FAI/International Gliding Commission-IGC

AGENDA

MEETING to be held in the
Olympic Museum, Lausanne, Switzerland
Friday 9th and Saturday 10th March 2001 from 09.00h daily.

1. OPENING
IGC president Tor Johannessen
Establishment of Legality and Roll Call

2. MINUTES of the LAST MEETING
Lausanne, Switzerland, March 2000 and matters arising.

3. FAI MATTERS
FAI Sec. Gen. Max Bishop

4. IGC BUDGET
IGC Treasurer Dick Bradley

5. SHORT REPORTS of PAST CHAMPIONSHIPS
5.1 10th European Gliding Championships Lüsse, 23 July – 13 August 2000: Herbert Märtin
5.2 1st Club Class World Championships and International Soaring Grand Prix, Gawler, South Australia, 14-26 January 2001: Terry Cubley

6. REPORTS from SPECIALISTS and SUBCOMMITTEES

6.1	Anti-Collision Measures	Herbert Pirker
6.2	Bids	Tapio Savolainen
6.3	Club Class	Terry Cubley
6.4	EGU Matters	Roland Stuck
6.5	Environment	Bernald Smith
6.6	Diploma Committee	Ross Macintyre
6.7	GNSS	Bernald Smith
6.8	GFAC	Ian Strachan
6.9	IGC Website	Peter Ryder
6.10	Media	Eric Mozer
6.11	Membership challenge	John Roake
6.12	Motor Gliders	Piero Morelli
6.13	Simulated Gliding	Roland Stuck
6.14	Sporting Code	Ross Macintyre
	-Annex A	Ake Pettersson
	-Annex B	Bernald Smith/Ian Strachan
6.15	World Air Games	Brian Spreckley
6.16	World Class	Piero Morelli

7. 2nd FAI WORLD AIR GAMES, SPAIN, 2001:

7.1 General WAG project overview by 2001 ECO and S. Medven
7.2 Status report by ASC LO and 2001 ECO LEOM
7.3 WAG and Media by ASC Media Consultant Eric Mozer
7.4 WAG Local Rules

8. OSTIV
Prof. Loek Boermans

9. BARRON HILTON CUP
Annette Reichmann

10. IGC RANKING SYSTEM
Brian Spreckley

11. TRACKER PROJECT
Brian Spreckley

12. HALL of FAME
Eric Mozer

13. SHORT UPDATES on FORTHCOMING CHAMPIONSHIPS
13.1 27th World Gliding Championships, Mafikeng, South Africa: South African Delegate
13.2 2nd Junior World Gliding Championships, Issoudun, France, July 2001: French Delegate
13.3 28th World Gliding Championships, Rieti, Italy 2003: Italian delegate
13.4 1st World Women's Gliding Championships, Lithuania, 2001: Lithuanian delegate

14. BIDS for FUTURE CHAMPIONSHIPS
14.1 2nd Women's World Gliding Championship – Germany
14.2 3rd World Junior Gliding Championships – Slovakia
14.3 2002 European Gliding Championships – Hungary
2002 European Gliding Championships – Switzerland
14.4 Future World Air Games

15. SPORTING CODE MORATORIUM

16. NEW RULE PROPOSALS
16.1 Annex A Committee Proposals
16.2 Proposals from Austrian Aero Club
16.3 Proposals from German Aero Club
16.4 Proposals from New Zealand Aero Club
16.5 Proposals from Italian Aero Club
16.6 Proposals from Australian Aero Club
16.7 Proposals from French Aero Club
16.8 Proposals from Spanish Aero Club
16.9 Specialist Proposal

17. FLIGHT SAFETY
Discussion

18. IGC Web Site
Discussion concerning future development: Peter Ryder

19. AWARDS
19.1 Lilienthal Medal:
Nomination of Klaus Ohlmann by German Aero Club
Nomination of Jim Payne by Soaring Society of America
19.2 Pelagia Majewska Medal:
Nomination of Dr. Angelika Machinek by German Aero Club
19.3 Pirat Gehriger IGC Diploma:
Nomination of Max Bachmann by Swiss Aero Club
Nomination of Chris Wills by UK Aero Club

20. ANY OTHER BUSINESS (Discussion Items only)

21. ELECTION of OFFICERS President
First Vice President
Other Vice presidents (5)
Secretary

22. APPOINTMENTS
22.1 Appointment of IGC Representative to CASI
22.2 Appointment of IGC Representative to FAI Medical Commission
22.3 Appointment of IGC Specialists
22.4 Appointment of Commission Liaison Officer **WAG 2005**

23. DATE and PLACE of NEXT MEETING, 2001

President's CLOSING REMARKS at end of plenary session.

5.2

Re: Report from 1st WGC-CC 2001 Gawler, Australia

Dear Tor, dear Åke,

After one week of practice, we just began the contest 1st World Gliding Championship in Club Class in Gawler, Australia /Sunday on Jan 14th/. During the practice week the contest pilots overflew a lot of kms without any accidents and organizer´s staff was well practised, too. Weather condition are generally very good but with very high temperature on the ground which reached to 45 ° C.

As a matter of fact there is a big success to arrange this contest which was changed after 10th Europeans to the 1st Worlds. From about 12 European countries average the contest continued to 21 countries with 44 pilots altogether. Only 8 teams used full number of pilots , there was 3 /including team Germany which used 4 with EC/. In the same time is organised Soaring Grand Prix which is unfortunately less visited with only 6 pilots from 3 countries but with interesting rules.

The Opening Ceremony was held during the practice week, on Thursday Jan 11th in the evening in the Pioneeer Park of Gawler town. Ceremony was well organized with marshaling all the teams and introducing each competitor personaly by Contest Director Terry Cubley. There was only 4 speeches: me as a representant of FAI, local member and Minister of Education Mr Malcolm Buckley, Chairman of Organising Committee Mr Bruce Eastwick and one woman represented of local aborigine people. After the official part of the evening was finished fly-passing by two gliders of members Adelaide Soaring Club.

The briefing is a little bit longer concerning to meteo information with well organised service. All relevant information is distributed on one page paper with all meteor and task information. During the practice week was reported two lectures about a new tasks: PST and AAT and strategy of flying and safety lecture which was given by Maurice Bradney about dehydratation.

For the first time on gliding event is used PST and AAT as a speed task and during the practice all circumstances looks very impresive and interesting. The contest field of pilots was spread very effectively to random 4 groups of start points /Annex A point 20.4 /d/ and everything looks like only one pilot contest, very individual without a gagles. But we must say that the weather was generaly very good and was not a big reason for creating of gagles at all.

During the practice days we had a small problem with definition of finish line and with interpretation. On the end the problem was solved with satisfying of Jury, stewardes and organisation staff mainly Contest Director and with conformity with Annex A and Sporting Code. The „beer can“ around Remote Finish Point was extended for 1,5 km from the safety reasons / now all outlanding field included/.

Scruteering and weighing was precisely and well organized by scruteering team. The local rules for scruteering was issued. The actual weigh of glider is important matter and will be each day measured for all glider when will marshall to grid. Instead of random will be measured some gliders on grid and after landing from the task. First time was approved winglets in club class which some pilots applied.

There is a mandatory ELT using on board and mandatory safety frequency for all pilots, too.

The Safety Committee with Henk Meerten´s as a steward and 3 Club Class pilots: Kristian Hansen Denmark, Ferdi Kuijpers Netherlands, Tomas Suchanek Czechia and 1 Grand Prix pilot: Jim Carpenter Canada.

There was applied Remote finish point as a „ beer can,, with 1,5 kms diameter about 20 kms far-away from the FL for the safety reason.

Scouring team with Tim Shirley as a chief works very affectively and scouring programme developed in Australia is well organized. Downloading of loggers works very effectively.

After the last practice day I executed pre-event check according to Jury book. The result is enclosed to this information as a Annex 1.

Equipment of Jury and steward room is a little bit poorer, without PC and without connection to Internet. In present time there is necessary and our works would be effectiver if any. The same is to equiped Jury Chairman at least by Mobile for quick connection. The Jury and steward room is well air- conditioned. For catering we received vouchers for the hangar meal but without breakfast. Accomodation in Rosewothy Campus is well organized, the transport with the cars, too.

Camping, including sanitary equipment, SAR, food and bars at the airfield works OK. The cost of meal and quality itself is good and tasty in comparation with European standards. Hanger which serves for the briefing is well equiped by very clever of air-conditioning facility. Daily Bulletin – The Club Class Flyer with usual information is published each day.

Unfortunately, thery is a small advertising of the event in town and vicinity but this looks like repeating problem of all gliding contests.

The International Jury: me as a Chairman, John Roake /NZ/ and Ross MacIntyre /UK/as a members and stewardes Bob Henderson /NZ/, Waldemar Ratajczak/Poland/ and Henk Meerten´s/Australia/ works hard and effectively for good and fair contest well conform with all the rules and Annexes after different duties and rules concern. We are all absolutely confident that this first big event of a new Milenium fulfils all expectation and requirements.

During the contest /till to 31st January 2001/ I have a new e-mail box with direct access: jaroslav43@hotmail.com but on others my e-mail boxes I am available too: vach@mtrebova-city.cz and jaroslav@vach.cz

Best regards

Jaroslav Vach
Jury President

Enclosed filled Appendix E of Jury Handbook

5.2

Subject: **Report from 1st World Gliding Championship in Club Class & Soaring Grand Prix**

Dear Tor, Dear Åke, D ear Larry,

First part of Worlds Club´s , first half of contest is over. After sometimes a hectic work during the practice and proper preparation for the contest our work was got to calmness and peace changed full. There was small problem on the begining because 3 days was not the weather and therefore not valuable task.

The first contest day started at Wednesdy on January 17th and than every day continued in a row. At Saturday on January 20th the 4th task succesfuly was run and therefore after the rules the contest is valid. Everydays briefing which is each day at 10 o´clock morning is well organized. With proper routine takes minimum time. Big parts of its is paied to meteorogical condition. This almost lecture is well organized and use very modern and usable special technique mainly very special and sofisticated software models . This models quite reasonable reflects proper situation in complicated touch of ground and the sea near Gawler. Pilots is shown very precise forecast of complicated situation near Gawler.

In Club Class are flown only PST and AAT task and this matter was accepted by majority of pilots. The main reason is that there is a big game, with support of speed and steep diference between points of pilots. In the task can pilot lost many but to give big gain, too. The pilots which lost a task because outlanded is still in the game.

While the start from different start points works very well and improve the safety immediately against the old systems, philosophy of PST and AAT as a means used against creating of gaggles doesn´t proper works when are the condition poorer and blue thermic. Just during a very small time after starts from different start points the gaggles with about a 20 gliders created. But there is sure a better and interesting a new and fresh wind in contest soaring. The pilots are pushed to work more comprihensive and used bigger and more complex rate of experience and cogitation.

After the row of contest days the Contest Director Terry Cubley and his deputy Mr Darryl Connel works and cooperates perfect and the work of all the staff is brilliant and quite impresive. There was only one complaint and no protest. The circumstances around the complaint, record of Jury meeting, which I called, solution and decesion will be detailed in my final report as a Jury President. During the first part was announced one meeting of safety committee after the leading steward Mr Henk Merteen´s. There was only one note against certain pilots. This warning was discussed with TM of pilots concern.

Today is Tuesday on Jan 23rd.. The six valuable, interesting tasks of PST and AAT only passed, yet. Today next PST is in the progress. The weather now was developed to very consistent and stable but sometimes different condition, very sofisticated for the right decesion. There are valuable tasks with 400 kms average and with sometimes quite remarkable speed reaching 106 kms/h for the winners. Quite impresive for the Club Class gliders, even these modern LS4 now included. Aggregate results after 6. tasks show on top of list three GB pilots which flew very impresive. The scoaring team issued daily the team results on base average performances of all pilots from the team even if only one, too. There is possible to visit contest web pages with last results and news. Daily bulletin The Club Class Flyer is issued regularly.

Seven tow planes, four Pawnee and three Cesna 180 Skywagen launch 44 gliders of Club Class around 45 minutes every day to 2000 fts. The Soaring Grand Prix gliders are launch next 10 minutes only. Unnoficial results when almost all pilots are at home are issued around 9,00 PM o´clock of the day concern. Preliminary results are available on screens in office and hangar from the first pilot on task of the day to come almost immediately.

Concerning to safety of pilots the Event Director push pilot to keep all the relevant rules, laws and recommendation. Only one glider from Soaring Grand Prix was damaged during the outlandings. Pilot did not suffer injury .

The start which consist from 4 groups for 3 points, therefore 12 different start points works well and spread out the field of pilots significantly. For safety and support of sport results of pilots is big gain the creation of Remoute Finish, about 22 kms to N from Gawler with special arrangement and possibility of outlanding. The

point and place was creat from very often possibilit y of sea breeze to come. On Remoute is also possible to land during the regular launch with possibilty of a new launch. The FL works well, too.

The stewardess and Jury members, supervis e all actions on airfield and in the air. Organizer makes everyday weighing procedure all the gliders during the marshalling, than stewardess organize random check on grid and after landing, too.

Contest was developed to impresive event which certainly will fulfilled all expectations and requirements.

Jaroslav Vach
Jury President
January 23rd, 2001

5.2

APPENDIX E

CAT 1 EVENTS - JURY PRESIDENT's _ CHECK-LIST

EVENT NAME: 1st World Gliding Championship – Club Class and Soaring Grand Prix
Gawler, Australia 14th – 27th January 2001

A. BEFORE THE GENERAL BRIEFING

1. A JURY PRE-EVENT BRIEFING AND CHECK:
Was performed on Tuesday on Jan 9th 2001

a) **All Jury members present, set and available** (accommodation, room and telephone numbers, meals arrangements, transportation, finances) - **OK**

☐ Jury President : Jaroslav Vach – Czech Republic_____

☐ Jury member : John Roake – New Zealand_____

☐ Jury member : Ross MacIntyre - GB_____

☐ Jury member : _____

☐ Jury member : _____

☐ Jury member : _____
(extend list if necessary)

b) **Jury members' documentation** (make sure latest editions are available):

x - SPORTING CODE GENERAL SECTION
x - RELEVANT SPECIALISED SECTION OF THE SPORTING CODE
x - JURY HANDBOOK
x - COMPETITION RULES
x - LAST MINUTE COMPETITION RULES INFORMATION (if any)
x - OBSERVER/JUDGE HANDBOOK (if any)
x - OFFICIAL ENTRY LIST (pilots entered)
x - OFFICIAL COMPETITION MAP(S) (contest area, common launch point, prohibited areas)

c) **Jury members' authority documents:**

x - Event ID badge or pass
x - Event car pass (if any)

d) **Conformity of COMPETITION RULES with FAI ADOPTED RULES**

x Compare both documents and if differences are found, check if they are permitted:
Deviation from the Annex A concerning to FL was discussed and corrected. Other deviations was approved by B. in Local Rules

2. A PRE-EVENT MEETING WITH EVENT DIRECTOR AND CHECK:
was perfomed on Saturday on Jan 13th /was present Terry Cubley and me/

a) **Implementation of all Sporting Code dispositions regarding the event**

☐ - Complaints by NAC(s) regarding ENTRY and/or ELIGIBILITY - **NO**
☐ - All Sporting Code required personnel available (stewards, observers, judges) **was present**
☐ - All FAI medals and certificates available (if any) **are ready**
☐ - Respective FAI Trophy available (if any) - **NO**
☐ - FAI flags available -**YES**
☐ - FAI anthem available- **YES**

b) **Jury meeting room arrangements**

☐ - availability, access, keys - **OK**

c) **Briefing room arrangements**

☐ - access and sitting arrangements (table and sufficient chairs) **OK**

d) **Competition Center arrangements**

☐ - Access permission (access to any place remains prohibited unless permission obtained by the Jury President from Event Director) - **YES**

e) **Jury transportation during the event**
☐ - Permission to use equipment if necessary (telephone, fax, copiers, computers, etc.) - **YES**

☐ - Car available -**YES**
☐ - Person in charge of the car - **YES**
☐ - Car park and access - **YES**
☐ - Refueling arrangements - **OK**
☐ - Car pass - **OK**

f) **Communication during the event**

☐ - Officials phone/fax numbers list - **Ready**
☐ - Event Director's Jury calling procedures during the event - **Ready**
☐ - Complaint and Protest transmission procedures- **Ready**
☐ - Place of Jury Mail and Info Box - **Ready**
☐ - Arrange for fast transmission of the following documents during the event - **Ready**
(one copy for each Juror):
- Official Competitors list (after the start of the event**) - Issued**
- All published MET SHEETS (prior to Competition Briefings) -**Ready**
- All published TASK SHEETS and related documents (prior to Competition Briefings)- **Ready**
- All published RESULTS (as soon as practicable) -**Ready**
- All other published Pilot communications/information (as soon as practicable) - **Ready**

CAT 1 EVENTS - JURY PRESIDENT's _ CHECK-LIST (continued)

B. DURING THE GENERAL BRIEFING
Was performed on Saturday on January 13th 2001

1. CHECK THE FOLLOWING:

- ☐ - All Jury members present and seated at allocated places at opening – **was presented**
- ☐ - Announcement of place for OFFICIAL NOTICE BOARD - **Ready**
- ☐ - Announcement of publication time and place for replies to complaints - **Ready**
- ☐ - Information on rules and regulations - **Ready**
- ☐ - Announcement of shortened time limits for complaints and protests – **procedure ready**
- ☐ - Announcement of SAFETY and COMPETITION LIMITATIONS - **Ready**
- ☐ - OFFICIAL TIME and timing source (make also sure that Jurors' chronos are set accordingly) - **OK**

Check and signed by Jaroslav Vach
As a Jury President
13. Jan 2001

6.1

Report of the Collision Avoidance Subcommittee

by Herbert Pirker, 15.1. 2001

Unfortunately, I was not able to collect much information on mid-airs last year.

Nevertheless, Arnold Germann, Swisscom AG, CH-3050 Bern (email: mailto:arnold.germann@swisscom.com) reported about successful testing with mirror-foils in Münster in 1999 (see also Aero-Revue 3/4/2000). They reflect the sunlight like a mirror and therefore the glider can be seen from a far distance. You can get the mirror-foils from KÖBI MÖRI, Beschr. & Siebdruck, Luegislandstrasse 137, CH-8051 Zürich, Swisserland (email: koebi-moeri@swissonline.ch) for about 50.- FR per set (400mmx400mm for the fuselage and 2x300mmx200mm for the wings). More information on:

SIKO-Aktion.doc

SIKO'Art'Aeror'Spiegelf'1 1'99....

SIKO'Beritcht'Spiegelf'11 00.d...

The report of last year showed that anti collision colour markings and strobe lights are not able to prevent mid-airs in all situations. Therfore, anti collision devices are of great importance. The ADS-B system (Automatic Dependent Surveillance-Broadcasting; see Michael Seischab (from Filser Electronic GmbH) email: fe_seischab@gmx.net) and others are still under development and testing. An interesting article about TAS can be seen on the homepage of the manufacturer of such a device: <http://www.rannoch.com/PDF/tas4.pdf >.
Seems to be quite cheap, but like others works only if all flying objects have such a device on board.

Thanks to all, who were so kind to send information on that subject again.

---end---

6.2

Report of the Bid Expert

After the IGC 2000 meeting Brian Spreckley wrote a paper called IGC approved Competitions Programme and Bidding. The paper is based on the decisions of the Plenary Meeting. I have followed the guidelines of the Programme. The Plenary Meeting left the European Championships to float with the market forces. No strict rules were given to them. However, I have received two bids to organize EGC 2002 in four classes.

In addition to that I have received one bid for the Junior World Gliding Championships for the year 2003 and one bid for the female WGC 2003. Both of these bids arrived to me after the original deadline of October 1st, 2000. I had no time to comment these bids, but I have accepted them because there are no alternatives.

I have edited all the four bids to be not longer than four A4 pages. I assume the applicants will distribute a more detailed bid to the delegates by themselves. In my opinion a compact bid is enough to be distributed with the IGC Agenda. It is clear that every candidate is able to organize the competition they are bidding for.

I have underlined that the number of pilots per country per class cannot exceed two. Concerning the EGC 2002 I have pointed out that there will be only one pilot per country in the new 18-meter class, which exactly is not the decision of the IGC Plenary. Therefore we must consider this point separately when handling the bids.

According to our earlier decisions we will request bids for the Club Class WGC 2004 before October 1st 2001. That will be the only competition, which will be resolved at the 2002 Meeting.

The list of Steward and Jury Member candidates is updated frequently. The latest list is available by request from me. With a large number of high level competitions we need quite a many officials annually. The existing list needs new names. I ask the delegates send me information about good candidates.

Helsinki January 11, 2001

Tapio Savolainen
Vice-President

6.2

IGC approved Competitions Programme and Bidding.

All International competitions of which the winner is a World or Continental champion must be approved by the International Gliding Commission as a Category «A» event.

The Programme of World Gliding Championships to 2006 was decided at the IGC meeting in March 2000 and is outlined in this document accompanied by the date at which bids will be considered.

All bids must initially sent to Tapio Savolainen, the IGC bids specialist, (e-mail tapio.savolainen@sllpilots.fi) for initial assessment **before October 1st (5 months before the IGC meeting).**

Prospective bidders should pay attention to the conditions that may apply to any particular competition. Bids should contain all relevant information and be approved by Tapio in time for distribution with the minutes for the relevant IGC meeting.

The rules that govern IGC category A competitions are contained in Annex A to the Sporting Code and are available on the IGC web site. Any deviation from these rules must be applied for at the time of bid approval.

Particular attention is drawn to the entry conditions contained in Annex A.
Participation in all classes is restricted to two pilots per National Aero Club.
No class shall have more than 50 competitors

Calendar for World Championships

2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
WAG	Feminine Juniors WAG Multi	Club	Multi Feminine Juniors World	Club	WAG Feminine Juniors	Multi Club World
Bid dates						
	Feminine Juniors World	Club WAG	Multi 2006	Club World		

Bid conditions and dates.

World Air Games (WAG) Bids to FAI and subject to negotiation with FAI, WAG includes all FAI airsports and is on a four year cycle with bids approved three years before the event.

MultiClass World Championships

2003 For the contest in 2003 the venue is Rieti, the class structure **will** be Standard Class, 15m Class, . Open and 18m Classes. The standard and 15m will be restricted to two pilots per NAC per class and the Open and 18m one pilot per NAC per class.

2006 Bids **will** be considered for the 2006 Multi class competition at the IGC meeting in March 2003. Bids should be for a multiclass competition including Standard Class, 15m Class, Open Class and 18m Class. Entry restrictions should be the same as for the 2003 competition. **Bids could be considered for organizers bidding for 3 classes only, or with the World Class substituded for one of the other classes. The Championship for the "leftover" class will then be considered at the next IGC meeting.**

Junior World Championships

2003 Bids **will** be considered for the 2003 Junior Worlds, at the IGC meeting in March 2001. Bids may be for a two class competition favoring the Club Class and Standard Classes.

2005 Bids for 2005 Junior Worlds, will be considered at the IGC meeting in March 2003.

Feminine World Championships

2003 Bids for the 2003 Feminine Worlds will be considered at the IGC meeting in March 2001. Bids may be for a two or three class competition favoring the Standard, Club and 15m classes.

2005 Bids for the 2005 Feminine Worlds will be considered at to IGC meeting in March **2003.**

Club Class World Championships

2002 This **will** be held at Musbach in Germany.

2004 Bids for the 2004 Club Class Worlds will be considered at the IGC meeting in March 2002

2006 Bids for the 2006 Club Class Worlds will be considered by the IGC meeting in March 2004. Bids for a combined Club Class and World Class championships may be considered.

World Class World Championships

2003 The 2003 World Class Worlds **will** be held in New Zealand.

2006 The 2006 World Class Worlds may be bid for as part of the 2006 Multi Class Worlds or as a stand-alone competition. Bids will be considered on their merits at the IGC meeting in March 2003. Bids for a combined Club Class and World Class championships in 2006 **might also** be considered.

Brian Spreckley/TJ
21.5.2000

MEETING OF THE EXECUTIVE COMMITTEE AND TECHNICAL OFFICERS

Held in Paris on 21 October 2000 at the FFVV

1. Opening and Roll Call

Present : P.Eriksen (PE), F.Van Haaff (FVH), J.E.Olsson (JEO), P.Pauwels (PP), J.Sagemühl, (JS), R.Stuck (RS)
Apologies were received from L.Tanner on a 6month trip, and from W.Scholze who is too busy.

P.Eriksen opens the meeting at 10 am

2. Approval of Agenda

The agenda is approved.

3. Minutes of previous meetings

The minutes of the Congress have been corrected and will be sent out to the members by Ginette with the invitation to the Congress. RS will also send them to D. Ellison for publication them on the web site.

