weeks after the SSA Convention (the last week of Jan10), and prior to your Lausanne

meeting. Note that the SSA Convention has a complete track of speakers arranged by OSTIV.

FLIGHT RECORDERS Ian Strachan, IGC's GFAC Chairman, will report on this subject. A report has been made to the IGC Bureau from ANDS, unanimously recommending their support for the international oversight of PRs. See Appendix III.

ICG - I attended the UNOOSA's ICG special group one-day meeting of about 75 persons in Sydney, Australia on 30Nov09. Recall I attend as a US State Department invitee observer. Issues deal with the proliferating number of satellite positioning systems.. My presentation was a report on why interoperability, compatibility and interchangeability of such systems are important to the sport aviation community. As previously reported, we spend a considerable amount of time re that at RTCA meetings. See Appendix IV for info re ICG.

ENVCOM REPORT
Re the FAI Environmental Commission, there is nothing to report at this time. Our next meeting is 06Feb10 in Frankfurt, Germany. I plan to distribute directly to you, either via email, or at your meeting, a report about it and may ask for a few minutes at your meeting for some further comments.

-end of report-

Appendix I

ACRONYMS & DEFINITIONS
(the short list)

ADS-B - Automatic Dependent Surveillance - Broadcast
ANDS - Air Traffic, Navigation and Display Systems
CANS - Commission on Airspace and Navigation Systems

EGNOS - European Geostationary Navigation Overlay Service
EGU - European Gliding Union
EnvCom - FAI's Environmental Commission
EUROCAE - European Organisation for Civil Aviation Equipment
FAI - Federation Aeronautique Internationale
FR - Flight Recorder
GFAC - GPS Flight Recorder Approval Committee
GPS - Global Positioning System (USA)
ICG - International Committee on GNSS (United Nations)
IGC - International Gliding Commission
IRNSS - Indian Regional Navigation Satellite System
MOA - Memorandum of Agreement
MSAS - MTSAT (Multi-Functional Transport Satellite) Space-Based Augmentation System (Japan)
NAS - National Airspace System
NIGCOMSAT - Nigerian Communications Satellite
NTSB - National Transportation and Safety Bureau
QZSS - Quasi-Zenith Satellite System (Japan)
RTCA - no separate meaning, a private non-profit corporation addressing aviation requirements and technical concepts to advance the art and science of aviation and aviation electronic systems for the benefit of the public, with nearly 300 volunteer organizations, more than 25% of which are non-US, from the entire worldwide aviation community, functioning as a Federal Advisory Committee, to develop consensus-based recommendations on contemporary aviation issues, whose documents are most often used as the basis of government-issued TSOs
SBS - Surveillance and Broadcast Services
SC - Special Committee
UAE - United Arab Emirates
UN - United Nations
UNOOSA - United Nations Office for Outer Space Affairs

Appendix II
Excerpts from the FAA/SSA MOA and the MOA Project Plan:

MEMORANDUM OF AGREEMENT
BETWEEN
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AND
THE SOARING SOCIETY OF AMERICA, INC.

DTFAWA-10-A-XXXXX
Version 0.4
October 2009

INTRODUCTION

This Memorandum of Agreement (MOA or Agreement) is made and entered into betweenthe Federal Aviation Administration (FAA) and The Soaring Society of America,Inc. (SSA).

The MOA establishes a collaborative effort to develop a phased plan to provide the soaring community with low-cost, lightweight, portable Automatic Dependent Surveillance – Broadcast (ADS-B) avionics equipment that may be used by the soaring community and others to reduce collision risk in visual meteorological conditions. The purpose of the plan developed by this collaborative partnership is to permit, as part of the project, the use in the National Airspace System (NAS) of demonstration, experimental ADS-B units that currently may not meet FAA requirements.

FAA counterparts are Rob Strain of Mitre; Andrea Hunt, Agreement Coordinator of FAA's Surveillance and Broadcast Services (SBS), and Stephen Manley, Contracting Officer of SBS. We are working under another watchful, and very supportive, eye, that of Vincent Capezzuto, Director/Manager of SBS who is also co-chair of RTCA's SC-186.

More from the MOA:
ARTICLE 2. SCOPE

This MOA establishes an Agreement Implementation Committee (AIC) to develop a phased project plan for demonstrating ADS-B with the intent of providing the soaring community with the safety benefits of low-cost, lightweight ADS-B avionics and promoting ADS-B equipage for this segment of the aviation community. This MOA provides for delivering a project plan for determining the technical and operational feasibility of a battery-powered ADS-B transceiver to enhance the safety of glider flying by improving traffic and weather

situational awareness in visual meteorological conditions. The plan will include, but is not limited to the following:

- Definition of project phases, objectives, potential demonstration sites, and schedule parameters
- development and testing of a battery-operated ADS-B transceiver
- identification of functional and performance requirements
- operational safety analyses
- FAA certification requirements
- ADS-B transceiver productization
- aircraft installation and testing
- flight data collection with the aim of determining certification requirements.

More from the MOA:
ARTICLE 6. PROJECT ACTIVITIES

The following project activities are representative, but subject to change based on discussions in the AIC.