Action RS

FVH will check the minutes of the Execom meeting of 26 .02.2000 and send them to RS . Since this was only a preparation for the Congress the minutes will not be sent out to the EGU members. **Action FVH**

The minutes of the last Execom meeting 20.05 2000 were approved with the following changes:

- The year should be added to the date in the title.
- Stall warning area should read speed range
- The statement about stall warning comes from only one UK test pilot
- Infos given about the LBA requirements of a nose hook in all gliders are not correct (see below)

PE proposes a new procedure for the approval and publishing of the minutes:
RS will send a draft to the members of the Execom and to the TO's within 2 weeks after the meeting. The participants will have two other weeks to send him comments. After this deadline RS will send a corrected version to the Execom members, to the TO's , to Ginette for sending out a hard copy to the EGU members and to D Ellison for publication on our web site. **Action RS**

4. Actions from last meeting

Some actions are still to be done:

- Publication of minutes of previous meetings (RS): (see above)
- Letter to potential members to invite them to join. PE has prepared a letter to be sent soon.
- Contact with Mrs Mengelberg about mutual recognition (LT and PE): see below
- JAR 21 (JEO): JEO will write the document
- Letter about Tost hooks (JEO): JEO will prepare arguments for national aero clubs to help them to convince their National Authorities to increase the delay between overhauls
- Document on operational standards (JS) still to be done
- Enquiry about insurance costs in various countries (LT): still to be done
- Contact for Green Funds (WS): no news

5. Report of the President

Relationship with EA: nothing new.
Positive collaboration with FAI and EA about the Stemme ST 10 issue. PE was alerted by Max Bishop. After consultation of the members of the EXECOM who all agreed that the ST 10 should not be considered as a TMG, he sent a letter to give our position to the JAA. This letter was never answered.
The letter sent to the JAA will be sent also to the LBA. **Action PE and JS**

Recent events (death of WGS, illness of JEO, trip of LT) show that we are clearly understaffed because we have nobody behind the people doing the job. PE believes that we should have a couple of persons acting as back up,

participating in our meetings and following the work of the TO's. This of course will have a cost but will ensure a continuity in our action. PE will therefore send a letter to the members with the invitations to the Congress to ask them to provide candidates for this back up function. These persons should be as polyvalent as possible.

Action PE

All members of the EXECOM and TO's will have to follow this up in their own country. **Action All**

EA has a General Conference and a Technical Meeting in Brussels on December 9 and 10. EGU will participate in the General Conference, but considers the subject (which is how to raise more funds) a matter between EA and the members.

The German DAeC is so kind to invite us to hold our next Congress in Braunschweig on 24 and 25 February 2001 The Congress Meeting will take place on 24.02.01 from 14 to 17H30 and on 25.02.01 from 9h to14H in the Hotel Mercure in front of the Railway Station.
An Execom meeting will be held before (see Next Meeting).
Contact Person will be D.Graupner who will send information to RS on the venue during next week. Deadline for hotel reservation will be 15 January. RS will make a draft of the agenda of the Congress. The invitation should be sent out by November 15. **Action RS**
All reports must be sent before 4 December to RS. PP will sent the final financial report to RS in the first week of January **Action All**

6. Report of the Treasurer

All membership fees have been received except those from Norway and Spain. RS and PE will try to (re) establish a connection with Spain. JEO with Norway. (post meeting note: fees from Norway were received in the meantime).

Action PE, RS and JEO

Our financial situation is healthy mainly because the President's expenses are paid by his country and the costs of the secretary are covered by the FFVV.
Provisional budget : PP proposes to keep the fees unchanged. The meeting agrees.

7. Airspace

FVH was invited at the Eurocontrol Experimental Centre on an interesting meeting about New Control Techniques.
Frictions are reported in several countries with parachutists jumping through clouds and claiming airspace. PP thinks that problems can be solved if people speak to each other and are disciplined.
FVH was asked to participate to the FAI Airspace Working Group but was never invited to the meetings. He will contact W.Weinreich to ask him if he is in or out. **Action FVH**

8. Transponders and radio

FVH is still monitoring the work on the LAST in EUROCAE working group 49.
There seems to be more and more interest from the manufacturers side but most devices are high level instruments with high power consumption.
There is pressure from Eurocontrol to go to Mode S by 2005. JEO believes that we should fight against Mode S because it is expensive and we will not give any information back since we have no FMS.

Questionnaire on radio frequencies dedicated to gliding: despite a reminder several countries did not answer. FVH will now compile the results nevertheless . **Action FvH**

9. Licenses and Medicals

We got verbal information that JAA does not intend not to activate JAR FCL 5 in order to harmonise the Glider Pilot License, because there is no commercial interest involved, but we did not get any written confirmation so far. FVH has asked for an appointment with Mrs Mengelberg during week 44 but did not receive any confirmation so far.
PP fears that the national authorities may be tempted to set up national licenses with more stringent criteria then ICAO Annex 1 guidelines. This seems to be happening in the Netherlands with the recreational license.

Interestingly Glider Pilot Licenses, compliant with Annex 1 of the ICAO, are issued by the National Aero Clubs, not only in UK but also in Belgium (without any stamp from the Belgian CAA). Other countries may be planning to go this way too.
Several participants in the meeting believe that since there is a mutual recognition "de facto" in most European countries on the basis of the requirements in Annex 1of ICAO, the EGU policy should be to keep the national license on this "lowest common denominator" level. PE will make a paper to propose this to the Congress.

Action PE

FVH will also ask Mrs Mengelberg confirmation that Annex 1 is sufficient.

Action FVH

Medicals : The French national authorities want to impose the JAR FCL Part 3 medicals without changing the interval between examinations to 5 years below 30 . In most other countries (Germany, Sweden Holland), JAR FCL Part 3 (medical) is not in force .
The EGU leaves the subject to EA for the time being, we monitor their working.

Licence for Touring Motor Gliders: The Dutch CAA may want to cancel the possibility to fly a TMG with a Glider Pilot Licence. Their position is, now that we have a PPL (A)TMG (according to JAR-FCL Part 1) and a recreational pilot licence (RPL) for aeroplanes with a TMG rating (RPL(A)TMG), to fly a motor glider with a GPL will be superfluous.
JS believes that the EGU should recommend the licences to be set according to the certification of the aircraft.
There are 26000 motor glider pilot licenses PPL B in Germany, among them 18000 are coming from the gliding side. JS is confident that the German glider pilots will be allowed to fly TMG with a GPL. 10 hours TMG will be required to get a TMG rating.

10. Airworthiness and maintenance

JS reports on the JAR 22 meeting held on 10-11 October in Wiener Neustadt. A draft of the minutes is available.
The President of the Working Group, H. Fendt, clearly stated that a TMG remains a glider with power and should be flown accordingly.

Other topics:

- Smoother undercarriage required of the Duo Discus.
- A British test pilot has found abnormal suction effects on Schempp Hirth spoilers if they are deployed at high speed.
- The delegate from the French DGAC required all electronic instruments for motor control to be certified. This was not accepted but may come again. JEO insisted that WE MUST OBJECT ANY RULES THAT HAVE REASONABLY NOTHING TO DO WITH SAFETY
- Discussion on Nose hooks. JS informs the meeting that the LTA requiring nose hooks on all gliders has not been withdrawn in Germany. The deadline for retrofitting them is the 1 January 2001 for the Ka6 and 1 January 2005 for all other gliders…In the meantime it is forbidden to to make aerotow for instruction flights with a centre hook.
- JS regrets that this battle was lost in Germany because the wrong arguments were used.

Tost Hooks: Each NAC should try to convince their national authority to change the maintenance rules to increase the periodicity.

Safety belts: According to the German LBA they should be replaced every 12 years but the glider manufacturer decides on inspection periodicity and may overrule the instructions by the component manufacturer because he has the overall responsibility.

DG VII of the European Union proposes to establish common rules in the field of civil aviation and to create a European Aviation Safety Agency (EASA). This body may replace the JAA in the future since its missions are to establish rules of certification for products (aircraft, instruments), to conduct investigations, to monitor the application of the rules…. This will have a great impact on our sport. A decision should be made by the end of this year.

First meeting of regulation and maintenance. JAR 66 B Certification for standards components JAR 147 Ops 1 and 3.

11. Operations and safety

JAR-OPS Part 5 for gliding: according to R Schuegraff who monitors this for us, there is no need to make any action because work on the JAR-OPS Part 5 will be continued by the JAA only for commercial ballooning.

JAR-OPS Part 2, aerial work: JEO will fight to keep aero towing outside of aerial work and to obtain a written statement on this matter.

Deletion of the obligation to file a flight plans for cross border flying : nothing new at EA. But FvH will continue to monitor the developments. **Action: FvH**

EGU operational standards: RS believes that this is typically the kind of common action which the members of the EGU should be able to conduct since their national authorities are not involved. JS is requested to write a report on standardisation of procedures based on OSTIV documents.

The meeting feels that it is not necessary to write a safety paper for he web. The action is dropped.

12. Insurance

Nothing new due to the absence of Lemmy.
During his absence FVH will monitor the situation at EA after the positive meeting with a Dutch broker on behalf of LT. **Action: FvH**
According to PP, H Schoevers was to react to a request by Flemish Gliding League on insurance.

13. Environment

In the absence of WS the adoption of the Code of Conduct is again postponed.
In Sweden, all airports must go through an acceptance check by the local area community.

14. AOB

FVH still believes that the French low level met sounding system (SSBC) is very interesting and should be extended to cover other countries. The system will be presented at the next Congress to see if there is any interest among our members. **Action: FvH**

There are still some errors in the address list JS and FVH will send corrections to RS.
action JS, FVH, and RS

Terms of Reference: FVH has updated the TOR document. PE will review it. **action PE**

15. Date and Venue Next Meeting
The next Execom will take place Friday 23 February 2001 at 19 h00 at the Hotel Mercure in Braunschweig.

16. Closure
PE closes the meeting at 16H30.

These minutes have been drawn up by Roland Stuck

6.5

TO: IGC Delegates 5Jan01
SUBJ: Mar01 IGC Meeting Report
FROM: IGC Environmental Commission Representative, Bernald S. Smith, EnvCom VP

Our EnvirCom meeting scheduled for 26/27Jan01 in Lausanne, Switzerland, which I will attend, is too late to meet the deadline for this report. The agenda is not yet finalized but will include discussion of items listed below. A report to you will be prepared asap after the meeting, to send to you or distribute to you at your Mar01 meeting.

Each airsport FAI Commission, except for Astronautics which is still being worked on, has adopted an airsport-specific Environmental Code of Conduct. Has that filtered down from FAI beyond each country member of IGC for implementation within your country? What, if anything, is each country doing to put it into practice? Is there anything I can do to help you progress? I would appreciate feedback from each country with any comments or recommendations you may have, so that I may best represent you.

-----FAI Environmental Commission - Matters being considered for Jan01 Meeting Agenda

2000 Meeting Minutes
EnvirCom President’s Report
Commission Proceedings' Format
Subcommittee Reports
  a) Information, Awareness & Nature Conservation
  b) Noise
Nordic report
Communications’ policy for organizations in the environmental field
Commission objectives’ review
Code of Conduct review: Air Sports and the Environment
NAC's Environmental committees
Rotorcraft, Balloon, Ultralight & Model aircraft noise certification
ICAO CAEP recommendations
European Commission Noise Standards
Finnish Special Study Report
Astronautics Report
Election of Commission Officers
Other business
Date and place of next meeting

end/

Report for the International Gliding Commission, 2001
Diploma Committee

Following the approval of the concept at the IGC meeting in March 2000, the work of the Diploma Committee was relatively simple. A draft of the proposed amendments to the FAI Statutes necessary to create the Pirat Gehriger Diploma was prepared and submitted to the FAI Council. This was approved and the amended statutes came into being on the 1st January 2001.

Mr. Steve Longland, the graphics designer chosen to create the actual diploma continued development work based on the comments received at the last IGC meeting and has produced a further draft, some rough copies of which should be available for delegates to see at the meeting. The final printed copy should have considerably more resolution and clarity than these rough copies. It was decided that copies would not be printed in their final form until the meeting has decided on the first recipient, whose name can then be included electronically in the final print in a high quality format. Only the necessary copies need to then be printed each year after the recipients name has been decided. A copy of the original electronic graphic will be held by the FAI office to act as a backup and master copy.

The costs involved include a fee for the designer and the final printing of the Diploma for presentation. This latter cost will be an annual commitment as each recipient is decided. These costs are not available at the time of writing, but will be within the figures approved last year.

The committee's work is therefore concluded and it would be appropriate for the committee to be disestablished.

As chairman I would like to offer my thanks to the members of the committee, Tor Johannessen and Dick Bradley. I also thank Max Bishop, whose expertise on the workings of the FAI was invaluable. Finally, the graphics designer, Steve Longland, whose artistic creation of the diploma itself was influenced by his many years as an active glider pilot, deserves our heartfelt congratulations for his fine work.

Ross Macintyre
Chairman, Diploma Committee

6.7

TO: IGC Delegates
15Jan01
SUBJ: Mar01 IGC Meeting Report + 6 Appendices
FROM: GNSS subcommittee Chairman

note: acronyms in Appendix VI

A - ACTION REQUIRED **GFAC Member Term of Office** Currently, GFAC (GPS Flight Recorder Approval Committee) member terms are one year. Every year, IGC elects every member (five) of GFAC. Note that in the following proposal, there are 3 options to consider to change the GFAC member nomination/election process:

"GFAC terms shall be five years, staggered such that one term expires every year. (OR: GFAC terms shall be three years, staggered such that two terms expire at the same time in two of the years and one term expires in the other year. OR: GFAC terms shall be two years, staggered such that three terms expire one year and two terms expire in the next year.) Initial expiry shall be assigned by random selection. IGC plenary may remove a GFAC member at any time without cause and a GFAC member may resign at any time. Mid-term vacancies may be filled by the Bureau."

See Appendix I for justification and explanation.

B - ACTION REQUIRED **Annual Election of GFAC Members** As required by IGC procedures, five nominations for GFAC will be put to you at the meeting by the GNSS subcommittee for your consideration. In addition, IGC procedures permit you to make other nominations from the floor, after which the election is to take place. Current members are Rolf Buelter, Australia; Angel Casado, Spain; Kilian Grefen, Germany; Mark Ramsey, USA and Ian Strachan, UK (GFAC Chairman).

C - ACTION REQUIRED **SC3 Change** It is proposed to make the following changes in SC3, possibly at paragraph 4.3.1, regarding FRs.

"Continuous recording at intervals of no more than 20 seconds must be set either automatically or manually for a period of up to 1 minute prior to, and up to 1 minute subsequent to, W/P achievement for a fix in the OZ/on the W/P."

The OZ is achieved, when read at the highest scale magnification, if a fix is on the OZ apex (W/P), or OZ edge, or within the OZ.

“If there is no fix in the OZ, continuous fixes at intervals of no more than 5 seconds must be recorded through the period of 30 seconds prior to, and 30 seconds subsequent to, W/P achievement, for the case of using a straight line between two consecutive fixes on opposite sides of the OZ to affirm OZ achievement when such line passes

through the OZ or the W/P. No allowance shall be made for the line not being in the OZ or not touching the W/P."

The OZ is achieved, when read at the highest scale magnification, if the line between consecutive fixes is within the OZ or on the OZ apex (W/P).

See Appendix II for justification and explanation.

D - **Interference** We know of no significant problems reported by users of IGC-approved FRs due to air- and/or ground-based interference, GPS satellite outage or scintillation in the past year. I mention scintillation because the sun is in the peak of its 11-year cycle of sunspot activity, and scintillation is what we sun experts call the flux emanations. Satellite outages are handled by health messages sent by the satellites which properly-equipped GPS receivers then can interpret. Some receivers, at least in the past, did not account for health messages such that they gave erroneous position data. We have made a change to FR specs, requiring FR manufacturers to use GPS engines which can read and account for such health messages.

E - **Transducers and SA Off** As reported by GFAC to you regarding GPS altitude vs transducer altitude, we are quite sure users have experienced installation anomalies. That also applies to other than altitude considerations. People just cannot be careless about their antenna location, connections, and temperature/G-loading considerations. The newer 12-channel receiver boards make a world of difference, but it doesn't help if one's antenna is buried beneath metal or some carbon fibre structure or if connections can jiggle loose.

See Appendix III for explanation.

F - **FRs-Only** We have thought much in the past about suggesting FRs-only for flight verification. All such reasonable thought always leads to realizing it is premature to require FRs for badges, if we ever do. One of the reasons for the old-fashioned software format for FRs is to accommodate those who have early-generation computer equipment so that they are not required to go spend money for something new in addition to the FR. The same applies to forms of flight validation other than FRs. It would make more sense to me to require pilots to fly their early badges in ships other than the current spate of high performance ships. That would gain some aspects of safety; requiring FRs certainly would not. Contests may require FRs, or not, at their discretion. The high level ones do; others may not. IGC has specified FRs-only for records, but that's not an entry-level activity for people in soaring. I find no valid reason for limiting badge verification methods at this time.

G - DISCUSSION REQUESTED **Aircraft Static** Big airplanes have what they call a central air data computer (CADC) which takes pitot and static pressures thru a computer to be supplied to aircraft instruments for high accuracy. In addition, they take raw pitot/static data for their standby instruments, which are used when everything else fails. That raw data is what we have in our sailplanes' pitot/static systems. But we don't use it for our FRs, in fact we don't permit its use. Instead, FRs are vented to cockpit static, which is subject to error and can actually be somewhat controlled by opening/closing cockpit ventilation ports.

See Appendix IV for detail.

H - **WayPoint Format** This was finally agreed upon last year by the principals doing the development, submitted to the Bureau and approved by them. It now is an approved IGC format which is recommended but not mandated, although it can be required by contest organizers.

J - **Windows Format** As noted above, the old DOS format originally settled upon when we started FR qualification, has been retained, and it is intended to continue such retention for some time into the future. However, responding to the generally unanimous desires of FR manufacturers, as put forth at our last such meeting with them, Ian Strachan is acting as the central clearing person, leading the effort to devise an acceptable Windows format. Hopefully it will permit desirable advances in managing the data for those who want to use Windows, but the software developers will be required for the foreseeable future to permit use of the old DOS system, to protect users from having to purchase new equipment.

K - **Galileo** The decision promised at a 21Dec00 EC meeting to give an official go-ahead on the European GNSS project, termed Galileo, was postponed until later in FQ01 because agreement could not be reached on financing details, according to reports received by this writer.

L - **RTCA** As the FAI representative to RTCA, I made reports similar to this to FAI's Airspace Management Group at our meetings in May and September of 2000, and distributed one to FAI delegates at the 93rd FAI General Conference in Linkoping, Sweden, 24-30Sep00. Among others from outside Sweden, Tor, Alvaro, Larry, Ian, Loek and I attended the Conference, where we heard the very nice presentation by Sweden's Sakari Havbrandt on sailplane accident reduction which he initially gave at a TSP meeting in 1999, I believe it was.

RTCA has raised it membership dues, after 10 years or so of no change, from USD450, for FAI's category (less than USD1MM annual income) to USD475. That was easy; the highest category went from USD3000 to USD7500!

It’s important to realize that at RTCA we are really working on things for some years in the future, with time lines going out 30 years, and near term being 10 years. I know, that’s pretty distasteful, thinking you’ll be getting reports from me for that much longer! And this long!

See Appendix V for a detailed RTCA report. It is a long one; no action, just FYI to read, or not, at your leisure.

s/Bernald
Bernald S. Smith, Chairman
IGC GNSS subcommittee
FAI and SSA RTCA Representative

Appendix I GFAC Member Term of Office

Justification: Annual election of all five GFAC members by IGC is what was set up at first, partly because we weren't exactly sure of where we were going with the new concept and partly because we weren't sure the people we picked to start were the ones to retain. It was felt IGC would want to evaluate them every year. By 'we', I mean IGC plenary; that's who the concept was being put to, and it has been used all these years. The 'we' also refers to me being an IGC delegate at the time.

Why shouldn't the GFAC term be longer? IGC can always remove a member if they desire and the member can always resign if he wants to. It's extra work to have to go through this every year for every GFAC member. One way to handle it would be to have five year terms for GFAC members, staggered so one is elected every year. Granted, that might scare off potential new members, but we would have to emphasize that they would be free to resign at any time they wanted. Another way would be to have two or three year terms, either staggered or all concurrent. The initial staggering can be accomplished easily by random selection. If you approve the above proposal, for whatever term, (e.g. two, three or five years) a random

selection (privately made by the GNSS subcommittee) will be presented to you at the time you consider item B of the report.

Of course, we can stay with what we have. But, I've been thinking about this for several years because of the need to go through the whole process for all five members every year. GNSS subcommittee and GFAC members have been shown this proposal and I've received no objection. I think the proposed change shows confidence in both the members elected to GFAC and in IGC plenary to elect competent people.

The term lengths proposed in the options can be chosen from or substituted for by other term lengths. Or, turned down to retain the current term length. A recommendation for one option will be offered by the subcommittee at the meeting. /Appendix end

Appendix II SC3 Change

I believe we had it right for W/P achievement the first time, by requiring multiple close-together fixes, before we lost it in the big SC cutdown.

Recall that at 150mph, that's 2.5mpm/13200fpm, or 220fps. We have some doing such speeds and better on their enroute legs, and even for the course record speed.

The point is well-taken that a fix in the OZ/on the W/P should not be easily taken away for some 'small' bureaucratic reason. I maintain that a set of fixes just barely outside the OZ on each side, whose line between penetrates the OZ, with those two fixes just 5 seconds apart, is equally deserving of consideration, nay, even more so, than if the fixes prior to and after the fix in the OZ/on the W/P are each one minute apart from the achieved fix. I think we miss the point by not requiring fixes closer together for all W/P achievement. How close, then, becomes the question, for both cases.

a) For cases where there is no fix in the OZ/on the W/P, the issues are:
- there must be fixes,
- how close together in time must they must be,
- for how long a period, and
- whether any fixes are permitted missing.

I say there must be fixes, 5 seconds apart and for thirty seconds, to be acceptable. There must be two requirements:

- 1) the straight line between two consecutive fixes crosses the W/P/lies in the OZ, and
- 2) there is a sequence of close together fixes going in/coming out.
No line through the OZ/W/P or no close together fixes means no achievement; having met only one requirement means the W/P is not achieved. Loss of one fix each in/out can be permitted if not the last two/first two fixes.

b) As for cases where there is a fix in the OZ/on the W/P, we've lost our previous agreement that the one minute enroute requirement was too long for the period between fixes leading in to/coming out of the W/P. I believe the issues are the same as a):
- there must be fixes,
- how close together in time must they be,
- for how long a period, and
- whether any fixes are permitted missing.
I believe our original requirement was 12 seconds apart in the W/P vicinity, which we shortened to 5 seconds for the case as in a) above. So, 12 seconds apart for 1 minute, or even 30 seconds, would be acceptable, but also, 5 seconds apart for thirty seconds would also be acceptable. However, I do recognize the concern for losing a W/P for such a bureaucratic reason, so suggest 20 seconds apart. Thus, I say there must be three fixes, 20 seconds or less apart both prior to and after the W/P/OZ fix. There must be two requirements:
- 1) fix on the W/P/in the OZ, and
- 2) a sequence of close together fixes going in/coming out.
No fix in the OZ/on the W/P or no close together fixes means no achievement; having met only one requirement means the W/P is not achieved. Loss of one of the close together fixes on each of the in/out legs can be permitted as long as it isn't the last one prior to, or first one after, the W/P/OZ fix.

That could make the operation essentially the same for both cases and simplify the system. That then goes back to my first point, that we must require an interval and timeline be set for all W/P achievement and that all but one of the fixes must be there. As a requirement, it all should be in the rules. The only remaining question is where.
/Appendix end

Appendix III Transducers and SA Off

I was greatly hoping we could consider approving FRs without a transducer requirement with the increased altitude accuracy when SA (selective availability) was turned off last May, as predicted in my year-ago report. But tests have indicated such a move is premature. Even if testing had shown unequivocally that we could have confidence in FR-reported GPS altitude, we still would need to consider the security-checking provided by an altitude transducer, such that, for instance, FRs without transducers might be limited to use not including records. Testing will continue, nevertheless, and we may have more to say about it at your meeting, and certainly later on.

The disenabling of SA is welcomed by all; some have thought it would be liable to reenabling. Altho it is true the possibility exists, the political fall-out would be disastrous. My many meetings with officials convinces me it is off for good. The reason for having it has been supplanted anyway by the user community development of a variety of methods of achieving better accuracy even with SA on, through differential corrections, etc. Theater-only methods of withholding normal GPS accuracy have been developed and tested showing their efficacy. Depending upon the level of sophistication of one’s GPS receiver, accuracy has been improved by up to one order of magnitude, but for our approved FRs, we’ve noted about a three-fold improvement. /Appendix end

Appendix IV Aircraft Static

So, why don’t we use system static pressure for FRs? There is concern over the potential ease of installing a method of pilot control of a much finer nature on static pressure than possible by opening/closing vents. This could require a close inspection by OOs to be sure no such system was either installed or capable of being installed, due to accessibility. It comes under the guise of security, and it makes us wonder if we are carrying our concern therefore to too great an extreme, such that we have opted to put it to plenary for some short discussion.

We have at least one FR manufacturer who at least initially had a port for aircraft system static hookup. If one looks far ahead, there are reasons to think that some sailplanes, at least, could take advantage of a sort of CADC, provided by a FR, for instance. So, the idea of having an aircraft static source feed directly to the FR conceivably has more merit than initially meets the eye.

/Appendix end

Appendix V RTCA

1 - **ACTIVITY** continues unabated. The usual listing of RTCA Special Committees and Task Forces on which I serve for FAI and which are

deemed of some potential import to the sport aviation community follows:

- SC-159, Minimum Standards for Airborne Navigation Equipment Using GPS
- SC-169, Aeronautical Data Link Applications*
- SC-172, Future VHF Air-Ground Communications*
- SC-180, Design Assurance Guidance for Complex Electronic Hardware Used in Airborne Systems*^
- SC-181, Air Navigation Performance Standards
- SC-182, Avionics Computer Resource*
- SC-186, Automatic Dependent Surveillance-Broadcast (ADS-B)
- SC-187, Mode Select (Mode S) Beacon and Data Link System*
- SC-188, Minimum Aviation System Performance Standards (MASPS) for High Frequency Data Link (HFDL)*
- SC-189, ATS Safety & Interoperability Requirements*
- SC-190, Software for Airborne Use*
- SC-191, Collaborative Aviation Requirements (a new concept)*
- SC-192, National Airspace Review Planning and Analyses
- SC-193, Terrain and Airport Databases
- SC-194, ATM Data Link*
- SC-195, Flight Information Services Communication*
- SC-196, Night Vision Goggles* (last time I teased about this, but it could permit night flying by sailplanes needing to land in the dark!)
- TF 4, Certification Task Force on avionics equipment
- FFSC, Free Flight Steering Committee
- SOIT, Satellite Operations Implementation Team
- FFDCC, Future Flight Data Collection Committee
- WG-49, Transponders (EUROCAE) re LAST (Light Aviation SSR Transponder)*
- ION, Institute of Navigation
- CGSIC, Civil GPS Service Interface Committee

* on the committee, so I get meeting reports, but attend very few or no meetings.
New documents published by us since my year-ago report forms a stack 38cm high! I continue to remind you that many of the SCs above work with EUROCAE WGs, which are counterparts of RTCA SCs.

2 - **ION and CGSIC GPS Meetings**, of which I attend several each year, some of which are not in the USA, are still important to the overall RTCA and GPS involvement. The material below is generated from all the various meetings, not just RTCA.

3 - **ADS-B** OpEval-2 was conducted in Oct00 for one week at Louisville, Kentucky utilizing Mode S (1090MHz) and UAT (966MHz). Participants were equipped to transmit realtime GPS position information via data link to other equipped aircraft and ground-based ATC equipment. It is continuing as Safe Flight-21 at Bethel, Alaska using UAT only (981MHz). Reports on it continue to be glowing. Pilots and controllers who participated were very enthusiastic about the potential safety and operational benefits that ADS-B can provide. ADS-B has great potential as a low-cost transponder substitute for sport aviation sometime in the latter part of this decade when it

becomes fully operational but is an enigma for me sometimes, when I wonder just where it's going. It is an effort to keep the group on what I consider to be the track that will best suit sport aviation, i.e. a stand-alone surveillance system.

Although the esoteric technical arena is well over my head, we do keep learning more on how to keep our foot in the door, so to speak. At least they continue to listen and do respond to my sometimes plaintive 'voice' of GA; for so much of the time I'm the only such voice there. With remarks from the SC Chair like 'Bernald brings up a good point which we must take into consideration' followed by hasty note-taking of the matter and mention in the meeting minutes, I remain energized.

The extreme complexity of ADS-B as a system is becoming more apparent to me now, so I realize that my early exuberance, although well-intentioned, may have been somewhat overdone. We're not going to achieve it easily or soon in a whole lot of aircraft, but it is coming along. Some units are even being sold to a few selected people, one of whom possibly being considered is this author, altho justifying the early price is a bit daunting. A good friend, one of our GA cabal on the committee bought one for his Cessna to participate in the Louisville tests and was able to pick up UPS on the runway from 70 miles away!

Europe is actively discussing ADS-B, but with the indication now that it will be required by 2010 and *in addition* to transponder! Both systems would be required to have the ship's tail number so as to assess ATC use fees for services rendered! We understand that Europe Airsports is requesting ADS-B as sole means for VFR traffic. The European VHF system (136.975MHz) of VDLMode4 (VHF Digital Link), under test from Stockholm to Frankfurt, was presented by the Swedish CAA at the FAI General Conference.

I made a very short private ad hoc presentation at the FAI General Conference to the other Airsport Presidents about what we're doing in IGC re FRs and transmission of inflight position as was done in Finland and Germany and preliminary planning for WAG Spain. I explained very briefly the ADS-B concept that I'd hoped might soon provide what we needed. The Airsports' Presidents were receptive to another meeting which I had thought might be in November, but other considerations kept that from happening. I'm sure we'll hear about the IGC effort, led by others, to come up with some affordable system. ADS-B will do it at reasonable cost, I'm convinced, but not for several years on a worldwide basis.

One of the major points I've been making about GPS and ADS-B is the better positional accuracy compared to radar. Well, lo and behold, we heard about missile launches transitioning from using radar, to using GPS for control, for better accuracy, etc!!!

4 - **SA** It’s nice to be right once in awhile: as noted might happen in my last report, GPS SA was set to zero on 1May00. It was difficult to convince certain persons that SA had no imminent prospects of being turned back on at the whim of DoD. I had some very important private discussions with officials to determine SA won't be turned back on and to acquire further info on how regional signal denial is to be accomplished; a report was sent to FR manufacturers, the IGC GNSS subcommittee and GFAC.

5 - **GALILEO/GPS** We’ve heard much more since my last report to you about Galileo, the European proposed GNSS system. The EC representative at one RTCA meeting discussed the Galileo E5, comparable to GPS’ L5, but at a slightly higher frequency which supposedly wouldn't have the interference problems L5 does; some US people think it would. (See para. 11 below.) Another important factor is interoperability between systems, like between GPS and Galileo, the interaction of two or more systems with one another. One highly respected individual bemoaned what he stated was the real likelihood, if Galileo goes its own way, of needing 5 front ends for GNSS receivers incorporating GPS/Galileo, and the complexity (read: cost) that would impose. Although complex and developmentally costly, it's not that single sets of chips couldn't do the work of multiple front ends. That non-recurring cost is easily recoverable if spread over all the millions of chips involved when you consider the other-than-aviation GPS users. It could affect us in the future (8+ years) with our FRs being more costly when newer models come out that incorporate both GPS and Galileo, and maybe GLONASS, if the latter ever get their act together, or they're taken on by Europe. Galileo people do continue to work with USA officialdom on GPS compatibility. Galileo are no pikers when it comes to acronyms, one beauty of which is GEMINUS - Galileo European Multimodal Integrated Navigation User Service.

6 - **UWB** “The rapidly emerging UWB technology has raised its head”, is what I said in my last report. Maybe I should have prefaced ‘head’ with ‘ugly’. Isn’t it nice that there are always problems to keep us going! This could be a serious problem for all GNSS systems if planned UWB devices are given uncontrolled approval.

7 - **GNSS ALERTS** We’ve reported to both FAI and IGC on GPS constellation changes for distribution of such news on their webs as they see fit. Briefly, the messages concerned replacement launches and removal from service. As of the date of this writing, there are 27 operational GPS satellites broadcasting healthy Nav signals plus one about to be set operational. As far as GLONASS is concerned, there were only 9 of their satellites operational as of my last input re that constellation, up from a recent only 8, an all time low since they declared FOC.

8 - **ROCKETS** One never knows where RTCA work will lead. Interestingly, working with SC-192, National Airspace Review Planning and Analyses, in looking to protect airspace for sailplanes and where, and how high, and how often, and when, we go, we got embroiled with defining model rockets and how high they go when fired off by non-government entities/people. Would you believe up to 10,000feet on a regular basis by amateurs, with record flights for small rockets up to 10,000m! And a space shot with the booster going to 90,000 feet and the payload to 280,000 feet! And they're amateurs. Watch out!

9 - **FRP** At the USA's FRP planning meeting for the next issue, due out in 2001, I asked for, and they said they realized they needed to look into it more, addressing the issue of low cost inertial. It is being developed from munitions-type systems. The applicability for low cost aviation use as a GPS backup is because it's likely to be cheaper than loran and not being ground-based has much greater value. A backup system for GPS is what's at issue. FAA is now talking about retaining Loran C beyond 2015. Europe had been talking about it also as a backup; I don't know what the latest view is. As you may recall, the FRP, revised every two years, among other things, tells when nav systems are planned for shutdown. The word used mostly these days, however, is phasedown, implying continued decision time for deciding whether to fully shutdown or not. A GA survey is planned to determine user FRP equipage plans. Europe is said to be developing their own FRP, following the US lead in trying to forecast radionavigation use.

10 - **L2** C/A for L2 (1227.60MHz) GPS, due beginning 2003 on Block IIR satellites and 2005 for newer Block IIFs, keeps getting delayed because the satellites are lasting longer than projected so replacement ones are not launched but sit idly on the ground, ready to go when needed. C/A for L2 will permit acquisition without any need for acquiring L1 (1575.42MHz) first, so civil use of L2 can expand, but it's not intended for safety-of-life. What's that got to do with FRs? Possible future changes will be desirable for a better FR.

11 - **L5** At 1176.45MHz (in the 1164-1188MHz band), this is the promised third civil frequency. (Canada wants the band to go to 1212MHz. The reason for the band is to protect the listed frequency on both sides because the signal is lobed with uses of the lobe area. See para. 20 below.) L5's problem is interference from DME and JTIDS/MIDS, the latter being nearby DoD tactical data link frequencies. L5 needs ±9MHz separation from DME, so a plan is well developed for changing US DME frequencies and even shutting some down to provide the protection for both low and high altitudes. Europe is not so sanguine about doing the same, so it's still being earnestly discussed. Europe has much denser DME coverage than the US and is relying more and more on DME-based RNAV. We decided in SC159 we must

do the same interference potential analysis of L5 that we did for L1. That's going to take some work and some time. Again, the meaning of L5 for IGC is future better FRs.

12 - **DIFFERENTIAL GPS** This enhancement continues to be expanded upon worldwide with different areas doing their own thing. And not just for aviation, but systems to serve all users. FAA is developing WAAS and LAAS, Europe is working on EGNOS and it's MTSAT for eastern Asia/western Pacific. WAAS IOC was delayed account integrity and stability problems during testing which have been fixed. The system is now on the air 24/7 for any equipped users to 'test', i.e. not to be used for IFR navigation.
- IOC phase I for WAAS to be 2002 vs 2001
- supposed to have 7m accuracy; it's giving 2-3m; errors <2-3m 95%
- chip so cheap can replace existing GPS-only even in backpacker units
- for non-inertial GPS
- current phase I will give LNAV/VNAV (not GLS) for 50% of USA.
- 1000 new Non Precision GPS approaches coming
- LAAS expected to have 20 CAT I approaches operational by 2002.

13 - **WGS-84/ITRF** 'Datum' turned into quite a discussion, initially triggered some weeks prior to the meeting by one of our IGC GNSS/GFAC advisors, who happens to be working on Galileo, responding to something I said in an email message within the group working on an IGC W/P format. He said Galileo would not use WGS-84, the GPS datum (reference frame for positioning of latitude and longitude that is in worldwide use and required by ICAO). I was quite surprised at their not using WGS-84, to say the least, since ICAO had adopted and required use of WGS-84 for aviation.

So, I brought it up at both CGSIC and FRP meetings. It caused quite a stir. There was no official position given, but knowledgeable people asserted that it was likely that Galileo was going to use ITRF. The issue is twofold:

i) WGS-84 is an American, DoD system that a new European GNSS group would be hard-pressed to adopt, although the US was successful in getting ICAO to adopt it, after a very long battle.

ii) The real international datum used worldwide, including the US, *is* ITRF. Recall, aviation is just a small segment of GPS use. Even though GPS is WGS-84, certain users convert that to ITRF for their purposes. Altho the difference between ITRF and WGS-84 is a matter of only about 5cm maximum and wouldn't affect even CAT III landings, it still can be confusing to fly with interoperable systems using different datums, even though that close. I would like to think it's unacceptable for aviation to have two datums. (The big users of ITRF are surveyors.) As close as the datums are, it wouldn't affect soaring, but it would balloonists because they measure to the nearest

cm in their landings, so you couldn't fairly compare an ITRF reading to a WGS-84 one without doing a conversion! We could do that easily, but do we want to have aviation users confused by two datums? It's bad enough with english/metric, but then that's the US's problem!

14 - **TIDBITS** Among some miscellany picked up, mostly re USA, but potentially applicable worldwide:

- "Those who choose not to equip will lose some capability" in reference to all the goodies being planned.
- Radars selling for $1200! Automotive, maybe.
- GPS can measure total amount of water in trop/atmos.
- http://tycho.usno.navy.mil for exact time and other USNO stuff
- S/Nsub0,eff=39.5+20log(1-PDCsubB)-10log(1- PDCsubB+NSumi=1x10ERi/10)
- VOR/DME/TACAN/ILS CAT I phasedowns to begin 2008
- ILS CAT II/III phasedowns not prior to 2015
- NDB (marine) which are not needed for DGPS, phaseout this year
- NDB (aeronautical) stand-alones, phaseout to begin 2008
- NDB as part of ILSs phased out when underlying ILS withdrawn
- NDB in Alaska need a separate plan due to their wide enroute use
- www.air-transport.org for info about ATA
- 2500 aircraft within 60nm LA Basin; 24 Interrogators within 65nm

15 - **SOME NEAT NEW GPS USES** We had some new international participation at one CGSIC meeting, including Saudi Arabia where GPS is essential for assured position travel in a trackless desert. Besides conventional uses like public transportation monitoring busses in cities, they even install GPS on the lead camel with a transmitter as well to help the tribe chief locate his assets, because racing camels are valuable: USD1MM, even, for a known winner! They use GPS for marking oil exploration sites in the middle of nowhere driving on vehicles with 4m diameter tires, for guiding tankers to port docking, for emergency rescue vans and to measure earth movement, among a variety of other uses.

A really neat guy from Hong Kong, representing surveying it seemed, but very knowledgeable about all aspects of GPS use, including aviation and a real contributing person, was not intimidated at all by being at his first meeting with all strangers. I had some interesting private discussion with him about how GPS was used to build the new HKG airport and beautiful new bridges on the roadway to it and new approaches, etc.

There was new US participation, too, one being a guy from MSP with one of the most interesting presentations I've ever seen, showing how

they use GPS with HUDs, radar and a data base, for snow plows so its driver can safely plow public roads in CAT III conditions! It was absolutely fantastic with a video showing the system in operation! It showed how the HUD display overlaid the real street's white lines. What a great thing it would be for aviation to land and move around airports in CAT III conditions. HUDs for sailplanes to preclude head-down time?

16 - **INTERFERENCE** Known sources of GPS interference include VHF transmissions, cell phones, FM transmissions and some Palm Pilots. We've known about the VHF problem for some time where the interference is the usual 9th to 13th harmonic, depending upon the transmitted VHF frequency, which was determined in our earlier studies. (L5 will experience VHF 9th and 10th harmonic interference.) Problems are much lessened with later model GPS receivers. ISUs on the GPS antenna are a technique which has found considerable success; some antennae may have this built in now. An operational mitigation being used by NGS to minimize cell phone interference is to restrict their use during surveys to at least 100 feet away from the GPS receiver. Users of FM data links and certain Palm Pilots need to be aware to be sure their GPS unit is not being affected and that their supplier has taken this into account.

We have a report that the German Foreign Minister's flight returning to Germany from the USA had to land with key cockpit instruments all blank. The incident was said to have been caused by journalists accompanying Herr Fischer on the flight who refused to discontinue using their cell phones, trying to 'scoop' each other.

17 - **WRC** It should be noted that for all frequencies, L1, L2 and L5, the signal structure is not limited to the single noted frequency. For instance, L1 is 2.046MHz wide, null to null but the transmitted ranging signal extends through the band 1563.42 to 1587.42. WAAS will utilize the same L1 band and carrier frequency, as will pseudolites proposed as enhancements to LAAS. The point of this was made during the WRC discussions in Turkey about protecting frequencies, that one needs to consider more than just what a signal is centered about. WRC was very successful for the aviation community in protecting GPS, GLONASS and potential Galileo frequencies because finally the non-aviation satellite-ranging signal users, who are a very, very much larger population, joined in the effort to hold off efforts by other interests to move into the satellite bands. Spectrum interference will be enforced through national interagency coordination and international agreements. In the case of GPS, they will utilize GPS DF to acquire offending signals and determine their location.

18 - **TEARS** ^SC180 (Design Assurance Guidance for Airborne Electronic Hardware) was disbanded, a short six years after the first meeting 27Sep93. The stains on your report are my tears. (That's teers, not

tares, you unsentimental rogues!) The RTCA Program Management Committee and the EUROCAE Council approved the document and assigned it a number (DO-254/ED80). (SC180 has been working jointly with EUROCAE WG46 on the project).

19 - **TRAINING** At one meeting, the Canada rep suggested using insurance companies to get pilots to agree to GPS training, because there was resistance to any need for training. Interesting; just like I discussed that concept when first starting the SSA insurance program, to use the insurance policy as a club, so to speak. There is worldwide growing concern about pilot training for these new electronic aids, as we've noted in soaring where the pilot learns inflight without even having read any of the literature that came with the unit, resulting in way too much head down time. What about VFR liability? Have any manufacturers provided any form of CBT (Computer Based Training), e.g. put an FR trainer on a CD-ROM for customers or on a web page so that customers can access it from their home computers to practice using it? Integrated into a typical sailplane cockpit? Many times FRs are part of an overall sailplane flight computer system. Such a trainer could contribute to less head-down time when newly using the system, trying to determine which buttons to push and how to make changes.

20 - **3Ps** GPS modernization starts in Block IIR satellites with the 3Ps: Protection of services; Prevention of adversary exploitation; Preservation of civil service. That said, there is a planned M code for spectral separation from the civil signal which will permit interfering with L1/L2 leaving M broadcasting for the military. (I need to draw you a picture to show how it works, but there are two side lobes several MHz above/below each L1/L2 frequency, in between the main and side lobes of L1/L2.) GPS IV (by 2010) will be +20dB stronger than earlier M-code signals, more jam resistant, with more robust service against unintentional interference for L1, L2, L5 and with higher accuracy (sub meter).

21 - **TMA/CLASS B EXPANSION** Maybe I'm being too concerned again, but I sure didn't like one thing that came up at an RTCA SC159 plenary. This is the group working on minimum operational performance standards for airborne navigation equipment using GPS. Everything from taxiing blind to enroute use and including CAT III landings and takeoffs. Unmentioned in that listing is the item which got my attention, the terminal area. I'm not just talking about what's currently Class B airspace in the US, the 30 or so mile area around the airport.

WAAS (and EGNOS and MTSAT, all of which are 'area' SBASs) is intended for accuracies needed down to NPA or even CAT I minimums. LAAS (and GBAS) is for even lower minimums. LAAS will have pseudolite or other type local transmitters providing the correcting signals so GPS receivers can achieve the required accuracy. Receivers need to start

picking up those local correcting signals some distance out to assure availability ahead of time. That means the aircraft receiving such signals will have that corrected accuracy, to be more closely separated with other such equipped traffic: read airliners, to better manage traffic handling close-in. How close-in? A 'sphere' of airspace at least 50 miles out. That's what got my attention. I could just see Class B airspace going out that far. Other countries may call their TMA area Class A airspace, but the same applies.

When I raised that issue, I pointed out that considering the overall numbers of landings, airliners have very little CAT III needs in the US, and aren't in IFR conditions in the terminal area most of the time, at least out in the west! I am concerned that for the times lower minimums are being used, procedures would be put in place to be used all the time. There was some discussion, but eventually it got buried with, 'take that up somewhere else', it's not the province of SC159! True.

So, this is just a very longrange heads up that may be only crying wolf. Nevertheless, I will be keeping a lookout for anything that might presage an increase in Class B airspace in the USA and similar TMA enlargement ideas around the world as we work with EUROCAE and Eurocontrol.

22 - **FIS-B DLS MASPS** Sorry for the acronym: Flight Information Services - Broadcast Data Link Services Minimum Aviation System Performance Standards, which is a document being produced by RTCA's SC195.

I haven't worked in person at meetings on SC195 except to be on the committee so I receive material. The committee is now at the stage of finalizing for voting on the subject document. I don’t know what your reaction to the following paragraph is, but mine was, as Gene Hammond would say, paranoia:

"1.4 Future Applications
As the National Airspace System (NAS) evolves and the concepts of Free Flight are implemented, the requirement for use of FIS-B products and services may change from being advisory in nature to being required for safety of flight. Any such required use will require a revised definition of the operating environment to include the associated application of Required Communications Performance (RCP) criteria as outlined in AC 20-140. The introduction of such RCP criteria will require major changes to this MASPS, especially to Section 2.0, System Performance Specification, and Section 4.0, Procedures for Performance Requirement Verification."

Including comment on the above, I had 20 pages of corrections for the 100 page document!

In case you don't all know, FIS-B is being developed for now as a data link to provide continuous wx broadcast from ground stations to voluntarily-equipped aircraft, as text and/or graphics which can be stored on board until called up on demand by the pilot as a voluntarily used aid. There are many moves towards data link services, including w/ATC, to relieve the voice spectrum demand.

23 - **RECORDING** At a meeting of the Technical Working Group of the Future Flight Data Collection Committee (FFDCC), during discussion of what sort of sensors to record data and what sort of data should be recorded, the matter of CPDLC came up: of course we'll record that on airliners! (Controller Pilot Data Link Communication) Not only record it, but record it three times, once on the aircraft involved and twice on the ground, by both the control segment doing the communicating, and another non-involved ground station. (That's another matter: why, I queried; we don't do that now with voice; we only record twice. None of you are surprised at the level of bureaucracy extant in the world.)

Anyway, to my point, I became aware that the way the discussion was going, if gliders contacted ATC using datalink, gliders might be required to record it. Or anyone using datalink would be required to record it. (By the way, again, I was the only thing/person there close to being GA.) Speaking of sensors, mine went off.

Uh, fellows, is it being suggested that, although we're mostly talking about airliners here and we all agree that airliners must record their datalink com, are you suggesting that the majority of aircraft in the sky whose pilots may well use datalink to free up spectrum which we've run out of, will have to record too?

Well, certainly, said one crusty old FAA type, actually a guy I like because he's an FAA pilot from Atlantic City who's usually pretty pragmatic. It took a few minutes for everyone to understand what I was talking about, until Tony Broderick* chimed in and further explained my point, saying ***along*** with me, that I was right and that my group, i.e. GA, should not have to onboard-record! Well, we solved it all, when there was no agreement with Tony and me by anyone else (of the 20 or so present) by saying it really needed to go to another of the FFDCC working groups, and it really needed to be addressed, because everyone else was going down the path of onboard-recording by ***all*** users of CPDLC. Interestingly, more than half of us at this Technical Working Group are members of the other working group, too.
* ex-FAAer, now consulting widely, who took heat over the oxygen generators involved in the airline accident in Florida

24 - **DATABASE** FAA expects to be funded to form a group (NACO) to provide low cost (less than $600/yr) government database of all navaids, military training routes, fixes, arrivals, departures,

airports, airspace, SUAs, and much other, on a CD-ROM. It will be made available to commercial sellers who want to add value to sell to us users, including at even a lower cost by supplying less than everything for, say, VFR-only use. It will be in the ARINC 424 format, which I'm sure some of you understand, but I don't, fully enough to explain at least, and it's not really necessary to know, I don't think. Will Eurocontrol be doing the same?

The Space Shuttle Radar Topography Mission database will be publicly available Oct03. It will provide 1 arc second accuracy for the USA and 3 arc second accuracy for the rest of the world. (arc second = 1 second [or 1/3600 of a degree] of latitude on the earth's surface.)

25 - **MISCELLANEOUS**

• EUROCAE's WG 49 still has LAST under study. They are moving slowly in the development of a MOPS, awaiting Eurocontrol input towards developing expected operational requirements for a Light Aviation SSR Transponder. (At present, a MASPS may not be produced.) Concerns include the clutter of lots of targets, battery life, procedures for use, power levels, etc. Whether Mode S and/or Mode A/C will be the result of this work is unclear at this time. Additional consideration for LAST has begun with ICAO, also. My assessment is that there is significant opposition in WG49 to any sort of non-interrogation device (e.g. ADS-B).

• I was impressed to learn there are 4500 helo flights/day serving the gulf of Mexico oil platforms. That's incredible, and GPS is what separates them! They're well beyond/below radar range. I believe North Sea oil platform helos also use GPS, altho they're probably close enough for VOR positioning, which has no where near the accuracy of GPS.

• I flew a GPS approach on a USNavy Patuxent-supplied simulator down to CAT III, even though it was only supposed to be for CAT I, landing off the runway in the grass, telling everyone that that was just a normal glider off-field landing! When they improved the visibility after my landing, I could see I was headed for the tower, and they suggested I close the throttle. I told them gliders don't have throttles!