- Develop a phased project plan to conduct a series of proof of concept and operational demonstrations, using ADS-B avionics equipment supplied by, and at the cost of, vendors and/or FAA
- Establish and coordinate outreach with pilots and FAA facilities
- Develop a concept of operations
- Conduct interviews and surveys to obtain user feedback
- Identify operational and regulatory limitations and constraints to implementation
- Identify avionics price points that will enable widespread equipage
- Develop and refine performance requirements

ADS-B Project Plan
We have completed a 10-page Glider ADS-B Project Plan*, had our initial telcon meeting in mid-December, our second in mid-January and will have our third in mid-February.
*Here are two of its paragraphs of potential interest; the note recognizes that our work will no doubt lead to benefits for other than the glider community:

1.3 Objective
The objective of this project is to demonstrate the safety benefit of ADS-B technologies and services, suitable for gliders and aircraft without electrical systems, by improving pilot awareness of proximate traffic in daytime visual meteorological conditions.
1.4 Desired Outcomes and Benefits

This project is focused on achieving the following outcome:
- An understanding of the soaring application using ADS-B with documented performance requirements and safety benefits
- Increased awareness of ADS-B benefits within the soaring community
- ADS-B glider avionics available at a price that will lead to widespread equipage
- Address NTSB recommendation regarding glider use of transponders

The SSA and the FAA Surveillance and Broadcast Services program to demonstrate ADS-B with the intent of providing the soaring community with the safety benefits of low-cost, lightweight ADS-B avionics. The following benefits are expected from the project:
- Accelerate implementation of ADS-B in the National Airspace System (NAS) by addressing operational and implementation issues of concern to the soaring community. (Note: other aviation communities, such as unmanned aircraft, skydivers, recoverable launch vehicles and airport operators may see this technology as useful for their operations as a result of this activity.)
- Address the concerns expressed by the NTSB regarding glider equipage with cooperative surveillance technology.
- Demonstrate and assess the benefits of ADS-B to support a business case decision for future implementation in the NAS and to motivate a broader spectrum of operators to equip, particularly general aviation operators.
- Validate concepts of operation, performance requirements and collect safety data useful for FAA policy and guidance.
- Foster a competitive avionics market for general aviation ADS-B avionics and, in particular, meet the needs of aircraft without engine-driven electrical systems.
- Improve safety in airspace used by general aviation aircraft operating in strictly visual meteorological conditions (both within and out of radar coverage) by enabling pilots to see proximate traffic and enable air traffic controllers to better see all traffic in their sectors.

ADS-B equipment will be supplied for ground/flight testing, utilizing a few invited pilots/gliders from areas where such testing will take place.

You may be interested in the following paragraph from the Project Plan, to note that both ALPA and AOPA have expressed interest in what SSA/FAA are doing under the aegis of this MOA:
2 Agreement Implementation Committee (AIC)
The Agreement Implementation Committee (AIC) has been established by agreement between the Federal Aviation Administration (FAA) and the Soaring Society of America (SSA) to plan and oversee the execution of this project. The project is funded by the FAA's Surveillance and Broadcast Services (SBS) program. The membership on the AIC includes representatives from the following organizations:

- FAA SBS Program Office (Co-Lead)
- SSA (Co-Lead)
- FAA Aviation Safety Organization
- Airline Pilots Association (ALPA) (interest expressed)
- Aircraft Owners and Pilots Association (AOPA) (interest expressed)

The AIC will perform four main functions. First it will establish the key activities and milestones for the project, which are presented in this document. Second, the AIC will identify project risks and develop actions to mitigate and track them to resolution. Third, the committee will oversee the project, review work products, and provide feedback and recommend appropriate course corrections. Fourth, it will assist with the coordination and outreach with pilots, FAA facilities, regulators, engineers and vendors that will be necessary to execute this project.

Installation of the ground stations to support ADS-B are occurring between 2008-2013, so it will be that long before that aspect for full ADS-B use is ready nationwide. Florida, mid-east coast, gulf coast and a few small other areas have been reported installed. The FAA has begun IFR use of ADS-B at Louisville, KY and out of Houston for the Gulf of Mexico.

Appendix III

Date: Tue, 22 Dec 2009 16:08:34 -0700
From: bernald@juggernaut.com
To: bob.henderson@xtra.co.nz, emozer@deltamold.com
Cc: marc@ranlog.com, tshirley@internode.on.net, Ian@ukiws.demon.co.uk, hans@trautenberg.net, dickie@bas.uk.net, acasado@acm.org, ramseyerbruno@live.com, tnp@spsys.demon.co.uk, petepurdie@aol.co.uk
Subject: ANDS recommendation

Bob. so, with the msg from Angel, there you have it, a unanimous ANDS position, which I will bring to your Lausanne Bureau meeting to expound upon for 30" if permitted to come, and to expound that long!

As stated previously in the last couple of messages, we urge the Bureau support of our recommendation that international oversight is necessary for NAC approval of PRs, in the guise of what was done w/Australia and taking into account the very complete lack of security for certain types as outlined in several of the messages re PDAs and PNAs, especially the latest from Marc.

If one country believes such devices are ok and another does not, then there is no international meaning for the achievement.

I guess what I'm saying where we need to go boils down to, NACs recommend, GFAC/IGC accepts. Does that make any sense? Will it work? This does not mean GFAC needs to get into the FR approval mode! But it does mean an international log of acceptable (note: I did not say approved!) PRs recommended by NAC be kept by IGC. It means that GFAC will consult from time-to-time with each other and an NAC on PR acceptability. I guess it also means IGC can keep a log of unacceptable PRs, such as PDAs and PNAs.
Bernald

Appendix IV

ICG Membership

for more info, see: www.unoosa.org/oosa/en/SAP/gnss/icg.html

International Committee on Global Navigation Satellite Systems

Membership Categories:

Members

China - COMPASS

European Community/ European Space Agency - Galileo, EGNOS

Russian Federation - GLONASS, SDCM

United States of America - GPS, WAAS

Members, Regional Augmentation Systems:

India - GAGAN, IRNSS

Japan - MSAS, QZSS

Nigeria - NIGCOMSAT

State Members:

Italy

Malaysia

United Arab Emirates

In addition, there are Associate Members, Observers, Sponsors and Technical Sponsors

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