• I also flew some real GPS approaches, in a C172 in Canada with a glass cockpit! I flew baro-aided GLSs down to 100' and felt comfortable enough to have gone even lower. First time in 30 years in a C172 and first instruments in almost 14 years, proudly noting I hadn't forgotten how! No FD nor A/P, either, altho the system did have a R/C indication of the desired rate of descent which was really a neat aide.

26 - **TF4** Initial recommendations have been made for the FAA to implement:

• Web site explaining certification process
• Greater use of designees
• Certification Operational Assessment Process (COAP) for

achieving
certification of new operational capabilities
More to come!

27 - **FREQUENCY CROWDING** What kind of radios are we going to need in the future? TDMA. VDL. 8.33KHz. Mode. CPDLC. Digital. D8PSK. These are a few of the terms being tossed about in discussions of the future radio systems to be used. We know Europe has already gone to 8.33KHz separation, but only on the upper VHF band, for now. It's actively being talked about in the US, after previous assurances that European moves that way would never be needed in US! Entire NE USA, to well south of DC, has already run out of useable spectrum. Just like the FRA-LHR corridor. Digital radios would supplant our current analog ones - Mode 2. Using TDMA, each 25KHz channel could carry up to four simultaneous digital transmissions - Mode 3. D8PSK provides for mixing voice and data. New radios are coming worldwide, there's no doubt. The US's FAA will be replacing their 46,000 before decade end. Not today for soaring, but it's coming, if we want to use certain airspace, or use radios.

28 - **GPS RECEIVER CENSUS** I don't have what has been my usual report on this in time for this report's deadline, but hopefully will be able to supply it at your meeting.

29 - **FINALLY FINISHED FOLKS** My newest acronym:

GROAN Get Rid Of All Names, or, Get Rid Of Acro Nyms

Well, I do go on, but if anyone wants more detail on anything, I have volumes of material! Like acronyms! Hey, this is my short list!

Appendix VI ACRONYMS & DEFINITIONS

<2/3m95%- less than 2 to 3 meters 95% of the time
24/7 - 24 hours per day, 7 days per week
ADS-B - Automatic Dependent Surveillance - Broadcast
A/P - Auto Pilot
ARINC - Aeronautical Radio Incorporated
ATA - Air Transport Association
ATM - Air Traffic Management
ATS - Air Traffic Service
C/A - Coarse/Acquisition
CBT - Computer Based Training
CDMA - Code Division Multiple Access

CG - Coast Guard
CGSIC - Civil GPS Service Interface Committee
COAP - Certification Operational Assessment Process
CPDLC - Controller Pilot Data Link Communication
D8PSK - Differentially encoded Eight-Phase Shift Keying
DF - Direction Finding
DLS - Data Link Services
DoD - Department of Defense
EC - European Commission
EGNOS - European Wide Area GNSS Augmentation System
EOW - End of Week (rollover 1024 weeks from GPS initial start)
EUROCAE - European Organization for Civil Aviation Electronics
FD - Flight Director
FFDCC - Future Flight Data Collection Committee
FFSC - Free Flight Steering Committee
FIS-B - Flight Information Services - Broadcast
FOC - Full Operational Capability
FQ01 - First Quarter, 2001
fpm - feet per minute
fps - feet per second
FR - Flight Recorder
FRP - Federal Radionavigation Plan
GBAS - Ground Based Augmentation System
GFAC - GNSS Flight Recorder Approval Committee
GLONASS - Global Navigation Satellite System (Russian)
GLS - GPS Landing System (ILS look-alike)
GNSS - Global Navigation Satellite System (generic)
GNSSP - Global Navigation Satellite Systems Panel (ICAO)
GPS - Global Positioning System
GROAN - You must read the entire message (ok, just the ending)
HFDL - High Frequency Data Link
HUD - Head Up Display
IAIN _ International Association of Institutes of Navigation
ICAO - International Congress of Aviation Organizations
IGC - International Gliding Commission
IOC - Initial Operational Capability
ION - Institute of Navigation
ISU - Interference Suppression Unit
ITRF - International Terrain Reference Frame
JTIDS - Joint Tactical Information Distribution System
L1 - 1575.42MHz (basic GPS signal providing SPS and PPS)
L2 - 1227.60MHz (military GPS but also used by civil)
L5 - 1176.45MHz (adopted civil safety-of-life signal)
LAAS - Local Area Augmentation System
LAST - Light Aviation SSR Transponder
LNAV - Lateral Navigation
MASPS - Minimum Aviation System Performance Standards
MIDS - Multi-function Information Distribution System
mph - miles per hour
mpm - miles per minute

MSP - Minneapolis
MTSAT - Asian WAAS equivalent
NACO - I don’t know them all!
NDGPS - National Differential GPS
NGS - National Geodetic Survey
NPA - Non-precision approach
ns - Nano Second (one billionth of a second)
OO - Official Observer
OPCON - Operational Control
OpEval - Operational Evaluation
OZ - Observation Zone
PPS - Precise Positioning Service, using P(Y) code on both L1 and L2
PRN - Pseudo Random Noise
RAIM - Receiver Autonomous Integrity Monitoring
R/C - Rate of Climb/Descent
RCP - Required Communication Performance
RNAV - Area Navigation
SA - Selective Availability (dithering of GPS time reducing its accuracy to 30m vice 10m)
SBAS - Space Based Augmentation System
SC - Special Committee
SLC - Salt Lake City
SOIT - Satellite Operations Implementation Team
SPS - Standard Positioning Service, using C/A code on L1
SVN - Satellite Vehicle Number
TDMA - Time Division Multiple Access
TF4 - Task Force 4
TMA - Terminal Maneuvering Area
UAT - Universal Access Transceiver
USCG - US Coast Guard
USNO - US Naval Observatory
UWB - Ultra Wide Band
VDL - VHF Digital Link
VNAV - Vertical Navigation
WAAS - Wide Area Augmentation System (US)
WG - Working Group
WGS - World Geodetic System
W/P - WayPoint
WRC - World Radio Conference
wx - Weather
Y2K - Year 2000

From: Chairman IGC GNSS Flight Recorder Approval Committee (GFAC)
To: Recipients of IGC Agenda

REPORT FROM GFAC

This report is dated 12 January 2001 and an update will be given at the IGC meeting either by the GFAC Chairman or by proxy if he cannot attend the meeting

1. **GNSS FR Approvals**. A total of 18 models of GNSS Flight Recorder from 9 manufacturers have so far been IGC-approved. Since the last IGC meeting on 17 March 2000, the following approvals and updates have been issued:
   1.1. 21 Mar 2000 - Filser LX20, Version 3 including updated wording and the LX20-2000 model.
   1.2. 15 May 2000 - Filser LX5000IGC series, addition of LX5000IGC-2 and update of earlier approvals.

2. **Application for IGC-approval** - expected shortly for the Cambridge 300 series. As usual with a new model, GFAC and the manufacturer have already corresponded on a number of details, with the aim of ensuring that testing of hardware goes as smoothly as possible.

3. **Free Access to Documents and Short Program Files**. A full copy of all approval documents can be obtained through links from the IGC GNSS web pages (http://www.fai.org/gliding/gnss). Approvals are also announced on newsgroup r.a.s. and on the IGC email mailing list. The free short program files for all FRs are available through http://www.fai.org/gliding/gnss/freeware.asp and enable data to be transferred to a PC (DATA file), converted to the IGC file format (CONV file), and the electronic security of a data file to be validated (VALI file).

4. **Analysis Programs for Flight Data**. 23 programs have been notified to GFAC which are capable of analysing data in the IGC file format. Details are through a link from the gliding/gnss web site.

5. **Technical Specification**. Amendment 3 to the IGC Flight Recorder Specification was issued on 20 Oct 00, and included updates to the glossary, the addition of the RJ-45 to the list of approved connectors, a statement on the use of Windows-based systems (see also 5.1 below), and the addition of more data in each file A header@. For details including the complete Specification document, see links through the gliding/gnss web site.

   5.1 **Windows-based DATA, CONV and VALI functions**. The existing self-executing program files will remain but the intention is to encourage standardisation in the way future Windows-based programs fulfilling the same functions are formatted and presented. A GFAC paper was drafted and sent to manufacturers for comment on 19 Nov 00. Comments on the 19 Nov paper were incorporated and a second version dated 30 Dec 00 was circulated in the form of a draft amendment to the Technical Specification that will be finalised in 2001.

   5.2 **Pressure altitude source - cockpit or instrument static - IGC decision required** The present rule is that GNSS FRs must be vented to atmosphere (cockpit static) in the same way as aneroid and other barographs. However, instrument static is more accurate and could be used by some designs of GNSS FR if it were allowed (such as panel-mounted types). This would put such designs on the same basis as other aircraft instruments and perhaps gain more credibility with other aviation bodies such as those concerned with airspace. Unfortunately, since instrument static depends on tubes, it would be easy to attach a T-piece and for the pilot to suck gently to obtain a higher reading on the Flight Recorder (or a lower reading by blowing). So there is a balance between greater accuracy and opening an obvious opportunity to cheat. GFAC has no opinion on this issue which it believes to be evenly balanced. A short debate in IGC may be timely, bearing in mind that a positive decision would be required if instrument static was to be allowed for GNSS FR designs that could use it. If it were allowed, the design would have to be such that altitudes recorded on the IGC file were always to the 1013.25 ISA sea level datum even if instrument readings on a panel-mounted unit were to other settings such as QFE, QNH, etc. (this is feasible through one-way transmission of altitude data from the secure FR module before the datum is changed for the instrument readings).

6. **Security**. No breaches of electronic or physical security have been reported this year.

7 **GPS Accuracy - Withdrawal of SA - GFAC Tests**. On 1 May 2000 the Selective Availability (SA) error that applied to public domain receivers of the US GPS system, was removed. Based on tests made by GFAC, the average accuracy of lat/long fixes recorded in IGC data files improved from 44 metres (36m with 12 channel receivers) with SA on, to 12.9 metres with SA off (12 channel receivers). These tests were made in a ground vehicle with respect to an accurately-surveyed ground point at about 51N 001W.

   7.1 **GPS altitude recorded in IGC data files**. After the withdrawal of SA, suggestions were immediately made on the Gliding Internet Newsgroup (r.a.s.) that GPS altitude was now accurate enough to replace pressure altitude for Sporting

Code and other purposes. As a result, over 400 IGC files from glider flights after 1 May 2000 were analysed. These were from 9 countries, mainly from flights on day 1 in 15 different competition classes. In about three-quarters of the files, results were as expected with a good comparison between the shape of GPS and pressure altitude graphs with time. However, in about 27% (111) of the files, results were unexpectedly poor with an average variation of 211m (692ft) on the expected difference between GPS and pressure altitudes. It is emphasised that this is not a reflection on the inherent altitude accuracy of the GPS system itself, but on how it is recorded in current IGC-approved flight recorders in actual sport gliding flights. It also does not mean that GPS altitude cannot be used in the future for accurate IGC altitude recording, perhaps after enhancements to the Specification for GNSS FRs and more rigorous altitude testing before IGC-approval is given. Future improvements to the GPS system are being monitored such as the new L5 frequency that should further improve accuracy. See also para A6 below on conversions.

7.1.1 **Results and recommendations**. The results are reported in more detail in the Appendix that follows, and no change to the current Sporting Code rules on the use of pressure and GPS altitude is suggested at this time. However, pilots are recommended to check GPS altitude results from IGC files and ensure that the glider GPS antenna and wiring is undamaged and is mounted in a good position in the glider. Analysis continues and discussion is taking place with some manufacturers of GNSS FRs and GPS receiver boards. It should be borne in mind that pressure altitude used for IGC altitude achievements (and aircraft Flight Levels) has a different vertical scaling to GPS altitude, and a different lower datum. See the Appendix para A6 for more details.

8. **Drafting of Documents**. GFAC work has included:

8.1 Annex C to the Code - GNSS aspects. GFAC was involved in drafting the sections that refer to the use of GNSS and IGC-approved Flight Recorders.

8.2 IGC Recommended format for Waypoints. The GFAC Chairman was the co-ordinator for this document, which was approved by the Bureau, issued in May 2000, and is available through the gliding web pages.

8.3 Annex B to the Code - revision. After the issue of the OO and Pilot Guide (Annex C to the Code), Annex B (Equipment Requirements) needed revision, particularly because much material previously in Annex B had been transferred to Annex C and brought up-to-date. The revised Annex B will therefore be substantially shorter and drafts are being circulated as this report is written. No policy changes are envisaged and it is suggested that the final version of a new edition of Annex B should be approved by the Bureau for issue in due course.

Ian Strachan
Chairman IGC GFAC

GFAC - APPENDIX: IGC FILES - ALTITUDE RESULTS AND ANALYSIS

A1. **GPS altitude - consistency in IGC data file records**. Para 7.1 above gives the background. We expect the GPS and baro altitude records (Atraces@) with time to be reasonably parallel (but not the same) over a small range of time and altitude. However, in 111 out of 410 (27.1%) IGC files analysed, there was an average inconsistency or variation of 211m (692ft) from the expected parallel traces, particularly for low and high points that would be used for gain-of-height claims. An example is given at the end of this appendix. These variation figures were recorded on an Excel spreadsheet so that analysis could be carried out. There were also cases where GPS altitude was not recorded at all for a short time (Aaltitude drop-out@), 10 or more drop-outs being shown in 28 of the IGC files analysed (6.8%) and 5 or more in 44 files (10.7%). In most of these cases, lat/long fixing appeared to be unaffected.

A2. **Altitude results**. The poor results from the 27% of IGC files mentioned above were unexpected and disappointing. The results are consistent with poor signal strength. This could have been due to the antenna installations in the gliders concerned. Also, some types of GPS receiver boards performed better than others, but in all cases of poor altitude results, good results were found in IGC files from the same type of recorder in other gliders. The situation has probably been obscured in the past by the fact that Lat/long fixes appeared to be normal and consistent with adjacent fixes which had good GPS altitude, so that validations of Observation Zones were not affected. The difficulty for sport aviation generally is the feasibility or otherwise of technical inspection of individual installations to ensure optimum GNSS system performance including antenna and cabling quality and position. An interim report to this effect was made to the FAI General Sporting Commission (CASI) by Ian Strachan (UK CASI delegate and CASI Secretary) and Tor Johannessen (IGC Delegate to CASI) at their meeting in Sweden in September 2000 and can be seen as Annex E to the CASI minutes through www.fai.org.

A3. **Recommendations to pilots**. Pilots should look carefully at GPS altitude traces as well as those for lat/long. If any anomalies are noted, the glider installation should be checked, particularly the antenna position, connections and cables. Glider structure or other equipment which may obscure GPS signals should not be above or to the side of the antenna, which needs a

clear radio horizon for best effect. It is believed that some installations were behind the pilot in the stowage between the wings, in some cases in gliders where carbon fibre is used above this compartment. There were also some cases where the antenna was disturbed by stowage of other equipment.

A4. **Earlier GFAC tests**. Anomalies such as altitude drop-outs were not found in earlier GFAC tests for initial IGC-approvals. These are generally conducted under conditions of good signal strength.

A5. **Example of altitude variations**. Assume that the altitude flight records for a section of an IGC file show an average difference between GPS and baro as 100 metres. If this difference with each fix is nearly constant at about 100m, there is no inconsistency. This is what we would expect as long as the range of altitude during that section of the flight is relatively low. However, in the 27% of files mentioned, there were significant Aplus and minus@ variations. For instance, in one fix the baro/GPS difference may have been recorded as 270m, and in another 60m, instead of the 100m expected in this example. This is a variation of +170m (270-100) and -40m (60-100), a total variation of 210m (170+40), the average for the 27% of IGC files mentioned. On the spreadsheet, variation figures under 100m were not counted in the 27%. Also, expected variations due to large altitude range were not counted, the altitudes for the plus and minus figures in the 27% differing by an average of only 523m.

A6. **Pressure and GPS altitude scales and conversions**. Pressure altitude used by IGC (and aviation generally) is taken from the ICAO International Standard Atmosphere (ISA) that tabulates notional altitudes against pressure, density, temperature, and so forth. Also, IGC altitude achievements and aviation Flight Levels use a sea level datum of 1013.25 mb at 15^{o}C.

GPS altitude is vertical geometric distance calculated from either an Ellipsoid or Geoid datum. It is therefore expected that there will be differences between the GPS and pressure altitude measurements unless by co-incidence the conditions on the day are such that the values are similar at a given altitude and time. The ellipsoid datum is straightforward and is the ellipsoid relevant to the selected Geodetic Datum (see the Sporting Code Glossary under AGeodetic Datum@). Some GPS boards include a setting for GPS altitude labelled Asea level@ or similar. This is achieved through an electronic look-up table for the relevant Geoid, which is a theoretical world surface of equal gravitational potential, approximately equal to local sea levels. The maximum differences between the WGS ellipsoid and the WGS Geoid are +65m at 60N 030W (S of Iceland) and -102m on the equator at 080E (S of India).

Accurate conversion of Geometric to ICAO Pressure Altitude and vice-versa involves formulas which include details of the local atmospheric structure for the day, such as pressure, temperature and humidity at sea or ground level and with altitude. The FAI Sporting Code Section 2 (Ballooning) contains some information on such conversions (in its Annex 2), and this and other sources are being investigated in case this could be useful to IGC in the future.

--------- ends ----------

Report of IGC Web Site Specialist to IGC Plenary Meeting, March 2001

With the Help of Thierry Montigneaux the IGC web pages have been completely re-designed to fit in with the "corporate image" of the FAI pages. Navigation through the IGC pages has, I hope, become easier through the new drop-down menu.

According to the FAI web page statistics (see http://www.fai.org/stats.html for details), the most popular areas of the IGC web site are GNSS, records and competitions. Far more visits are from the USA than from any other country, but this may be due to the predominance of US-based search engines.

Results of all FAI competitions are now being collected on a central part of the FAI site. An important task of the FAI is to archive the results of past championships. At the moment, many of the results of past gliding championships are available only through links to external sites. I would welcome help in archiving this material.

Not enough use is yet made of the IGC site for PR-related material. The proposed world pilot ranking scheme is a step in the right direction. We also need to publish details such as pictures, biographies and sporting profiles of our Champions and world record holders. This information can only come from the persons concerned or their NACs, and the only way to ensure complete coverage is to make the requirements part of the rules. Participants in international competitions must be required to furnish the information to the organisers, who pass this on to the FAI as part of their report. Similarly, world records should be homologated only when the required information about the pilot has been received by the FAI.

There are 411 subscribers to the mailing list igc-info-l@fai.org, which is a very small number considering the number of glider pilots in the world. I urgently ask the delegates to make this list and the list igc-news (which is only for official information, no discussion) better known in their respective countries. Details of the two public IGC lists and how to subscribed can be found by following the link "igc mailing lists" on the IGC home page.

There is also a non-public list igc-com-l for the commission delegates and specialists. It is intended for communication between meetings, but is for some reason not used. I would encourage delegates to use this list for distributing material which will be sent with the agenda. This gives the delegates more time to discuss the papers at home. Some delegates have been using the *public* lists for this purpose, which is not a good idea.

One final topic I would like to mention is the FAI discussion board. Under gliding we have started a discussion on "flight safety in gliding competitions". Since December 1999 5 contributions have been received, two of which are irrelevant. This is rather disappointing, to say the least. Are there no ideas about safety out there? It is also possible to start a new discussion topic.

February, 2001 Peter Ryder.

To: IGC Plenum – Lausanne, Switzerland – March 2001
Re: Specialist Report – Media

Year 2000 Developments

FAI and Discovery Channel Partnership At their annual General Conference on September 27, 2000 the Fédération Aéronautique Internationale (FAI, announced the first time ever long term partnership with a television channel: Discovery Wings Channel, the premier destination for aviation enthusiasts in the USA and North America. Eilif Ness, FAI president said, "FAI is pleased to have reached agreement with a prestigious network such as Discovery Digital Networks, and more specifically with a channel that intends to explain airsports to the public as well as show spectacular images. This agreement is undoubtedly a very important step in FAI's effort to give airsports the wide television exposure they deserve." The 2001 plans, reportedly, are to produce daily programs from the World Air Games in Spain this summer, including coverage of the soaring competition in Lillo. Discovery Wings Channel will also have the exclusive North American broadcast rights for the FAI 2001 World Air Games.

Year 2001 Projects

Champions Gallery. In 2001 we intend to utilize the excellent websites of the FAI and the IGC and recognize the winners of FAI class soaring contests from each country. This section will be called the Champion's Gallery. The FAI website will include the profiles and photographs of winners from the most recent World Gliding Championships. The IGC website will feature the photographs and profiles of winners of FAI class competitions held in each individual country. To facilitate this process, I respectfully request each delegate to bring with them to the March 2001 Plenum meeting in Lausanne the information requested on the Champions Gallery template attached to this report (Attachment A). This information should be provided for the winners of FAI Class competitions held in the delegate's country during the year 2000. *(Note: this information can be provided to FAI either in hard copy, electronically on disc or via e-mail).*

Competitor's Gallery Beginning this year we also would like to begin utilizing the FAI and IGC websites to publish photographs and biographical profiles on competitors participating in the upcoming FAI Category 1 World Gliding Championships. This section will be called the Competitor's Gallery. The information needed for the website is contained in the attached template to this report (Attachment B). This information should be presented to the FAI at the latest by the final deadline for entries to the relevant competitions. As a reminder, in 2001, the Category 1 competitions are the Sports, Juniors, Feminine, World Class, 18 Meter, 15 Meter, Standard, and Open. *(Note: this information can be provided to FAI either in hard copy, electronically on disc or via e-mail).*

Charlotte, January 2001
Eric Mozer

SPECIALIST REPORT ON SIMUGLIDING

The development of glider flight simulation has continued over the year. There are still two different approaches, the first one consisting of developing dedicated software specific to gliding, the second being to implement gliding in existing flight simulators. We will briefly review the progress made in pursuing these two paths.

DEDICATED SOFTWARE
Soaring Flight Simulator (SFS) from U.Milde and D. Schwetzer (http://www.sfspc.de/) was for a long time the only simulator dedicated to gliding but is now somewhat outdated. A new version should be released soon.

Another popular simulator is Hangsim from Ilan Papanu which is more oriented towards simulation of hang gliders, paragliders, and microlights (see http://www.wilcopub.com/hangsim/intro.html). This software features a very realistic environment with high resolution terrain and photographic textures, 3D clouds moving in the direction of the wind and thermals allowing all types of flight (thermalling, ridge soaring...).

Interestingly, there is a project to build a simulator working in a Linux environment. Details and promising screenshots can be found on (http://home.online.no/~tseval/sw/).

IMPLEMENTATION OF EXISTING SIMULATORS
The two leaders on the flight simulation market are “FlightSimulator 2000” from Microsoft and “Fly” from Terminal Reality.

Despite there being a Stemme motor glider in “Fly”, there seems to be nothing done to implement gliding in this simulator. This is regrettable because “Fly” has a very high potential. In particular, the 3D representation of clouds is the best available for the time being.

“FlightSimulator 2000” remains the ideal base for implementing gliding. This simulator exhibits fairly accurate 3D modelling of the terrain (resolution 1km) all over the world, realistic aspect of the clouds, integrated GPS, includes 18000???, and allows downloading of real weather parameters. Despite requiring a very fast computer, it is expanding rapidly and many developers are working around the world to create add-ons (gliders, instruments, airfields, terrain with improved resolution, thermal scenery) increasing the realism of simulated gliding.

Many virtual sailplanes are now available for free on the Internet (see for example: http://www.fs-segelflug.de/ , http://www.flightsimmers.net/fszwever/index.html, or http://home.t-online.de/home/w.piper/).
The most advanced designs now feature transparent canopies, moving parts (rudder, ailerons, flaps, airbrakes, retractable undercarriage), animated pilot, fully operational instruments (yaw-string, compensated audio variometers, computers coupled to GPS navigation units). A virtual GNSS recorder has even been developed which allows documentation of virtual cross-country flights.

Creating your own thermals (a dream for every real glider pilot!) can now easily be achieved with two dedicated softwares, “Thermals” and “Thermake”. Thermals may be blue thermals or surrounded by very realistic 3D cumulus. They are generally static but work is under progress to make them appear randomly.

Many people are also working on the so-called “mesh sceneries” which allow you to render the terrain with higher resolutions than the default scenery. An awesome scenery of the Southern French Alps around St Auban, featuring a 50m resolution, has recently been released.

On some websites (see for example http://members.aol.com/autofastco/soar.html), one can earn badges or try to establish the best speed on given tasks or participate in multi-player races on the internet.

Last but not least, “FS 2000” can now also be used for 3D rendering of real flights by displaying the track from a GNSS record in the virtual environment of the simulator.

CONCLUSION
The progress made in virtual gliding is very exciting. Simugliding is not only interesting as a game or as a tool for training for real gliding, but it is also a way to attract youngsters to our favourite sport.

Roland Stuck
January 2001

Note : A demo at the Hotel Aulac will be organized on Friday 9 March after the meeting.

Annex A subcommittee Chairman's report

Subject: Rules for Soaring Championship
By chairman Ake Pettersson 2001-01-15
Members: Roland Stuck, Bob Henderson

General

The proposals are worked out and agreed between the members.
Opinions forwarded by this report may in some cases reflect my personal opinions rather than those of the group.

The group has worked on:

- Revision of Annex A
- Reviews of local rules for championships

Bob Henderson has worked out proposals for composition of steward and jury groups, and a Stewards Handbook. These are fully supported by the group.

The work has been conducted mainly by using email for communication. Several people outside the group have been involved and have given valuable input for the work. Many thanks to those who contributed, particularly to Denis Flament who has been tremendously helpful and spent a lot of time and effort on Annex A.

Experiences in year 2000

EGC in Lusse

Before the championships in Lusse, I established contact with the steward Niels Visser to explain some of the principles of the new Annex A. I particular we discussed the requirements for using radio communication to enhance flight safety. The idea of the rule was to make sure that all pilots flying together use the same frequency.
In practice, the stewards in Lusse decided that with the means available it was not feasible to enforce the rule, because the pilots prefer to use the radio for tactical communication within the team rather than flight safety. So the objective of the rule could not be fulfilled.

During the contest it was found out that ending the scoring when the assigned time has elapsed need to be changed. This is because pilots who do not arrive home exactly when the assigned time has expired are unduly penalised because they have lost time in climbing an altitude corresponding to the altitude they had when the assigned time expired. This experience has been taken into account in the change proposal for 2001.

Another experience in Lusse concerns the use of GNSS data transmitters. Some pilots seem to be unhappy to have their flights displayed. But in one case, the leading pilot in the Standard Class turned at the wrong point (two closely located turnpoints had the same letters in the first part of their names, so the pilot mistook one for the other) and this was detected by his crew while watching the ground display. The crew managed to contact the pilot and make him recognise the mistake, so he could turn back to round the proper point. Unfortunately it was too late to finish the task, so the pilot lost many places. I feel IGC needs to monitor closely how the data transmitters are used. When every pilot uses a transmitter and keeps it running all the time, it is the same for everyone, and there may be no need for rules other than

compulsory use. But when only a few pilots use them, it may be at advantage or disadvantage to these pilots, depending on the circumstances.

Gyps Africanus

We were very interested in the experience from Gyps Africanus, mainly because a new scoring system was adopted that under certain conditions provides speed points for non-finishers. This feature was asked for in IGC plenum some years ago, but nobody has managed to design such a scoring system until now. The system was tested for the AAT task in two contests in South Africa. Brian Spreckley has reported that it works fine. Other reports are less convincing. I hope that the IGC delegates bring with them reports from participating pilots on their experiences with this scoring system. The rules proposed for the WGC 2001 are included in the delivery from our group.

Review of Local Rules

The Annex A group has on request from the IGC president, Tor Johannessen, reviewed the drafts of local regulations for the upcoming championships in 2001. Comments has been sent to the organisers. A particular concern is that many officials to be approved by IGC plenum are not yet assigned. High entry fees for non competing persons in the WAG are of particular concern and may be a threat to that contest.

Rules from the following competitions have been reviewed:

- WAG Gliding Championships in Lillo, Spain.
- First World Women's WGC in Pocunai, Lithuania
- First Junior's WGC in Issoudun, France

By January 15, only Lithuania had delivered revised local rules.

Regarding the WGC 2001, the organisers already in 1999 delivered rules with local rules inserted. These rules are based on the currently approved Annex A. One problem is that the next revision, decided upon in March 2001, becomes valid in October 2001. As this is not yet approved, it is not possible to produce local rules based on the new Annex A in time for the March 2001 plenary meeting. Therefore I would suggest that the revision date of Annex A is put forward to January 1, 2002, and that the plenary meeting will approve the WGC 2001 rules based on the current wording that has been available for a long time.

Annex A change proposal for 2001

The current revision of Annex A was adopted for use October 1, 1999. It has been used for the EGC 2000 in Lusse.
We did not anticipate proposing major changes for 2001, but our work on the new revision became extensive and the discussions complex. Several hundred emails were exchanged and the number of people taking part increased. Small editorial changes were agreed on as well as some major changes. Major work has been done by Denis Flament. We participated in the work on the new scoring concept for AAT by Brian Spreckley, where Paul Crabb, Ed Johnstone and Dick Bradley were involved. This scoring concept that gives speed points also for pilots landing out (a request from the IGC plenum some years ago that has now materialised, thanks to an initiative by Brian Spreckley). A new simple scoring system by Denis Flament is now proposed to replace place scoring.

Minor changes

Many minor changes, mainly editorial, to make the rules more clear have been proposed.

Major changes

- The tasks have been renamed for clarity
- The current 1000 points scoring has been retained with a time limit for AAT as for PST
- Pilots who land out may get speed points
- A new "simple distance scoring system" devised by Denis Flament is proposed to replace the place scoring option.

Jury and Stewards Proposals

Bob Henderson has produced the following:

- A proposal on the number of Jury members and Stewards
- A Work Description for stewards,
- A Stewards handbook and a template for a Stewards Report.

Our group hereby forwards these proposals to the IGC plenary meeting.

Discussion on future changes of Annex A

Club Class

There is likely a demand for some additional rules for the Club Class, e.g. how to handle ballast and weighting. The WGC in Gawler is likely to generate input for further discussions

Joker

Denis Flament has suggested introducing a "Joker", meaning that a pilot is allowed to remove the impact on his worst day by adding points lost on this day.

Weight limits

We have discussed how weight limits shall be stated in Annex A. The main problem is the Open Class, that is affected by the 750 kg max weight for gliders. But some motor gliders, especially two-seaters, are allowed to fly at higher weight. Obviously, if this is allowed it is an advantage for the motor gliders. This has been countered in the latest championships by a local rule that does not allow motor gliders to increase the weight to more than 750 kg by disposable ballast. In practice, only the two-seat motor gliders comes to a higher weight than 750 kg by using this rule, and they can be brought to below 750 kg if flown solo. My opinion is that this rule has worked fine. It does not seem that the two-seaters are advantaged by the rule, because the 750 kg single seaters keep winning. Eta may change this, and if Eta is successful that may be the end of pure gliders in the open class. My suggestion is that we keep the current rule as a local rule for the time being.

Starting times

Another idea that has been forwarded several times during the years from different people, e.g. Tor Johannessen, is to use imposed stating time. There are many ideas on how the starts shall be allocated, e.g. in the current rank order This idea needs to be further investigated and experiments should be encouraged.

6.14

Objectives of the Distance Scoring

By Denis Flament

- To provide an simplier alternative to 1000 points system that has become very complicated and not well adapted to new types of tasks
- To enhance the fact that gliders do fly over very large distances, not only try to stay aloft,
- To be easy to understand for pilots, public and media,
- Scores to represent the distance flown on a given task or time (as a matter of fact this implies to fly at best possible speed)
- To give more weight to longer tasks (where usually weather is better and speed differences smaller) than to shorter tasks (which often mean uncertain weather and a lot of luck involved), whereas every tasks used to have the same 1000 points value
- Pilot's score to be independant of other pilots performance, as far as possible,
- To let to every competitor a real possibility to understand and to check his score afterwards,
- To fit every type of task with as few variants as possible.
- Winner’s score to be equal to the exact distance he’s flown on any single day.

Tasks Scoring Types

Despite its title, this scoring system takes account mostly of speed (in AST), or distance achieved on a given time (i.e. distance flown in a designated time in TDT).

At the opposite, it would fit as well good old pure distance tasks (cat's cradle, free distance tasks) if they were still in use (these are not in Annex A).

In between, the scoring system will apply to tasks where score will take into account mainly speed, but with a bonus to competitors who will have flown more distance at the same speed (DST)

Scoring formula (all tasks)

The winner of the task gets his distance as his score (expressed in kilometer or other unit) in all tasks.

In AST, the winner get the task’s distance as his score, other pilots score a proportion of task’s distance according to their speeds relatively to winner’s speed. In case of outlanding, pilots score the distance they have flown, reduced by a 20% outlanding « malus » and again modulated by their speeds relatively to winner’s speed.

In TDT, each pilot gets the distance he has flown in the designated time as his score (guess if it can be simplier ?). Of course to encourage flying home and avoid the sharp end of the flight at the expiry of designated time, some calculations are to be made to get that simple result (see Annex A, Section 22.2 for details).

In DST, the same as in TDT applies, except that a bonus of ¼ of the distance flown after the end of the designated time is added to each pilot’s score, so that it turns out to be a task with a « minimum» time, and that the aim of the pilot should be to extend his flight as long as possible throughout the whole day’s weather possibilities (provided that he doesn’t land out or drop his speed too much)

Day Factor

Distance itself acts as a natural day factor : if the weather is poor, distance flown is low. No complex and artificial day factor is needed any more.

Speed & Distance optimisation

When time was imposed and there was a very strong penalty to fly a few minutes more or less than the imposed time, like in first POST tasks, it was very simple for pilots to know what to do (cross the finish line exactly at the expiration of imposed time) but very difficult to do it.

In balanced speed-&-distance tasks (DST), pilots could have more difficultly at once to know wether they have to aim a longer distance (with the risk that their average speed would decrease) or fly the minimum time to achieve best possible speed (thus loosing bonus for greater-than-minimum time).

In fact, in this scoring system, (as well as in the modified 1000 points scoring in 22.1) the optimum of the score is very "flat" and the score will be almost the same wether the pilot flies half an hour more or less, all he has to do is to go further as long as weather conditions allow his speed to keep reasonably good for the day (at least ¾ average speed), keeping a good margin to be sure to get home.

Special care has been taken in the scoring system so that optimization of a pilot's flight does NOT depend on others. How could a pilot optimize his flight if score would depend of the number of pilots getting home or not, achieving more than 2/3 of best speed or not, as it was before (but before the task was assigned thus it was not a problem !), or even of the number of pilots who would decide to fly or not more than the minimum time ? Here each pilot can take his own decisions without thinking to what other are doing, and after the flight if needed an virtual outlanding can be found easily (without the need to wait for other pilot's logs or to do any iterations).

That's why in Distance Scoring the position of one pilot relatively to another is independant of any third pilot ; the exact score itself for each pilot is independant of all pilots behind in the task's standings ; and the score for each pilot vary only slightly if it is beaten by a better pilot (for instance in AST, if the pilot who had the best time - and the task distance as his score - is beaten by another pilot by 1% of speed, he will loose 1% of his score, as will all pilots already home ; in other tasks scores will vary even less or not at all when a better pilot comes home).

Other possible types of task... for the future

The distance scoring fits all existing task types (including new Annex A tasks).

It permits also to fit local constraints or to imagine new types of task without any scoring system adaptation :

- Unbalanced Tasks :
    - several assigned tasks of similar distances at pilot's option,
    - out & return to any point of a designated distance from the start point,
    - straight distance to a goal
    - or any task on a designated distance, whatever the course is.
- Tasks Balanced between Speed & Distance:
    - DST/TP or DST/AA on a minimum distance (instead of minimum time),
    - several assigned tasks of different distances at pilot's option,
    - out & return to any point of a minimum distance from the start point,
    - free distance with up to three turn points (freely chosen as a GNSS fix in whole flight area, like the free distance with up to three turn points world records), with a minimum time or distance
    - or any task where a minimum time or distance is imposed, whatever the course is.
- Distance-only Tasks :
    - free distance with up to three turn points (freely chosen as a GNSS fix in whole flight area, like the free distance with up to three turn points world records)
    - or any unlimited distance task with no time limit and no consideration for speed, whatever the course is.

7.4

II WORLD AIR GAMES

II WAG GLIDING CHAMPIONSHIP
2001 SPAIN

III GLIDING CHAMPIOSHIP FOR THE WORLD CLASS
I GLIDING CHAMPIONSHIP FOR 18 M CLASS

Local Regulations

To be approved

LILLO. JUNE 2001

LOCAL REGULATIONS
2º WAG GLIDING CHAMPIONSHIP-2001 SPAIN
3º Gliding Championship for the World Class
1º Gliding Championship for 18M Class

GENERAL INFORMATION

The Organizers of the II WAG Gliding Championship is the WAG 2001 ECO.

The Champioship Will be conducted according the following rules:

- General Section and Section 3 of the FAI Sporting Code
- Fligh rules published by the Spanish Aviation Authorities
- The local Regulations.

PRELIMINARY REMARKS

This document contains the Local Regulations for the WAG Championship-2001 Spain, in accordance with the Appendix 1, Anex A to FAI Sporting Code Section 3.

This Local Regulations and any proposals for modifications must be considered, agreed and approved by the IGC meeting, on 7-10 March 2001

References to the rules in Anex A are in brackets

A CHAMPIOSHIP

The name of the event (1):

2º WAG GLIDING CHAMPIONSHIP-2001 SPAIN
2º Gliding Championship for the World class
1º Gliding Championship for 18M class

Location of the event (1):

Lillo (TOLEDO) SPAIN

Entry fee (7.2.1):

500 Euros per team of 2 people. 450 Euros per head of delegation, team leader, assistant, and accompanying person.

Time Schedule (1):

Pre-Preliminary Entries: 1 November 2000 – 31 January 2001
Preliminary Entries: 1 - 28 February 2001
Official Entries (7.1): 1 – 31 March 2001
Reserve pilots may be accepted after (7.3.3): 31 March 2001
Deadline for approvals of news GNSS FRs: 30 November 2000
Dead line for class Change (6.5): 16 April 2001
Lillo Airfield will be available for training flights from 10, June 2001
Pilots registrations to be completed by 16 hrs 22, June 2001
Official training (3.4): 17-22, June 2001
First Team Captain Briefing: 18 hrs 22, June 2001
Configuration change closes (10.3): 18 hrs 19, June 2001
Opening Ceremony: 23, June 2001 in Seville Olympic Stadium
Contest Flying (3.3): 24-30, June 2001
Local Awarding Ceremony, and farewell party: 30, June 2001
General closing ceremony: 1, July 2001 in Jerez Motor racing Circuit

Names and function of the Organizers staff (1):

Director of the competition: Ángel García García
Deputy Director: Juan Manuel Valle Torralbo
Safety Officer: Pedro Guil
Scoring:Victor Gracia

Nominated Jury (5.3): to be appointed (IGC)

Stewards (5.2.2): to be appointed

Additional objectives of the championship (2):

To promote, specially the World Class, the only monotype class competition gliding approved by the FAI.

Address:

REAL FEDERACIÓN AERONÁUTICA ESPAÑOLA
Ctra. De la Fortuna s/n
28044 Madrid (ESPAÑA)

Tel: +34915082950
+34915085480
Fax: +34015110310

Director: Angel García García
E-mail wagleomgl@wag2001.org

B DOPING CONTROLS (4.6):

Tests will be carried out in accordance with the Spanish official regulations (Law 10/1990, October 15 of Sports / Title VIII) and the FAI regulations taken from the IOC doping policy. Please refer to the doping policy section of FAI.

C ENTRY (7)

Entry fee (7.2.1).- 500 Euros per team of 2 people. 450 Euros per head of delegation, team leader, assistant, and accompanying person.

Total number of allowable entries (7.3.1).- Any number of entries up to 80 is allowed, with a maximum of 50 gliders in world class and 30 in 18M class. The allocation of reserve places is by date of application for entry.

Number of allowable entries per NAC (7.3.1).- Each NAC may enter 2 pilots in world class and 1 pilot in 18M class, plus a reserve pilot on each class. A reserve pilot will replace a nominated pilot in the event of a withdraw. NAC's with reserve pilots may be offered entry in class vacancies after 31 Mars 2001

D SAILPLANES AND EQUIPEMENT (10)

List of prohibited instrument (10.1.1).- The following instrument may not be fitted:

Bohli, Shanz, or other gimballed compass
Turn indicator
Artificial horizon.

High visibility markings (10.6).- The sailplanes must be marked with high visibility markings (on wing tips, nose and rudder) to improve in-flight observability.

E INSURANCE (12)

Third party insurance, valid for competition, to the amount of 450000 € is required (12.1)

F REGISTRATION (13)

The following documents shall be carried on board the glider (13.5):

-Pilot's licence
-C.of A.
-3rd Party insurance certificate.
-Glider loog book
-Glider fligh manual

G PENALTIES, COMPLAINTS, PROTEST(14)

Any protest can be submitted upon payment of a protest fee os 25 €. The protest fee shall be retourned if the protest is upheld, or is withdraw prior to the earing by te Jury (14.3.2.4)

H RESULTS AND PRIZEGIVING (15)

Each National team must provide a tape with their national anthem and two national flags (15.2.1.1).

I SAFETY (16)

The maximum allowed takeoff weight for 18M class will be 750 Kg (16.2).

J EXTERNAL AID TO COMPETITORS (17)

Radio frequencies for the competition(17.1.3).- The frecuency for the launch, start, finish and landing is 123.375.

K TASK (19)

Types of task that will be set (19.1).- The following tasks will be set:

-Assigned Speed Task
-Time Distance Task
-Assigned Area Task

The primary task used will be assigned speed.

L COMPETITION FLYING PROCEDURES (20)

Place of publication and display of operational decisions (5.1.2).- All official notifications and operational directives will be posted on the CONTEST NOTICE BOARD in the briefing hall.

Start procedure(20.4.1).- A start line of 3 Km. lenght, in accordance with the GNSS procedure

Description of launch procedures for Motorgliders(6.4).- Motorized sailplanes shall be permitted to participate in the 18M class, provided they have IGC approved MoP recorders. All motorgliders must self launch.

Location of re-land areas(20.2.5).-The organizers shall designate a re-landing area which shall be show at briefing. Gliders require reballasting after landing before a new launching shall be reweighed.

Type of GNSS fligh recorders accepted(20.3.3).- The GNSS accepted for the event are:

-Cambridge Model10, Model 20
-LXN Colibrí
-EW FR Model a, Model b, Model c, Model d
-Filser DX50, LX20, LX21, LX5000
-Peschges VP8
-Zander GP940
-Garrecht VL1.0 (VL1.0E, VL1.0C)

Radio procedure for announcing the start (20.4.1.2).- Opening of the start gate shall be announced in the official radio frecuency 123.375 20 minute before and on time.

Specific start procedure (20.4.2).- The start line will be a straigh line, boundary of a 180º circle sector centered on the start point. A maximun altitude will be imposed before the opening of the start gate.

Virtual outlanding are not allowed(20.6.2).

Finish Line procedure (20.7.1.4).- The finish line shall be crossed in the correct direction given at the daily briefing. Rolling finish is allowed. The crosssing of the finish line will be controlled by the FR and by the finish line officials.

The competitors must call the finish line when they are over the forced points given at the dayly briefing, and must advise whether they will be done flying or rolling finish.

The circuit pattern and runaway in service will be given at the dayly briefing; competitors shall be ordered by traffic official.

Documentation and FR (20.9). All flight documentation, including GNSS recorders shall be handed at the competition office within 30 min gliders landing time at the contest site, even if the task was cancelled and the competitor didn't make a valid start.

In the case of an outlanding the fligh documentation must be handed in the competition office inmediatly the glider returns to the contest site.

The organisers may also require back-up documentation; this must be delivered to the competition office within 2 hrs of the team manager or pilot being notified.

Retrieval aerotows are not allowed (20.8).

M <u>CALCULATION OF SCORING (22)</u>:

The escoring to be used shall be 1000 point System.

Other procedures and rules that could arise concerning safety and traffic will be given to participants upon arrival.

10.

Proposals for an official IGC Ranking System

Following the decision at the 2000 IGC meeting to create an official IGC ranking system a great deal of work has been done by the ranking project group consisting of

Brian Spreckley
Denis Flament
Ed Johnston
Klaus Luebke
Peter Ryder.

The group have prepared the attached rules for approval at the 2001 IGC meeting. The rules are based on those used by Denis Flament in his previous unofficial ranking system, but have been adapted to fulfil the objectives stated at the beginning of the rule proposals.

At this meeting the group hope to present a current list based on the formula and results of past WGC's.

The next stage in the preparation of the ranking system is the preparation of the web pages on the FAI/IGC web site.

It will be necessary at this meeting to:-

1, Approve the rules for the ranking system

2. Confirm the working of the ranking group and offer some guidelines regarding the operation of the system..

3. Appoint someone to operate or oversee the working of the system

Further information regarding the above points may be circulated prior to the IGC meeting in March

Brian Spreckley

12,01,2001

Rules for the Official IGC World Pilot Ranking List

Objectives

- To represent as accurately as possible the relative performance of soaring competitors from their results in national and international soaring competitions.
- To promote soaring competition,
- To create a focus for promotion of competitive soaring,
- To promote the development of a high quality international competition structure
- To create resources within the IGC to enable them to raise the standard of IGC category 1 soaring competitions and improve contact between the media and Soaring

Overview

The ranking list has two components: Pilot Rating and Competition Rating.

The Pilot Rating is the result of his performance in IGC sanctioned competitions.

The Competition Rating depends on the type of competition, the quality of the pilots competing and the number of competition days. The Competition Rating is reduced when the next competition in the sequence is completed and will no longer apply after second in the sequence.

The rating is expressed as a number from 0 to 1000 for both pilots and competitions.

1 Competitions

Most competitions included in the Ranking List will be members of a sequence of competitions held regularly, annually or biennially. Each competition can have several qualifying competitions, one for each separately scored class in the competition.

The ranking list includes results from all sequences of IGC International Competitions plus any sequence or any one-off competition sanctioned by the IGC for ranking list inclusion. For advice on competition approval see 8 below.

For Ranking purposes, competitions are divided into the following categories:

- **Cat 1+**: First Category FAI Competitions such as World Championships, World Air Games (all competitions scored without glider handicaps)
- **Cat 1 standard**: First Category FAI events with restricted entry or using glider handicaps (i.e. feminine, junior, club class, etc), continental championships, or any other international event approved by IGC as First Category.
- **Cat 2+**: Open National Championships or International Competitions, sanctioned by the IGC, with international participation according to Section 8 Competition Qualifications below.
- **Cat 2 standard**: Open national championships or international competitions, sanctioned by the IGC, open to international participation but not complying to Cat 2+ requirement as of Section 8 Competition Qualifications below.

Ranking is updated after every competition is finished. To promote interest provisional world ranking may be computed after each competition day by the competition organizer.

2 Active Competition Period

A competition will remain active until two following competitions in the same sequence have been completed, but not more than 4 years. For example a sequence could be all the IGC World Championship 15M class competitions (see Section 4 Competition Quality Factor below).

If a sequence of competitions comes to an end, or no longer qualifies for IGC Ranking, the competition will have a reduced Quality Factor one year after it was last held, and zero on the second anniversary.

3 Competition Rating

Competition ratings are calculated using the top ratings of the top 5 pilots finishing in the top 15 (or first half for competitions with less than 30 entries).

Competition Rating = 0.1 x (5 x Maximum_ Rating[i] + PR1 + PR2 + PR3 + PR 4 + PR5 + 100)

PR=Pilots Rating

The competition rating is limited within the range appropriate to the competition category outlined below

Competition category	Cat 1+	Cat 1 std	Cat 2+	Cat 2 std
Maximum Rating	1000	980	960	960
Minimum Rating[ii]	960	900	800	800
Pilots Rating min	900	800	620	620

4 Competition Quality Factor

The maximum Rating a pilot can achieve from a given competition is limited by the quality factor. The quality factor considers, number of competing pilots, number of competition days, the competitions category and it's position in the sequence.

A sanctioned competition's Quality Factor is reduced after the next Competition in the same Sequence is completed and reduces to zero when a second Competition in the same Sequence is completed

Quality_factor = Base_quality_factor x Entry_factor x Day_factor with:

Base_quality_factor	Cat 1+	Cat 1 std	Cat 2+	Cat 2 std
Latest competition in a Sequence	80 %	80 %	70%	50 %
Preceding competition in a Sequence	60%	60%	50%	30 %
All other competitions in a Sequence	0	0	0	0

Entry_factor = number of pilots (with score > 0) in competition / 15 (limited to 1)

Day_factor = number of valid tasks / 4 (limited to 1)

5 Pilot's Competition Rating

All competing pilots in a sanctioned Competition will receive a rating score from that competition.

The competition winner's Rating is equal to the Competition's Rating. All the other competing pilots receive a rating proportional to their final score.

Rating_score = Competition_rating x Pilot's final score / Winner's final score

6 Pilot's Rating points calculation

The Pilot Rating is calculated from the best Rating Scores achieved, taking into account the Competition Quality Factor. Only two Cat 1 competitions may count towards the Pilot Rating[iii]. It is calculated as follows:

Keep the best 2 Cat 1 competitions (those which yield pilot the best overall rating). Discard all others based on Cat 1 competitions. Keep all Cat 2 Competitions without any number limitation.

Add a « virtual competition[iv] » whose rating score is pilot's best rating minus 200, with a Quality Factor of 1.

Sort all pilot's Competition Scores (Rating Score along with associated Quality Factor) by decreasing order of Rating Score.

Add the pilot competition scores together until the Quality Factor >= 1

Uncorrected Pilot Rating = S (Pilot Rating Score x Quality Factor)
{Until the sum of Quality Factor >= 1}

If the sum of Quality Factor > 1, then reduce the last Quality Factor so that the sum of Quality Factor becomes equal to 1

If Virtual Competition was used in this sum, substract 1% of (Virtual Competition Rating Score minus next Competition[v] Rating Score)[vi])

7 Pilot Ranking

Pilots are ranked upon decreasing Pilot Rating. Ties are broken by the previous place in Ranking list.

8 Competition Qualifications

- All IGC Competitions of First Category are included in the Ranking system.
- First Category competitions shall follow IGC rules (SC3, Annex A), including Jury, stewards and Public Relation Officer requirements, any deviation to the rules (task type, scoring, etc.) shall be declared when applying for Ranking and approved by IGC reduced with competition
- All IGC Competitions of Second Category, as listed in FAI sporting calendar, are included in the Ranking system except 2nd category events specifically designated by IGC as not being suitable for the Ranking
- Second Category competitions shall be organised by or under the authorization of NACs, their rules shall be based, as far as appropriate, on IGC rules (SC3, Annex A) and must not conflict with them in principle.
- Category 2+ must have participation by pilots from at least 4 FAI NAC's or if a national championship minimum of 5 pilots from an NAC other than the organising country.
- Category 2 std competitions must be open to participation of at least 5 pilots of other NACs in each class (with at least 1 effective entrant from a second NAC in each class)
- Except for Cat 1 IGC competitions, organizers shall apply for their competitions to be approved for IGC Ranking approval at least 6 months in before the event

- The Ranking entry fee, determined by IGC, shall be paid at least 3 months before beginning of the competition.

The officially accepted entry list and results of any competition shall be received by Internet at the FAI site within eight days of the end of the event. Results shall include every competitor's Ranking Identifier and comply to the format specified by the IGC, so that the updated Ranking may be calculated automatically. If a pilot is not previously registered in the Ranking, his Ranking Identifier shall be obtained at the FAI site

9 Interim Rankings

The first ranking will be established in 2001 with all WGC from 1997 - 2001 period, competition ratings being calculated after previous years WGC and EGC results. Full ranking will be established in 2002 and on following years taking into account competitions of all categories as shown above.

10 Influence on Sporting Code

The main rules of Ranking should be included in a specific paragraph of SC3 (Objectives, overview, competitions, active competition period, competition qualifications)

The detailed rules, formula, coefficients (all other paragraphs of Ranking Rules, along with fees, file exchange format, etc.) should be included as a new Annex of SC3, as changes may need to be made more frequently.

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[i] depending on category, see table

[ii] as a consequence of minimum PR (see after)

[iii] this encourages top pilots to keep participating to Cat 2 competitions and therefore to « share » their Ratings so the relationship between two Cat 2 competitions is maintained.

[iv] prevents disproportionate devaluation of pilot's rating if he did not compete enough (or had too bad weather and tasks cancelled !).

[v] « next competition » means the one immediatly after « virtual competition » in Pilot's decreasing order of Rating Scores

[vi] Limiting "virtual competition" to a 99% sum of score factors allows that a pilot's competition rating lower than his best by more than 200 points may still improve his overall rating

12.

To: IGC Plenum – Lausanne, Switzerland – March 2001
From: Eric Mozer, delegate - United States of America
Re: Proposal for the establishment of the International Soaring Hall of Fame

Proposal

Whereas the sport of Soaring has grown principally through the efforts and exploits of men and women dedicated to the sport, and

Whereas the acknowledgement and recognition by IGC of these efforts and exploits could motivate others to serve, strive, and to excel in the sport, and

Whereas the memories of these men and women and their efforts and exploits should be honored and should not be lost for future generations,

Be it hereby resolved that,

1. The International Gliding Commission (IGC) wishes to establish the International Soaring Hall of Fame (ISHF),
2. The IGC Plenum directs the Bureau to establish a panel to fully develop the concept, including a process for nominating, voting and limiting the number of those to be selected for ISHF as well as the criteria for inclusion into the ISHF. The criteria should include, but not be limited to, outstanding achievements in the technical aspects of soaring, outstanding contributions in sailplane development, outstanding individual flights or series of flights, extraordinary excellence in the field of competition soaring, and outstanding dedication to the advancement of the sport by service to the sport,
3. The IGC Plenum directs the Bureau to establish a panel that will, according to the criteria that is developed, suggest names of deceased members of the soaring community to the ISHF to be considered for voting on as initial members,
4. That annual elections be held for future additions to the ISHF and that the voting be done by the IGC delegates, the results of which will be announced at the annual Plenum session,
5. The IGC will promote and display the membership of the ISHF on the IGC website with a photograph (if available) and an accompanying biography of the Hall of Fame member.

Respectfully Yours,

Eric Mozer
Delegate, United States of America

International Gliding Commission

Soaring – Champions Gallery

Pilot Information – (insert date)

1. Personal data

First & middle Initial	:	Last name:
Sex	:	
Date of birth – Age	:	
Country of citizenship	:	City:
Education	:	
Profession	:	
Married (yes/no)	:	Children (number – age):

2. Contest Information

Contest Name	:
Contest Dates	:
Contest Site	:
Class Flown	:
Type of Sailplane	:
2nd and 3rd place finishers	:

3. Additional Information (optional)

Please include photograph when submitting the above information

Form completed by:

International Gliding Commission

Soaring – WGC Competitor's Gallery

Pilot Information – (insert date)

1. Personal data

First & middle Initial	:	Last name:
Sex	:	
Date of birth – Age	:	
Country of citizenship	:	City:
Education	:	
Profession	:	
Married (yes/no)	:	Children (number – age):

2. Contest Information

Contest Name	:
Contest Dates	:
Contest Site	:
Class to be Flown	:
Type of Sailplane	:

3. Additional Information (optional)

Please include photograph when submitting the above information

Form completed by:

13.1

The Official Rules for

27th World Gliding Championships

To Be Held at Mafikeng, South Africa

18th to 31st December 2001

Please note that this date may change.

Legend.

- *Local rules are shown in italics.*

Passed by IGC meeting in Seattle, USA, on March 13th, 1999

This version is a complete update of the Annex,

Incorporates all previous amendment lists

And includes Appendix A – Local Regulations.

Effective Date: 01 October 1999.

CONTENTS

PRELIMINARY REMARKS

a) This document (titled Annex A) contains the rules applying to all official FAI international soaring championships. Championships are will be run according to these rules. Any proposals for modifications must be noted in the Local Regulations circulated to all IGC delegates at least three months prior to the IGC meeting where they will be considered. The proposals must refer to the paragraphs affected and give reasons for the modification.

b) This latest version of Annex A has been reorganised into three sections:

   i) General, containing rules regarding the organisation of the event;

   ii) Flying, containing rules specific to the flying operations; and

   iii) Scoring, containing rules specific to scoring procedures

c) The Local Regulations are shown in italics in the body of this document and have been approved by the IGC. The Rules will be circulated to the NAC's not later than 60 days before the opening ceremony.

d) An international competition will be held at the same site in the year before the Championships, and will be conducted under Local Regulations as close as possible to those to be used at the actual Championships.

e) Entry forms containing the information mentioned in the FAI Sporting Code, General Section 3.8 shall be circulated to the NAC's together with the official invitation not later than eight months before the opening day. Preliminary entries may be requested. Provisional entry lists shall be circulated after the closing date and about one month before the opening day.

f) In these rules "Championships" includes both World and Continental Championships unless otherwise stated.

g) In this Annex the words "must", "shall", and "may not" indicate mandatory requirements; "should" indicates a recommendation; "may" indicates what is permitted; and "will" indicates what is going to happen.

h) In this document, wherever the word he, his or him is used, it should be taken as he/she, his/hers or him/her.

GENERAL

1 CHAMPIONSHIPS

The name of the event:27th World Gliding Championships

Location: Mafikeng, South Africa.
25 48.281S 025 32.404E

Entry fee

Practice period: 10th December to 16th December 2000
Competition Dates: 18th to 31st December 2000

Pilot registration to be completed by 16.00hrs 16th December 2000.

The airfield will be available for training flights from 5th November 2000.

Final Entries By: 31st August 2000.

Communications To:
The Soaring Society of South Africa, 1 Leicester Road, Kensington,
2094 Johannesburg, SA.
Fax: +27.116225363
Tel: +27.116152461
Email: WGC2001@sssa.org.za

The Contest Site boundary is defined the perimeter fence of the Airfield.

The Championships are Organised by Soaring Society of South Africa under the aegis of the Aero Club of South Africa and the FAI.

Director:	*Dick Bradley:*	*dbradley@pixie.co.za*
Deputy Directors:		
Operations:	*Brian Spreckley:*	*101355.2447@compuserve.com*
Scoring:	*Paul Armstrong:*	*wa@global.co.za*
Met:	*Helmuth Fischer:*	
Administration:	*Carol Clifford:*	*bobcar@global.co.za*

2 OBJECTIVES OF THE CHAMPIONSHIPS

The objectives are:

2.1 To select the champion in each competition class on the basis of the pilot's performance in the tasks set;

2.2 To foster friendship, co-operation and exchange of information among soaring pilots of all nations;

2.3 To promote worldwide expansion of the public image of soaring;

2.4 To encourage technical and operational development of the sport;

2.5 To encourage the development of safe operational procedures, good sportsmanship, and fairness in the sport of soaring.

3 GENERAL REQUIREMENTS

3.1 The Championships shall be controlled in accordance with the FAI Sporting Code, General Section and Section 3 (Gliders & Motor Gliders), and specifically with this document which constitutes Annex A to Section 3.

3.1.1 Any competitor or Team Captain violating or tolerating the violation of these rules shall be suspended or disqualified from the Championships.

3.2 The winner in each class is the pilot having the highest total score, obtained by adding the pilot's points for each championships day. In case of a tie, see paragraph 15.2.3.

3.2.1 The winner in each class will be awarded the title of World Champion, provided that there have been at least four championships days in that class.

3.2.2 In order that a day may be counted as a championships day, a launch opportunity (an Official Competition Launch) shall have been offered to each competitor in the class in time for the competitor to carry out the task of the day in question .

3.3 The total period of the event shall not exceed 16 days including two days on which the Opening and the Closing Ceremonies are held. At least one non-flying rest day shall be given during the period, although the Organisers may declare further rest days for stated reasons such as pilot fatigue.

3.4 An official practice period of seven days immediately preceding the opening of the Championships will be made available to all competitors.

3.5 The official language of the Championships shall be the English language; this shall include all regulations and information circulated to the competitors, any public announcements during the event, and briefings. The language of the Organisers and additional languages may be used at their discretion.

4 RESPONSIBILITIES OF THE ORGANISERS

4.1 The Organisers shall provide competitors and Team Captains with all complementary information upon arrival at the contest site.

4.1.1 Turn Point Catalogue: The Organisers shall prepare and distribute on arrival of the competitors a catalogue of start, turn, and position checkpoints. In addition, the geographical coordinates, altitude ASL, direction and distance from the contest site, and a short description shall be given.

4.1.2 The Organisers shall provide an electronic version of the start, turn point and control point database in the IGC recommended standard file format for turn point data files to each competitor. *All necessary data, including airspace restrictions will be distributed as soon as possible in advance of the Championships. It is the responsibility of the competitors to load these into their flight recorders or other navigational equipment. Some FR manufacturers will offer assistance at the site, but the Organiser can accept no responsibility for* the correct transfer of data. Any matter intended to have the force of a competition rule must have been approved as a minimum by the IGC Bureau, if necessary by post. Only minor *matters may be approved by this method.*

4.2 The Organisers shall provide all facilities necessary for the satisfactory operation of the Championships.

4.3 Full meteorological information shall be provided during the Championships, access to which shall be available to competitors and assistants in addition briefing material supplied to the competitors.

4.4 The meteorological, GNSS and other flight data from the championships are the property of the Organisers. Such data shall be treated as confidential and only passed on to persons or organisations approved by IGC.

4.5 The Organisers shall perform doping controls in accordance with FAI Rules.

4.6 The Organisers shall pay due regard to safety in all aspects of the championships.

4.7 The Organisers shall form a Pilot Safety Committee.

4.7.1 Pilot Safety Committee (PSC) will be established, consisting of the Stewards and three competing pilots, one from each class, who are elected by the pilots of their respective classes at the opening briefing.

4.7.2 The PSC will be available to hear complaints from the contestants related to safety and flying standards during the competition.

4.7.3 Any complaint received by a member of the PSC against any competitor must be recorded and such action taken as deemed necessary.

4.7.4 The PSC shall take action in the case of any complaint in the form of an inquiry, and if considered necessary a verbal or written warning should be issued. Serious cases should be referred to the Competition Director.

4.7.5 It is intended that considerable discretion should remain with the PSC to deal with complaints without involving the Organisers. However, the PSC acts in an advisory capacity only and is not empowered to impose penalties. Any serious breach of the rules or any accidents are the responsibility of the organisers.

4.8 The Organisers must pay sanction fees to FAI as decided by IGC. The amount is CHF 5000.

5 CHAMPIONSHIPS OFFICIALS

5.1 The Championships Director

5.1.1 The Championships Director shall be in overall operational charge of the Championships and be approved by the IGC. He shall have Deputy Directors and technical officials to assist him.

5.1.2 The Championships Director is responsible for good management and the smooth and safe running of the Championships.

- He shall make operational decisions in accordance with the rules of the Sporting Code and of the Championships and publish these without delay. *All official notifications and operational directives will be posted on the Contest Notice Board in the briefing hall and in each teams mailbox.*

- He may penalize or disqualify a competitor for misconduct or infringement of the rules.

- He shall attend meetings of the International Jury and give evidence if requested.

- He may call a Team Captains Meeting as required.

5.1.3 The Director is responsible for publishing the official entry list, for issuing daily results with the minimum of delay, and finally for reporting the full results to his NAC and to FAI.

5.1.4 The Director or his named deputy shall be available at the contest site at all times while Championships flying is in progress.

5.2 Stewards

5.2.1 Stewards are advisors to the Championships Director.

5.2.1.1 They watch over the conduct of the Championships and report to the Director any unfairness or infringement of the Rules and Regulations or behaviour prejudicial to the safety of other competitors or the public or in any way harmful to the sport.

5.2.1.2 They assemble information and facts concerning matters to be considered by the International Jury.

5.2.1.3 They advise the Championships Director on interpretation of the Rules and Regulations and on penalties.

5.2.1.4 Stewards may attend the meetings of the International Jury as observers or witnesses.

5.2.1.5 Stewards have no executive powers. They may neither be competitors nor hold any additional position in the organisation.

5.2.1.6 Stewards must understand and be able to speak English, must possess a thorough knowledge of the FAI Sporting Code, General Section and Section 3, and Rules and Local Regulations for the Championships, and have extensive experience of soaring competitions.

5.2.2 The Organisers shall appoint three Stewards of nationalities different to that of the Organisers, except that in the event of a last minute failure to attend, a replacement Steward of any nationality and acceptable to the other Stewards may be invited. The appointments shall be approved by IGC.

5.2.3 Two Stewards shall be present at the contest site throughout all major operational activities, such as task setting, launching, inspections, time keeping, checking of flight verification evidence, etc.

5.3 International Jury

The International Jury (IJ) deals with protests made by competitors. A nominated jury, normally of three members including one, who will act as President, shall be appointed by IGC. The function of the Jury shall begin at the opening of the Championships.

5.3.1 A member of the Jury must understand and speak English and must possess a thorough knowledge of: the FAI Sporting Code, General Section and Section 3; the FAI International Jury Members Handbook; and, Rules and Local Regulations for the Championships. The Jury members shall at all times take care not to get involved in the running of the Championships. They must strive to be neutral and independent of the Championships Director's decisions. However, they should be prepared to give advice and answer queries regarding interpretation of the rules and the general running of the event if raised by officials of the event.

5.3.2 The President of the International Jury shall normally be an IGC Bureau member, but may not be of the same nationality as the organizing NAC.

5.3.3 In addition to being the Chairman at Jury meetings, the President has the right to require the Organisers to abide by the FAI Sporting Code and the published Rules and Regulations for the Championships. If the Organisers fail to do so the President of the Jury has the power to stop the Championships until a Jury meeting has considered the situation.

5.3.4 The Jury has the right to terminate the Championships if the Organisers fail to abide by the FAI Sporting Code and the published Rules and Regulations. They may recommend to the FAI Secretary General that all entry fees be returned.

5.3.5 Meetings of the International Jury

5.3.5.1 Attendance at Jury meetings is compulsory for Jury members, except for special reasons such as illness or emergencies. In such cases the Jury President may accept an eligible replacement nominated by the Jury member concerned.

5.3.5.2 Jury meetings are to be conducted in accordance with the FAI International Jury Members Handbook.

5.3.5.3 Simple majority will reach decisions of the Jury. The President of the Jury will report the details of any protest to the FAI.

5.3.5.4 A quorum of the Jury is three of three.

5.3.5.5 The Championships Director or his deputy has the right to be present at the Jury meetings, but without a right to vote.

5.3.6 Dissolution of the International Jury

5.3.6.1 The Jury shall only cease its functions after it has given its decision on all protests that have been correctly made. If no protests are outstanding it shall not cease its functions until the time limit set for the receipt of protests following the last task.

5.3.6.2 The last action of the Jury is to approve the competition results of the Championships and declare the Championships valid, providing they have been conducted in accordance with the rules and the decisions of the Jury.

5.3.7 Official's travel and living expenses.

5.3.7.1 The travel and living expenses for the International Officials (Jury and Stewards) are the responsibility of the Organisers. Other arrangements may be agreed upon with the individual Official.

6 CHAMPIONSHIPS CLASSES

6.1 Championships shall consist of three classes; Open, 15m, and Standard Classes as described in the main body of Section 3 of the Sporting Code, Chapter 6.

6.2 If any one class does not have at least ten participants from at least five NAC's on the first Championships day, the contest shall take place but no Champion will be declared. *Pilots from that class will not be eligible to compete in the WSC.*

6.3 Two-seater gliders may compete in the Open Class either flown solo or dual. If the pilot intends to fly with more than one co-pilot, a list of the co-pilots with the intended sequence shall be submitted to the Organisers prior to the event. If a co-pilot is unable to fly, no further co-pilots shall be carried. Only the nominated pilot in command shall be listed in the results. Both crewmembers on board the two-seater must fulfil the requirements for competitors in accordance with the FAI Sporting Code, General Section.

6.4 Motor gliders shall be permitted to participate in their appropriate classes, provided they have IGC approved MoP recorders. *If the MoP is started at any time after the glider has made a valid start the competitor will be scored as if he had landed out at the last valid fix before the MoP was started. (see 20.7.1.1.3)*

6.5 Pilot changeover from one class to another shall not be permitted later than two months before the Opening Day.

7 ENTRY

7.1 Application for Entry

7.1.1 Application for entry shall be accepted only on the official entry form, submitted by the competitor's NAC and accompanied by the entry fee in full. Incomplete entry forms or those containing inaccurate information will not be accepted. *Entries received after the closing date may be accepted but only in terms of rules 7.3.1 and 7.3.2, and at the discretion of the Organisers. Exceptions may be made for applications from the opposite hemisphere.*

7.2 Entry Fee

7.2.1 The entry fee shall cover all operational costs during the Championships, except that aero tows may be paid as used, at the discretion of the Organisers.

7.2.2 If the Championships do not take place, entry fees shall be returned in full. If, for reason of force majeure, they are stopped or cancelled, the unused portion of the fees shall be returned.

7.2.3 A competitor who withdraws shall have no right to the return of any fees.

7.3 Pilots

7.3.1 An NAC may enter a maximum of two pilots and one reserve pilot in each class. A reserve pilot will normally only replace a nominated pilot in the event of a withdrawal.

7.3.2 Any number of entries up to 120, with a maximum of 45 gliders in the Std and 15M classes and 30 in the Open class will be allowed. Organisers shall consider dividing classes exceeding 50 entries into groups by drawing lots. Procedures shall be specified in the Local Regulations to:

a) rotate pilots between the groups to provide an equal opportunity for pilots to compete with each other; and,

b) provide separate Start Points or Zones and tasks for each group.

7.3.3 NACs with reserve pilots may be offered entry in a class where there are vacancies provided the conditions of 7.3.1 and 7.3.2 are not breached and provided entry fees for the officially entered pilots have been received.

7.3.4 The current Champions may compete as additional members of their team in their respective classes.

7.4 Rejection of Entries

The organising NAC may not reject any entry to the Championships made in good faith and complying with the terms of entry.

7.5 Conditions of Entry

A competitor, by entering the championships, agrees to be bound by these Rules and the Local Regulations issued for the Championships, and any rulings and requirements stated by the Organisers at any briefings.

8 NATIONAL TEAMS

8.1 Each NAC shall select its own Team Captain, competitors, and assistants. The NACs shall certify to the Organisers (normally in the entry form) that the team members qualify under these rules.

8.1.1 The Team Captain, the competitors and their crew members by virtue of entering are deemed to accept without reservation any consequences resulting from the event (for instance see 12 on insurance).

8.2 Qualifications

8.2.1 A competitor must be a citizen or resident of the country of the entering NAC and satisfy the conditions of the FAI Sporting Code, General Section 3.8 on citizenship and representation, and must;

- Hold a gold badge, or, hold a silver badge and have competed in at least two National Championships;
- Have flown at least 250 hours as a pilot in command, of which at least 100 hours must be in gliders;
- Hold an FAI Sporting Licence with a current FAI stamp;
- Hold a Pilot Licence or equivalent document issued or endorsed by the authorities of the country in which the glider is registered. *A African glider may be flown by any pilot who has a valid licence issued in accordance with ICAO standards.*
- Know, understand, and abide by the FAI Sporting Codes and the Rules and Regulations issued for the event.

8.2.2 A Team Captain may be a competitor or assistant but preferably be additional to them. He should be the same nationality as the NAC he represents but a substitute of another nationality, holding written authority from the NAC concerned, may be accepted at the discretion of the Organisers.

8.2.3 An assistant may be of any nationality.

9 TEAM CAPTAIN'S RESPONSIBILITIES

9.1 The Team Captain represents his NAC and is the liaison between the Organisers and his team members. He should endeavour to ensure their proper conduct and that they do not fly if ill, under the influence of alcohol or drugs, or suffering from any disability which might endanger the pilot or others.

9.2 The Team Captain is also responsible for compliance by his team members with the terms of the Certificate of Airworthiness or Permit to Fly of the competing gliders and, where appropriate, with the laws of his own and those of the Organisers' country.

9.3 The Team Captain is responsible for ensuring that all members of his team receive and understand all information given at any Championships briefing.

9.4 A Team Captain not fulfilling his responsibilities as detailed in this Chapter, may be suspended or disqualified in accordance with paragraph 3.1.1.

9.5 A Team Captain may call a Team Captains meeting provided he has the written support of at least four other Team Captains. The Director shall on receipt of the written request convene the meeting within 18 hours of the receipt of the notice.

10 GLIDERS AND EQUIPMENT

10.1 The competitors shall provide gliders, trailers, retrieve cars, and other equipment, including GNSS Flight Recorders, radios, oxygen systems, parachutes, and survival equipment of a performance and standard suitable for the event. The Organisers may specify additional mandatory equipment if the conditions of their country so require.

10.1.1 No instruments permitting pilots to fly without visual reference to the ground may be carried on board, even if made unserviceable. *The following instruments may not be fitted:*

- *Bohli, Schanz, KT1 or other gimballed compass*
- *Turn indicator*
- *Artificial Horizon*

10.1.2 Any navigational equipment is permitted.

10.1.3 To encourage the pilot to lookout, audio outputs from variometers, GNSS navigation devices and glide computers are strongly recommended.

10.2 Each competing glider must have been issued a valid Certificate of Airworthiness or Permit to Fly not excluding competitions.

10.3 Each glider shall be made available to the Organisers at least 72 hours before the briefing on the first championships day for an acceptance check in the configuration in which it will be flown. This configuration shall be kept unchanged during the whole competition.

10.3.1 Configuration refers to the shape and dimensions of the primary structure of the glider, including movable controlling surfaces, landing gear, winglets and wing tip extensions. The configuration is considered to be changed if the shape or dimensions of the primary structure are altered.

10.3.2 Water Ballast. To ensure that gliders do not exceed the class or CofA weight limits each glider will be weighed on its way to the grid. Weighing will be based on main wheel weight in "towing out" configuration. This must be established with the scrutineers before the first contest day.

10.4 The Organisers have the right to inspect a competing glider at any time during the Championships up to the Prize Giving.

10.5 The airworthiness, safety and safe operation of competing gliders and any associated equipment and vehicles, as appropriate, shall be the responsibility of the competitors at all times.

10.6 The Organisers may require gliders to be marked with high visibility markings to improve in-flight observability.

10.7 Damage to a glider must be reported to the Organisers without delay. A damaged glider may be repaired. The following items may be replaced instead of being repaired: control surfaces; the complete horizontal stabilizer; airbrakes or flap surfaces; canopy; undercarriage gear and doors; propellers; non-structural fairings; and, wing tips and winglets but not the entire outer wing panels.

10.7.1 If the damage was no fault of the pilot, the whole glider or any part of it may be replaced with the consent of the Director of the Championships. Landing damage is normally assumed to be the fault of the pilot.

10.8 During the Championships, on days when tasks are set, gliders entered in the event may only be flown on Championships tasks, except that the Organisers, at their discretion, may permit a glider to be test flown.

10.9 The Organisers may require competing gliders to carry GNSS data transmitters to enable the public display of GNSS flight records during competition flights. Such a display will not begin before the start line is opened and the actual position of the gliders will be displayed with a time delay of at least 15 minutes. This delay may be reduced to zero prior to the finish.

11 CONTEST NUMBERS

11.1 The contest numbers, as validated by the Organisers, shall be displayed on the underside of the right wing, approximately 2.5 m from the centreline of the glider with the top of the figures or letters towards the wing leading edge. The height of the letters or figures should be not less than 80% of the wing chord.

11.2 The contest numbers shall also be displayed on both sides of the tail fin and/or rudder. These must be at least 30 cm high.

11.3 Contest numbers shall consist of not more than three letters or figures or a combination of letters and figures.

11.4 Contest numbers shall be plain block, sanserif, and styled with a single colour that contrasts strongly with the glider's background colour.

11.5 The Organisers may require competitors to modify contest numbers that they deem to be similar, confusing or not complying with this paragraph 11. Competitors not complying with the organiser's requirements may be denied competition launches.

12 INSURANCE

12.1 Third party insurance to the amount of SA Rands 2,500,000.

12.2 Personal medical insurance is required for all team members, covering accidents and sickness, including any local hospital costs and the costs of transport back to the team member's home country.

12.3 Documentary proof of insurance, or medical insurance, shall be provided to the Organisers in English. See section 13 for details.

12.4 Required insurance shall be available for purchase at the contest site.

13 REGISTRATION

13.1 On arrival at the contest site, each Team Captain and his competitors shall report to the Organisers' Registration Office to have their documents checked and to receive any supplementary information.

13.2 After the close of registration, no change of gliders or pilots shall be permitted. Pilots whose documents are not correct, or who have not submitted documents, or have submitted incorrect documents will be prohibited from flying until the correct documents have been submitted.

13.3 The Organisers, if appropriate, shall require the following documents and translations:

13.3.1 For the pilot:

- Proof of nationality (Passport or identity document) or certificate of residence (FAI General Section 3.7);
- Valid Pilot Licence *issued in the country of registration of the glider being flown or equivalent document* and proof of qualification regarding hours and badges;
- *Valid Radio Licence*
- FAI Sporting Licence valid for the year of the event.
- *Proof of personal insurance see 12.3.*

13.3.2 For the glider:

- Valid Certificate of Airworthiness or Permit to Fly; and
- Third party insurance certificate for the glider see 12.1.
- The telephone number of the on board cell phone.
- Valid FR calibration certificate for primary and secondary FRs.

13.3.3 Team Captains and Assistants:

- Personal medical insurance certificates.

13.4 The Organisers may require more documents.

13.5 The following documents shall be carried on board the glider:

- *Glider flight manual*
- *Glider log book*
- *C of A or Permit to Fly*
- *3rd party insurance certificate*

- *Pilot's licence or equivalent.*

14 PENALTIES, COMPLAINTS, PROTESTS

14.1 Penalties and Disqualifications

14.1.1 The Championships Director may impose penalties for infringement of the rules. The severity of the penalties ranges from a minimum of a warning to disqualification as appropriate to the offence. *A list of standard penalties is given in 22.2.6, offences not covered by this list may be penalised at the Championships Directors discretion.*

14.1.2 Penalties shall be listed on the score sheet of the day on which the penalty was given.

14.1.2.1 If a penalty is imposed on a day, which does not meet the requirements of a Championships Day (see 3.2.2), or non-competition days, or during the practice week, then the penalty shall be added to the competitor's cumulative score. *This rule is intended to apply to penalties that are awarded for disciplinary reasons and not penalties that are awarded for a technical failure such as a height penalty at the start.*

14.1.3 A competitor who has been disqualified shall surrender his Sporting Licence according to the Sporting Code, General Section 5.3.

14.2 Complaints

14.2.1 The purpose of a complaint is to obtain a correction without the need to make a formal protest.

14.2.2 Prior to the Championships a complaint may be made by an NAC. Such a complaint may concern only failure of the organizing NAC to comply with the regulations for entry or the eligibility or refusal of an entry. A copy of such a complaint shall be sent immediately to the Secretary General of the FAI, who shall keep the President of the IGC informed.

14.2.3 At any time during the Championships a complaint may be made through the Team Captain to the Championships Director or his designated official. Such complaint shall be dealt with expeditiously.

14.2.3.1 If a competitor has no separate Team Captain, he may lodge the complaint himself.

14.3 Protests

14.3.1 A protest against a decision on a complaint as described above in 14.2.2 must have been made prior to the start of the Opening Ceremony of the Championships.

14.3.2 When dissatisfied with a penalty or the decision on a complaint made during the Championships a competitor has the right of protest.

14.3.2.1 Such a protest shall be made in writing, in English, and shall contain the following elements:

- It shall refer to the decision, against which the protest is lodged,
- It shall include reasons for the protest, and
- It shall state the remedy sought by the protest.

14.3.2.2 A Protest shall be handed by the Team Captain to the Championships Director or his designated official together with the protest fee within 14 hours (2 hours on the last day) of the publication of the ruling or decision against which the protest is made.

14.3.2.3 If a competitor has no separate Team Captain, he may lodge the protest himself.

14.3.2.4 The amount of the protest fee shall be SA Rands 1000. The protest fee shall be returned if the protest is upheld, or is withdrawn prior to the hearing by the Jury.

14.3.3 Protests may not be filed against the Championship's Rules.

14.4 Treatment of Protests

14.4.1 The Championships Director shall deliver a protest to the Jury President without delay.

14.4.2 The President of the Jury shall call a meeting of the International Jury within 24 hours (as soon as possible on the last day) of receiving the protest from the Championships Director.

14.4.3 The Jury shall hear both sides on the matter of any protest, applying correctly the relevant FAI Regulations and the Rules for the Championships. In considering the protest the Jury shall be provided with access to all persons and information to assist in their considerations.

14.4.4 A protest requires a 2/3 majority to succeed.

14.4.5 The Championships Director is bound by the decision of the International Jury.

14.5 Appeals

An NAC may appeal to FAI against a decision of the Jury in accordance with the provisions of FAI Sporting Code. General Section, Chapter 9.

15 RESULTS AND PRIZEGIVING

15.1 Results

15.1.1 Definition of status of results:

- Performance: The competitors' results expressed in distance, speed, or time, and may be displayed on screens only;
- Preliminary results: Performances converted to points, before any verification, and may be displayed on screens only;
- Unofficial results: Preliminary results after verification of flight records from all competitors and including penalties;
- Final results: Unofficial results after expiry of the protest time and after all protests have been dealt with.

15.1.2 All Unofficial and Final results shall be published with minimum delay clearly indicating the status of the result and the time of publication and with the pilots ranked by their performance for the day. Unofficial results shall include the expiry time for protests and unofficial results and Final results shall be signed by the Championships Director or his nominated Deputy.

15.1.3 The cumulative scores of the Championships shall be final only after the Jury has ceased its functions. They shall be published before the Prize giving is held.

15.2 Prize giving

15.2.1 At the Closing Ceremony the flags of the countries of the competitors placed first (the Champions), second and third in each class should be flown and the national anthems of the countries of the Champions should be played.

15.2.1.1 Each National Team shall supply a CD or cassette of their National anthem and two flags approximately 5m x 1.5m and 2m x 1m.

15.2.2 The FAI will award a Gold, Silver and Bronze medal in each Championships class to the competitors placed respectively first, second and third.

15.2.2.1 Up to 10 Diplomas will be awarded to the first third of the competitors in each class.

15.2.2.2 Awarded Challenge Cups shall be held by the winners until they are put back into competition for the following Championships.

15.2.2.3 The Organisers shall award prizes to at least the top 25% of competitors in each class, and give commemorative medals or badges to all competitors, their assistants, and officials.

15.2.2.4 Small Prizes may be given to the daily winner.

15.2.3 There shall be only one champion in each class. If two or more pilots have the same number of points after the final competition day, the sequence between these pilots shall be decided by the daily results. The Champion shall be the pilot who has the most daily wins. If a tie still exists, the Champion shall be the pilot with the most second placings, and so on.

15.2.4 *The FAI will award an FAI Diploma to each of the competitors in the WSC Teams that are placed first, second and third.*

16 SAFETY

16.1 Each glider shall be flown within the limitations of its Certificate of Airworthiness or Permit to Fly.

16.2 The maximum take-off weight in each class:

Standard	*525 kg*
15 m	*525 kg*
Open	*750 kg except that two seat motor gliders that exceed this limit with two crew members on board will be allowed to compete, but may not take disposable ballast.*

16.3 Any manoeuvres hazardous to others shall be avoided and may be penalized. Unauthorized aerobatics are prohibited.

16.4 Competitors shall avoid dropping water ballast in any manner likely to affect other competing gliders.

16.5 On every flight each occupant of a competing glider shall use seat belt and shoulder harness and wear a serviceable parachute. *The pilot should have access to at least 1l of drinking water that is accessible in flight and at least a further 1l should be stored in the glider for use in the event of out landings.*

16.6 Cloud flying is prohibited.

16.7 Competitors shall comply with the Local Regulations and any requirements stated at briefings regarding operations on the Championships site and the airspace regulations in force during the Championships.

16.7.1 The Organisers may establish areas around the contest site within which continuous circling is prohibited or is permitted in one direction only.

16.8 The Organisers shall ensure that the release zones and the release altitudes for launching are selected to enable competitors to land safely for a relaunch at the contest site if they fail to find lift. This should allow competitors adequate time and altitude to search for lift after release. (see 20.3.8 and 20.3.9)

16.9 Once launching has started, the Organisers may suspend towing if it is dangerous to continue. If the suspension is sufficiently long to give an unfair advantage to those already airborne, the Championships Director shall cancel the task.

16.9.1 The Organisers may delay or cancel the opening of the start gate if they consider that the conditions are not suitable for the task to be flown safely.

16.9.2 If the task for a Class is cancelled, competitors in that class who are already airborne shall land without delay.

16.10 A competitor involved in a collision in the air shall not continue the flight but land as soon as practicable. Both pilots will be scored to the point of collision.

16.11 Glider damage during the Championships shall be reported to the Organisers. The glider may be repaired (see 10.7).

17 EXTERNAL AID TO COMPETITORS

The following limitations are imposed so that the competition shall, as far as possible, be directly between the individual competitors, neither controlled nor helped by external aid.

17.1 Radio Transmitters and Transceivers

17.1.1 Radios are for voice transmissions between team members and between them and the Organisers only. They may not be used to contact Air Traffic Services other than for obtaining permission from an airfield to land on it, unless there are specific requirements by the Organisers. Any other data transmission between competitors or between them and the ground, except as required by the Organisers is prohibited.

17.1.2 Transmissions may only be made on frequencies prescribed by the organisers.

17.1.3 The Organisers shall designate common radio frequencies that shall always be used by competitors for flight safety. A single frequency should be designated for the launch, start, finish, and landing. One frequency should be designated for each Class flying within a common task area.

17.1.4 Competitors shall maintain a listening watch on the designated safety frequencies, except that a competitor may use other designated frequencies for short messages, for example, to communicate start times and to contact their Team Captain. These alternative frequencies shall not be used while thermalling with other gliders or within a 20 km radius of the designated start areas.

17.1.5 A portable phone may be carried in the glider, but its use in flight is prohibited and may be penalised.

17.2 Other Types of Aid

Leading, guiding, or help in finding lift by any non-competing aircraft is prohibited. Competing gliders abandoning their task must land or return to the competition site without delay.

18 BRIEFING

18.1 During the training and championships flying periods, a briefing shall be held each morning at which full meteorological and operational information concerning the task of the day shall be given.

18.2 All pilots shall attend briefing. In the event that a competitor is unable to attend, for reasons beyond his control, he shall be represented by his Team Captain.

18.3 Flight and safety requirements given at briefing shall carry the status of Local Regulations.

18.4 Units of measurement used on the pilot briefing sheet. Unless otherwise stated distances will be expressed in kilometres, heights in feet AMSL and headings or radials in degrees true.

19 TASKS

19.1 The Organisers shall list in the Local Regulations the types of tasks that will be set from the following:

- Assigned Speed Task (AST) or speed task around prescribed turn points
- Assigned Area Speed Task (AAT)

At least 33% of the tasks set will be different from the primary task.

19.2 Assigned Speed Task (AST)

19.2.1 The Organisers shall set a number of Turn Points in a sequence (see 20.6.2).

19.2.2 Competitors shall pass through these Turn Points in the correct sequence as designated by the organisers and return to the contest site in the shortest possible time.

19.2.3 The score given to each competitor shall take into account the marking distance, as defined in section 21, and the speed achieved over that distance if the pilot completes the task.

19.3 Assigned Area Speed Task (AAT).

19.3.1 The Organisers shall define areas, which the competitor will have to enter in a prescribed order. *A minimum time will be designated time for the task.*

19.3.2 An area may be defined as follows:

- As the area between two radials originating at a start point, or any other designated turn point, and located between a minimum and/ or maximum distance from that point, or

- As the area enclosed by a circle of a given radius, centred on a designated turn point.

19.3.3 The competitor shall fly the greatest possible distance via these areas in the designated time.

19.3.4 To complete the task the competitor must provide a GNSS flight record with a valid start and at least one valid GNSS fix in each area in the prescribed order and cross the finish line.

19.3.5 The score given to each competitor shall take into account the marking distance, as defined in section 21, and the speed achieved in the designated time and the speed achieved if the pilot completes the task.

19.4 A task shall not be cancelled unless 16.9, or 20.3.2 or 20.3.10 applies, or the weather deteriorates to the extent that the task may not reasonably be attempted.

19.5 Where possible the classes shall fly different tasks with turn points and routes chosen to minimise any head-on conflicts on each leg and to avoid legs of less than 50 km. This minimum distance recommendation shall not apply to the leg from the last Turn Point or control point to the finish line.

20 COMPETITION FLYING PROCEDURES

20.1 Procedure for checking take-off Mass

20.1.1 Each glider will be weighed in its "tow out" configuration with all removable equipment onboard. The main wheel weight determined by the scrutineers will be used as the reference weight. Gliders who exceed their reference weight must discharge water ballast to achieve their reference weight at the weighing point without incurring penalties.

20.2 The Launch Grid.

20.2.1 The grid is defined as the area on the runway where competing gliders are assembled in a pre-determined order prior to launching

20.2.2 The classes shall be launched in separate groups.

20.2.3 The complete grid order shall be drawn by lot before the first flying day. The grid order shall advance progressively by 2/7 of the number

of gliders in each class, or by entire rows provided that there are approximately 2/7 of the gliders in each class allocated to each row, after each Championships Day.

20.2.4 The grid order and the sequence of the classes shall be published in the early morning. Gliders must be on the grid at the time specified by the Organisers.

20.2.4.1 Only gliders on the grid at the time of the start of the launch shall affect the opening and/ or closing times of the start. *Gliders that are absent from the grid will be deemed to have been offered an official competition launch.*

20.2.5 Checking the take-off weight shall normally be completed before the gliders reach the grid. Adding weight beyond the weighing point is prohibited.

20.3 Launching and Aero Tow Procedures

20.3.1 A Competition launch is an official launch provided by the organisers from the grid during the designated launching period.

20.3.2 If a launch is delayed because of a failure by the organisation the opening of the start gate will be correspondingly delayed, or the day cancelled.

20.3.3 Each glider is permitted a maximum of three competition launches per day. However, if a pilot postpones his first launch on his own initiative, or he is not ready when his turn comes up, he shall be deemed to have been offered a competition launch see 3.2.2 and shall be moved to the back of the grid for his class.

20.3.4 Towing patterns, release areas, and release height or altitude shall be given at Briefing. The release areas shall be separated by at least 5Km and a release area shall only be used by one Class at a time. A release area may be used by a subsequent Class once the start gate for the initial Class in that same area has opened.

20.3.5 Pilots shall not release until after the tow pilot has rocked the wings of the tow plane. Pull-ups before releasing are prohibited.

20.3.6 A competitor requiring a second or third launch shall be launched after the completion of the class launch in progress at the time the competitor is ready for such a launch. The Organisers shall designate a re-landing area, which shall be shown at briefing.

20.3.7 Relighting gliders that require re-ballasting will have to be reweighed. The competitor must be prepared for the time delay that he will suffer because of this.

20.3.8 If the Organisers delay the start of launching, other relevant times shall be delayed accordingly.

20.3.9 A competitor landing outside the contest site boundaries after an official competition launch shall not have any further competition launch on that day. Contest site boundaries shall be designated by the Organisers and displayed on a map.

20.3.10 A failed take-off or a failure of the tow plane resulting in jettisoning or premature release of a glider shall count as an official competition launch only if the pilot elects to stay airborne. It shall not count as an official launch if the pilot lands immediately, even if the landing is outside the contest site boundaries, and the pilot or the pilot's crew reports to the launch point without delay. *The organisers will decide if this situation constitutes a failure to offer the pilot an official competition launch, which would cause the day to be cancelled. See 3.2.2*

20.3.11 The launching period shall be announced at briefing and given on the task sheet. The end of the launching period shall be before finishers are expected.

20.3.12 The launch should be organised so that the time to launch each class is as short as possible

20.3.13 Motor gliders may self launch but if a MG that has a MoP capable of being started in flight launches by aero tow, the engine must be started and run for at least two minutes to provide a positive record on the GNSS log. This must be done on the ground after the logger has been switched on but before take off.

20.4 General Control Procedures

20.4.1 Flights shall be controlled by GNSS flight recorder (FR).

20.4.2 Two GNSS FRs may be used. One being designated to the Organisers as the primary recorder and the other one as a back-up. The Organisers shall only require the backup FR in the event that the primary FR fails. The competitor must inform the organisers of any change of the glider's equipment including the designation of the primary FR.

20.4.3 The organisers will accept any FRs that are on the IGC approved list as at 31st October 2001.

20.4.4 Penalties may be imposed by the Organisers for unauthorized interference with the GNSS equipment, data or internal program.

20.4.5 GNSS FRs recording intervals shall be set to 10 sec or less. Non-compliance may be penalized.

20.4.6 FRs shall be turned on well before takeoff to establish an altitude baseline.

20.4.7 Motor gliders, including gliders with sustainer engines, shall comply with all requirements for gliders and carry FR's that have an IGC approved MoP function. *Self launched motor gliders shall follow the same climb out pattern as the aero towed gliders in their class and shall shut down their MoP in the designated release area. If the MG requires a relight it must land at the contest site before restarting its engine to take another launch. If the MG starts its MoP before the start it will be treated as a land out before the start.*

20.5 Start Procedures.

20.5.1 Multiple observation zones defined by a circle of 0.5 km radius centred on the start point. Each pilot is allocated three start points for each competition day with a maximum of 15 pilots allocated to each start point. Start points will be allocated to competitors before the first competition day on a random basis by the organisers. All classes will have the same start points. Pilots will be notified privately of their start points, but they may share this information with others if they wish. The organisers will not make the allocation public.

20.5.1.1 The start for a class shall normally be opened 20 minutes after the last glider in the class (which was in it's specified grid position on time) has released from tow or in the case of a self launching motor glider has reached the designated release area.

20.5.1.2 Opening of the start shall be announced by radio on the competition frequency.

20.5.1.3 A maximum altitude expressed in Feet and Meters QNH will be imposed 5 minutes before the opening of the start gate. Typically this limit will be 200m less than the prevailing mean cloud base. The limit will be announced by radio 15 minutes before the start gate opens. This limit will remain in force until the pilot has completed a valid start. If the pilot wants to restart he must remain below the height limit for 5 minutes before restarting. If the pilot exceeds the height limit penalties will be applied. The limit will apply within a 20km radius of any of the pilots designated start points.

20.5.1.4 If there is no proof that the competitor had a valid start after the opening of the start for his class, he shall be scored zero points. If a valid start is completed after the closing of the start gate then the start time shall be given as the gate closing time.

20.5.1.5 Pilots shall communicate their start times to the Organisers via their team captains or his designated representative within 30 minutes of their last valid start to an accuracy of two minutes of the actual time recorded by their FR. These times shall be used for display of performance and for preliminary results. Penalties may be given for non-compliance or incorrect notification.

20.5.1.6 The Organisers shall publish starting times as quickly as possible.

20.5.1.7 A new start invalidates all previous performances of the day.

20.5.1.8 Incorrect start procedures may be penalised.

20.5.2 A Valid Start.

A start is valid if the GNSS log has at least one valid fix in the observation zone or if a straight line joining two consecutive valid fixes passes through the observation zone and the glider is below the designated start height. If the pilot misses the observation zone but there is a valid fix in the an area described by a 1km radius centred on the start point or a straight line joining two consecutive valid fixes passes through this area and the glider is below the designated start height the start will be accepted as valid but will be subject to penalties.

20.6 Turn Point and Assigned Area Procedures

20.6.1 Turn points are GNSS coordinates.

20.6.1.1 The glider shall pass through the turn points or assigned areas in the correct sequence as designated by the Organisers.

20.6.1.2 Incorrect turn point rounding will be penalized.

20.6.2 The Turn Point Zone for a GNSS turn point shall be a cylinder of 0.5km radius centred on the turn point. A GNSS recorded turn point rounding is valid if the FR shows a valid fix in the turn point area or if a straight line joining two consecutive valid fixes falls within the GNSS Turn Point Zone.

20.6.3 To have reached an assigned area there must be at least one valid GNSS fix in the area or a straight line joining two consecutive valid fixes must fall within the area.

20.7 Out landings

20.7.1 Real Out landings

20.7.1.1 A competitor who has landed out shall contact his team captain by telephone without delay giving him the information specified on the out landing form. The team captain shall hand the completed out landing form to the Organisers without delay. Non-compliance may be penalized.

20.7.1.1.1 The Organisers shall assist competitors and crews in every possible way to locate gliders that have outlanded.

20.7.1.1.2 If a number of gliders all outland within the boundaries of the same field, airstrip or airfield, they shall all be scored as having landed at the same position as that which yields the average distance for all aircraft in the group.

20.7.1.1.3 The starting of a motor glider's MoP is regarded as an out landing. The marking distance shall be calculated to the last valid fix before the MoP was started or to any other previous valid fix that yields a greater distance.

20.7.1.2 Out landings with a functioning GNSS FR

20.7.1.2.1 The position of the glider after out landing shall be determined from the last valid fix on the GNSS FR after the glider has come to rest.

20.7.1.2.2 The out landing certificate must be filled out by the pilot, but the two witnesses are not required if the flight is verified by a valid GNSS FR record. (Note: As the pilot may not be aware of a failure of his FR(s), it is advisable that the signatures be obtained.)

20.7.1.3 Out landings when the GNSS FR is not functioning

20.7.1.3.1 The out landing certificate must be filled out by the pilot and signed by two independent witnesses.

20.7.2 Virtual GNSS Out landing. A virtual GNSS out landing is the claimed termination of the flight at given coordinates as recorded by the FR. The purpose is to eliminate the risks involved in a real out landing. A competitor may continue the task or land elsewhere and claim any such point.

20.7.2.1 The competitor shall be scored as if the claimed point were the landing point, should the distance to that point yield a greater distance than the actual landing point.

20.8 Finishing

20.8.1 General

20.8.1.1 The finish line shall be a straight line at the elevation of the airfield that is clearly identifiable on the ground. The finish line may not exceed 1000m in length, and shall be so placed that gliders can safely land beyond it, if required.

20.8.1.1.1 The Organisers shall establish a number of final turn points or control points prior to the finish line to align all finishing gliders with the desired direction of finish.

20.8.1.2 To complete a task, the glider shall correctly transit one of the final turn points as specified at briefing and cross the finish line unassisted, in the direction specified at briefing. However, a glider landing back at the airfield without crossing the finish line shall be deemed to have finished and shall be given as a finish time, this being the time at which the glider stops moving plus five minutes.

20.8.1.3 The finish line shall be crossed in the direction given at the daily briefing. The crossing of the finish line will be controlled by the FR and visually by the finish line officials. Pilots finishing in the wrong direction will be penalised.

20.8.1.4 Competitors shall call the finish line when they are 25 km out on the competition frequency and then remain on that frequency for the remainder of the flight. The finish line will acknowledge their call by repeating the call sign. At the control point 7 km from the finish line gliders must call again and advise whether they will be doing a flying or a rolling finish. The acknowledgement will be the contest number. The competition frequency, circuit pattern and runway alternatives for the finish direction to be used will be given at briefing.

20.8.1.5 All crossings of the finish line shall be manually timed as backup for the GNSS timing.

20.8.1.6 The finish line officials shall repeatedly announce strength and direction of the wind, together with other significant meteorological data at the contest site.

20.8.1.7 The finish line shall be closed:

- at sunset; or
- when all competitors are accounted for; or
- when there is no more possibility of gaining speed points; or
- at a set time announced at briefing.

20.8.2 Finish Time

The finish time shall be interpolated, to the nearest second, from the last GNSS fix prior to the finish line and the first fix after the finish line. If the primary and back-up GNSS unit (if carried) both fail to record the finish, then the manual timing of the finish line crossing shall be used.

20.8.3 Landing

20.8.3.1 The landing procedures, and the radio frequency for landing will be announced at briefing.

20.8.3.2 Hazardous manoeuvres when approaching and after crossing of the finish line shall be penalized. Having crossed the finish line the competitors shall land without delay.

20.8.3.3 Landing later than the end of legal daylight shall be penalized.

20.9 Aero Tow Retrieves

Aero tow retrieves will be permitted provided the glider has landed on an airstrip that is safe to tow out of and that the tug and glider can be back at the contest site within the limits of legal daylight.

20.10 Flight Documentation

All flight documentation, including GNSS recorders, and out landing certificates shall be handed in at the competition office within 30 minutes of the gliders landing time at the contest site even if the task was cancelled and the competitor didn't make a valid start. In the case of an out landing the flight documentation must be handed into the competition office immediately the glider returns to the contest site. The Organisers may also require back-up documentation. This must be delivered to the competition office within 2hrs of the pilot or team manager being notified that the backup logger is required. Non-compliance may be penalized.

21 SCORING

21.1 General Requirements

Scoring systems used in World and Continental Championships should previously have been tested in National Championships and fulfil the following requirements:

- Be fair;
- be reasonably simple;
- be easy to understand for pilots, media and the public;
- enable the Organisers to publish results quickly; and
- encourage competitors to their best individual performance.

21.2 Common Rules

21.2.1 Each competitor shall be given daily points based on his performance on each championships day.

21.2.2 Flights that have been disqualified shall be given zero points for the day, but shall be included in the scoring formula.

21.2.3 Cumulative and final scores shall be calculated by adding the points obtained each day on the nominated scoring system.

21.3 Assessment of Marking Distance

21.3.1 Assigned Speed Task (AST)

21.3.1.1 The marking distance is the sum of the legs correctly completed (commencing from the pilots start point), in the proper order and the distance achieved on the next leg attempted but not completed, if any.

21.3.1.2 The achieved distance of the uncompleted leg is the length of that leg less the distance between the Landing Place and the next Turn Point, or Goal in the case of the last leg, with the provision that if the achieved distance of the uncompleted leg is less than zero, it shall be taken as zero.

21.3.2 Designated Time Assigned Area Task (AAT)

21.3.2.1 The task is defined by the competitors start point, any number of assigned areas and a finish line. Competitors must have at least one valid GNSS fix in each of the assigned areas in the order they were specified on the task sheet. The marking distance (overall distance flown) is calculated from the competitors start point to the finish line via the valid GNSS

fixes (scoring points) in the assigned areas. The scoring point chosen in each area is that GNSS fix which gives the competitor the best possible distance flown. Only one point can be selected in any one area

21.3.2.2 Calculating the Designated Time distance or the total distance flown if there is an out landing. If the competitor has outlanded the marking distance shall be the sum of the distances up to the Final Scoring Point in the last assigned area before the out landing or the designated time expired plus the distance to the landing point determined as follows. The Final Scoring Point in the last assigned area shall be that point in the area that maximises the length of the last completed leg. The distance to be added for the incomplete leg shall be calculated by the following method. The distance from the landing place or the claimed GNSS outlanding point, to the nearest point of the next area, control point or finish line, subtracted from the distance between that point and the previous scoring point.

21.4 Assessment of Speed on Tasks.

The speed will be calculated from the actual start time and position of the last valid fix in the start point zone, see 20.5.2 .

21.4.1 Assigned Speed Task (AST).Speed points will be given only to competitors achieving valid finishes based on the speed achieved which is calculated by dividing the marking distance by the elapsed time on task.

21.4.2 Assigned Area Speed Task. Speed points will be awarded for the speed achieved on completing the task by crossing the finish line or, the speed achieved in the designated time. Whichever gives the competitor the most favourable score

21.4.3 Championship day. A Championships day is defined as one on which more than 25% of the competitors in the class who have been offered an official competition launch on that day, fly a marking distance of at least 100 km (see 3.2.2).

22 CALCULATION OF SCORES

The Organisers shall score competitors according to the 1000 point system (22.1).

22.1 Calculation Of 1000 Point Scores For Assigned Speed Tasks.

22.1.1 The score given to each competitor shall be expressed to the nearest whole number, the value of 0.5 being rounded up.

22.1.2 Maximum Points Available Pm (subject to correction by the day factor f) is the least of either: Pm = 1000 or: Pm = (5 x D) - 250 or: Pm = (400 x D/V) - 200 where: D = the maximum marking distance of the day in km, and V = the best speed of the day in km per hour.

22.1.3 Speed Tasks

Pu (uncorrected points) = Pd + Pv

Pd (distance points) = Rd x (1 – (2 x Rn)/3) x Pm

Rd = $\frac{\text{Marking Distance}}{\text{Length of the task}}$

Rn = $\frac{\text{number of competitors exceeding 2/3 of best speed}}{\text{number of competitors with a competition launch on that day}}$

Pv (speed points) = 2 x (Rv - 2/3) x Rn x Pm

Rv = $\frac{\text{Competitor's Speed}}{\text{Best speed of the day}}$

When Pv is negative it shall be ignored; it shall also be ignored for non-finishers.

22.1.4 Distance Tasks, or Speed Tasks Without Finishers. Distance points are available for all tasks (refer 21.3)

Pu (uncorrected points) = Pm x Rd

where Rd = $\frac{\text{Competitors Marking distance}}{\text{Maximum marking distance flown}}$

22.1.5 Penalties

Any penalties shall be deducted after the score for the day has been calculated and shall not change the day factor (if applicable).

22.1.6 Day Factor

The Uncorrected Points Pu are multiplied by a Day Factor f to give the Corrected Points Pc. The Corrected Points Pc determine the score for the day.

Pc = f x Pu , and f = 1.25 x n/N

n = the Number of competitors who achieve a Marking Distance of at least 100 km;

N = the Number of competitors having had competition launch.

When f exceeds 1 it shall be taken as 1.

22.2 Calculation Of 1000 Point Scores For Assigned Area Speed Tasks

22.2.1 The score given to each competitor shall be expressed to the nearest whole number, the value of 0.5 being rounded up.

22.2.2 Maximum Points Available Pm (subject to correction by the day factor f) is the least of either: Pm = 1000 or: Pm = (5 x D) - 250 or: Pm = (400 x D/V) – 200. where:

D = the maximum Marking Distance of the day in Km corresponding to the Best Speed and,
T = is the corresponding Time in hours actually flown to achieve the Marking Distance. If the competitor landed out before the Designated Time then Time T, is the elapsed time from the start to the time recorded at the land out point.

The score for the task is built up as follows

a) Points are calculated using the standard FAI speed formula. All speeds that are better than 66.67% of the Best Speed will get the same Pd as allocated by this formula. Competitors with Speeds that are less than 66.67% of the best Speed will only get points Pd awarded pro-rata relative to 66.67% of the winners speed.

b) Timeout speed is the speed achieved in the designated time for the day.

c) A reduction factor Fr is applied to competitors Timeout Speed, this reduction will be up to a maximum of 10% of the competitors Timeout Speed. The Timeout Speed will be factored by the ratio of finishers to non-finishers, starting at 100% when there are no finishers, decreasing to 90% when 80% of competitors have finished.

d) To ensure that the most beneficial speed is used for scoring a competitor, the Competitors Speed used for scoring is the greater of either :-

Speed for completing The Task or Fr x Timeout Speed

e) The marking distance for a competitor who uses the "Time-Out" speed for scoring is the competitors actual distance flown in the Designated Time.

The Marking Distance for a Competitor who uses their "Speed for Completing the Task" for scoring is the competitors actual distance from their start point to the finish line.

f) The Best Speed is the greatest Competitors Speed.

22.2.3 Assigned Area Points.

.Pu (uncorrected points) = (Pd+Pv)

Pd=Rd x (1-(2xRn)/3)xPm

Rd = $\frac{\text{Competitors Speed}}{\text{2/3 Best Speed of the day}}$

If Rd is greater than 1 it shall be taken as 1

Rn = $\frac{\text{number of competitors exceeding 2/3 of the Best Speed}}{\text{number of competitors with a competition launch on that day}}$

Pv = 2 x (Rv - 2/3) x Rn x Pm

Rv = $\frac{\text{Competitors Speed}}{\text{Best Speed of the day}}$

If Pv is negative it shall be ignored.

Fr = Non finishers points reduction factor

Fr= 1-0.125(N1/N): if N1/N > 0.8 then N1/N shall be 0.8

N1 = the number of competitors who complete the task and cross the finish

N = the number of competitors having had a competition launch

22.2.4 Penalties

Any penalties shall be deducted after the score for the day has been calculated and shall not change the day factor (if applicable).

22.2.5 Day Factor

The Uncorrected Points Pu are multiplied by a Day Factor f to give the Corrected Points Pc. The Corrected Points Pc determine the score for the day.

Pc = f x Pu , and f = 1.25 x n/N

n = the Number of competitors who achieve a Marking Distance of at least 100 km;
N = the Number of competitors who have been offered a competition launch.
When f exceeds 1 it shall be taken as 1.

22.2.6 List of Standard Penalties

Type of Offence	First Offence	Subsequent Offence	Max Penalty
Wrong, late or missing information			
Documentation not complete	No launch	No launch	No launch
Scrutineering not complete	No launch	No launch	No launch
Notification of start time > 30 min after start	Warning	10 pts	25 pts
Declared start time differing from the real time	Warning	10 pts	25 pts
Changing FR without advising the Organisers	10 pts	20 pts	25 pts
Incorrect FR adjustment (Time interval between fixes > 10 sec)	Warning	10 pts	25 pts
Late delivery of documentation (FR, out landing certificate)	Warning	10 pts	25 pts
Late delivery of backup documentation	Warning	10 pts	25 pts
Incomplete out landing report	Warning	10 pts	25 pts
Incorrect Start point			
Valid Start at Incorrect Start Point	100 pts	100 pts	100 pts
Incorrect transiting of Start points			
Between 0.51 and 1.00 km	50 pts	50 pts	50 pts
More than 1.00 km	No Control	No Control	No Control
Exceeding start height limit	0.2 pts/m	0.2pts/m	0.2pts/m
Incorrect transiting of turn Points			
No valid fix within 0.5km radius beer can or straight line joining two consecutive valid fixes does not pass through area	No control	No control	No control
Dangerous or hazardous flying			
Cloud flying	100 pts	Day Disqualification	Disqualification
Circling in wrong direction in the local zone	Warning	(n-1) x 25 pts	Disqualification

Towing: early or late release	Warning	(n-1) x 25 pts	Disqualification
Towing: Excessive pull-up just before release	Warning	Day Disqualification.	Disqualification
Finish line: crossing below altitude limit	Warning	(n-1) x 25 pts	Disqualification
Finish line: incorrect approach direction	Warning	(n-1) x 25 pts	Disqualification
Landing: incorrect landing lane	Warning	(n-1) x 25 pts	Disqualification
Flying above the absolute altitude limit (defined at briefing) if excess altitude < 100m	1 pt/m	n pts/m.	Day Disqualification
Flying above the absolute altitude limit (defined at briefing) if excess altitude > 100m	Day Disqualification.	Day Disqualification.	Disqualification
Entering restricted or closed airspace	Day Disqualification.	Day Disqualification	Disqualification
Landing after legal daylight	10 pts/min	Day Disqualification	Disqualification
Cheating or falsifying documents			
Falsifying documents	Disqualification	Disqualification	Disqualification
Attempt to obtain external help for finding lift from non competing glider or airplane	Day Disqualification	Disqualification	Disqualification
In flight use of Cell phone	Day Disqualification	Disqualification	Disqualification
Other Violations			
Flying under influence of alcohol	Day Disqualification	Disqualification	Disqualification
Positive doping control	See FAI policy	See FAI policy	
Wing Span Penalty in 15m & STD Class (#)	1 pt/cm	1 pt/cm	1 pt/cm

(#) If the span of a glider in the 15 m Class or in the Standard Class exceeds 15,000 mm, a penalty of a fixed number of points shall be subtracted from the daily score. The number of daily penalty points is obtained by subtracting 0.3 cm from the measured over span, then rounding this number to the nearest whole cm.

Examples:

a) A 2.7 cm over span will give daily penalty points of 2.7 - 0.3 = 2.4 which is then rounded down to 2 points.

b) A 3.9 cm over span will give daily penalty points of 3.9 - 0.3 = 3.6 rounded down to 3 points.

From the Delegate for the Republic of France, Roland Stuck.

Mr President, Colleagues,

On behalf of the French Gliding Federation, and fully aware of the difficulties faced by organizers, we respectfully request that IGC seriously consider changing the dates for the coming World Championships at Mhabato, Republic of South Africa for the following reasons

1. Based on the experience of the three last years, the weather during the chosen period is not very favourable (storms, flooding in Mozambique) etc.

2. During the chosen period (Christmas/New Year), local hotel accommodation is relatively expensive as it high season for tourism.

3. On January 1st, 2002, the Euro currency will be coming into use, and many European pilots are likely to be very busy professionally at the end of 2001, setting up the introduction and change-over, which is far from being a minor consideration.

4. Christmas is a family festival and many pilots are unhappy at having to spend it so far from their loved ones two years in succession.

We would like to suggest : training between Christmas and New Year, for example from 28th December, to allow for post-Christmas travel from Europe, with contest flying after that.

Sincerely yours

Roland Stuck

Bid for organizing the

2nd Women's World Gliding Championship 2003

Applicant:

Deutscher Aero Club e.V.
Gliding Commission
Hermann-Blenk-Str. 28
D-38108 Braunschweig
Germany
Tel.: +49 531 2354051
Fax: +49 531 2354055
EMail: segelflug@daec.de

Competition Site:

Klix - EDCI
51°16'30'' N 14°30'30'' E
elevation: 148m

Organizing Aeroclub:

Aeroteam Klix
Am Flugplatz 5
D-02694 Großdubrau OT Saerchen
Tel.: +49 35932 30281
Fax: +49 35932 31333

1 Event and Year

2nd Women's World Gliding Championship 2003

1.1 Name and address of applicant

German Aero Club e.V.
- Gliding Commission -
Hermann-Blenk-Str. 28
D-38108 Braunschweig
Germany

1.2 Number of active gliding members

Active gliding members of the Aeroteam Klix: 80

2 Site

2.1 Name of airfield

Gliding field of Klix

2.1.1 Co-ordinates

51°16'30'' N 14°30'30'' E; elevation: 148m

2.1.2 Direction and distance to next town, population of this town

The airfield is 15 road kilometers north of Bautzen and 70 road kilometers east of Dresden, the first city of Saxony. Bautzen has a population of about 40,000 people.
The borders to Poland and Czech Republic are 35 km east and 40 km south respectively.

2.1.3 Experience of airfield staff in organizing championships / competitions

Klix is the soaring center of Saxony. The years before 1990 there were hosted different national competitions and championships.
Since 1993 Klix airfield has been the venue of the annual competition "Pokal der Alten Langohren", one of the most popular german competitions with international participants, during the last years with about 100 gliders in four classes.

2.2 Proposed period for the event

Last week of July 2003 for training and the **first two weeks of August** for competition.

2.3 Airfield operating data

2.3.1 Surface of airfield, number and direction of runways

Runway 1: direction: 28/10; length: 2 x 950 m x 100 m; surface: grass.
Runway 2: direction: 24/06; length: 1 x 1100 m x 200 m; surface: grass.
In case of competition it is possible to use the whole airfield area of about 950 m x 900 m.

2.3.2 Maximum number of sailplanes which can be accepted

The maximum number of competition gliders that can be accepted is more than the anticipated entries. The facility can adequately handle more than 100 gliders.

2.3.3 Number of tow-planes which will be employed

Tow planes will be deployed according to the number of entries, usual one for 10 gliders.

2.3.4 What meteorological facilities can be expected

Meteosat receiver, professional weather forecast personnel.

2.3.5 Parking facilities for sailplanes (in the open or in hangars)

Sailplanes can be parked only in the open.

2.3.6 Repair facilities for sailplanes

Onsite fiberglass and mechanical repair facilities will be made available by a professional glider repair service usually located within one hour drive of the site.

2.3.7 Repair facilities for radio and instruments

Limited onsite repairs will be available by staff. Professional repair services are available about 200 km of the airfield.

2.3.8 Will oxygen be required, and if so, supply facilities

Oxygen will not be required.

2.4 Airfield layout

All buildings will be used for competition.

2.4.1 Description of the briefing room

The smaller hangar is large enough to accommodate 100 pilots, their team managers and crew members.

2.4.2 Description of common rooms for the competitors

If necessary, up to two rooms may be provided for temporary use.

2.4.3 Description of the meeting room for the International Jury

A full-staffed room for the jury will be available.

2.4.4 Description of the press center

There will be a room provided for press staff with telephone, telefax and internet connection.

2.4.5 Number of public telephones, telefax and similar equipment

There will be sufficient communication facilities regarding telephone and fax. Crews are required to bring mobile phones. There will be no telephone lines to teams.

2.4.6 Postal and banking facilities at the airfield

The next post offices are in Großdubrau (4 km) and in Bautzen (15 km). Limited postal services will be provided by staff.
All major banking groups are present in Bautzen. Note: The Euro will be currency in 2003.

2.4.7 Insurance facilities

All german major insurance companies are present in Bautzen.

2.4.8 Toilets, wash- and shower rooms at the airfield

There are 9 toilets and 4 showers regularly installed at the airfield. The club will rent additional toilet and shower containers for the period of training and competition.

2.4.9 Car parking facilities at the airfield

There are enough parking facilities at the airfield.

2.4.10 Emergency and medical facilities at the airfield

The district hospital is located in Bautzen. The next helicopter based emergency rescue is in Bautzen, too. Physicians and dentists are available 2 – 4 km closed to Klix.

2.5 Facilities for the OSTIV Congress

No OSTIV Congress is planned for.

3 Accommodation and food for competitors

3.1 Accommodation facilities

3.1.1 Camping facilities at airfield

A campground is operated on the airfield. There are no regulatory restrictions on the number of campsites available.

3.1.2 Youth hostels

The next youth hostel is in Bautzen. It has about 20 entries.

3.1.3 Boarding houses/guest houses

All within 15 km of the airfield, see appendix 1.

3.1.4 Hotels

All within 15 km of the airfield, see appendix 1.

3.1.5 Other accommodation facilities

All within 15 km of the airfield, see appendix 1.

3.2 Catering for competitors at the airfield

Catering for competitors and visitors at the airfield will be supplied. The average cost of a complete warm meal will be between 3 – 7 US$.

4 Competition area

(See appendix 2)

4.1 Description of topography and outlanding conditions

The competition area (approx. 250 km by 350 km) reaches into Poland and the Czech Republic. There is flat area in the north, east and west, mountainous in the south.
Especially the areas in the north and north-west, known as Niederlausitz and Flaeming, offer very good conditions for tasks from 300 to more than 500 km.
Outlanding opportunities are plentiful and have caused little concern in previous competitions.

4.2 Comprehensive survey of meteorological conditions

The continental climate causes good thermal conditions. The thermal period is between 7 and 10 hours per day, the thermal strength around 2 – 3 m/sec with peaks about 5 m/sec and the cloud base is approx. 2,000 – 3,000 m above ground level.

4.3 Airspace restrictions (if any)

Maximum flight altitude: flight level 95; few control areas extend into the area (f. e. around airports in Dresden, Berlin, Leipzig).

4.4 Typical tasks to be expected with examples of outstanding tasks hitherto flown

Tasks in competitions average 300 km to 500 km.
Appendix 3 shows typical tasks flown at competition in May 2000 with classes of 20 – 45 gliders.

4.5 Road and traffic conditions

Road and communication conditions are superb. Autobahn A4 is crossing Bautzen, the station at Bautzen is connected with Goerlitz (East) and Dresden (West). Autobahn A13 is crossing Dresden; several highways get into touch with East-West and North-South connections.

4.6 Standard of telephone communication

The telephone system is excellent with both a comprehensive landline system and at least three competing mobile phone systems servicing the area.

5 Rules

5.1 Proposed modifications to the world championships rules

No changes to latest IGC Competition rules are proposed.

5.2 Particular conditions or possible restrictions for the participation

Possible restrictions will be defined by Local Regulations.

5.2.1 For pilots and crews

Other than meeting visa requirements of the german government for entry into Germany, no restrictions are envisaged. Foreign pilots may fly, as long as they have a valid license from their own country.

5.2.2 For sailplanes and equipment

The third party liability insurance coverage of the gliders must meet the german requirements (US$ 1,250,000.00).

6 Costs

6.1 Entry fee (per sailplane, per pilot or whatever applicable)

The **entry fee** is **400 US$ per sailplane**.

6.1.1 Services included in the entry fee

The entry fee covers all operational costs, including the following items:

- 2 ICAO maps (Nuremberg and Berlin)
- road maps
- turning point catalogue
- airspace restriction catalogue

6.1.2 Cost of aero tows, if not included in the entry fee

600 m tows will be 25 US$ each (based on the fuel prices of November 2000)

6.2 Price of car fuel (petrol/diesel per liter)

Current prices (November 2000) of petrol (unleaded) are 1,00 US$/l, Diesel 0,70 US$/l.

6.3 Cost of rental cars

Car rental is possible by several local vendors.

6.4 Any other cost for competitors

6.4.1 Camping fee

The camping fee is 80 US$ per adult for the complete period including training.

6.4.2 Hotel cost

Hotel cost depend on category used.
Single room prices start at about 30 US$ per day, double room prices at about 40 US$ per day.

6.4.3 Food

Breakfast is 3 – 5 US$, lunch 4 – 6 US$ and supper 4 – 7 US$

7 Sailplane hiring

Sailplane hiring only on private base.

8 Training possibilities

8.1 Are the organizers prepared to hold a competition with international participation and similar rules at the contest site the year before championships

Klix will be the venue of the competition “Pokal der Alten Langohren” in May 2001, May 2002 and May 2003 and of the German Feminine Championship in August 2002 (15 m, Standard and Club Class). International participation is encouraged.

8.2 If so, how many international competitors can be accepted

20 international competitors can be accepted for the annual “Pokal der Alten Langohren” and about 30 for the German Feminine Championship.

9 Other remarks

Appendix 1- 3

Suggested websites:

www.segelflug.de	german main gliding website
www.aeroteam.de	website of Aero Team Klix
www.bautzen.de	website of Bautzen with links to hotel pages
www.sixt.de	german car rental option
www.europcar.de	german car rental option

Appendix 1: Hotels and boarding houses within 15 km of the airfield

Hotel	Phone	Address	distance
Goldener Adler	+49 3591-48660	02625 Bautzen - Hauptmarkt 4	15 km
Holiday Inn	+49 3591-4920	02625 Bautzen - Wendischer Graben 20	15 km
Husarenhof	+49 3591-620205	02625 Bautzen - Kaethe-Kollwitz-Platz 1	15 km
Spree Hotel	+49 3591-21301	02625 Bautzen - An den Steinbrüchen	10 km
Park Hotel	+49 3591-21780	02625 Niedergurig	12 km

Boarding house	Phone	Address	distance
Saechsischer Jaeger	+49 35934-4244	02694 Grossdubrau – E.-Thaelmann-Str. 4	4 km
"Olba-Stuebl"	+49 35932-32100	02694 Guttau – OT Wartha 25	6 km
„Zur Guten Laune"	+49 35932-31029	02694 Loemischau – Lindenweg 9	5 km
„Heideschaenke"	+49 35932-31123	02694 Commerau – Boxberger Str. 18	3 km

Appendix 2: Tasks and winners speed at „Pokal der Alten Langohren 2000"

Open Class (max. 22m/Index 118), 16 participants

Tasks	**winners speed/distance**
482 km	481 km
343 km	82 km/h
404 km	355 km
185 km	108 km/h
404 km	93 km/h
298 km	120 km/h

Standard / 15 m Class (Index 102 – 114), 44 participants

Task	**Winners speed/distance**
269 km	86 km
206 km	77 km/h
122 km	122 km/h
330 km	94 km/h
248 km	132 km/h

Club Class 1 (Index 98 – 100) 45 participants

Task	**winners speed/distance**
210 km	196 km
151 km	63 km/h
111 km	114 km/h
255 km	92 km/h
203 km	109 km/h

Club Class 2 (Index 86 – 96) 21 participants

Task	**winners speed/distance**
128 km	126 km
117 km	47 km/h
100 km	76 km/h
140 km	83 km/h
139 km	110 km/h

Appendix 3: map of competition area

See on-line version !

14.2

SLOVAK NATIONAL AEROCLUB
of general M.R.Štefánik
Vajnory Airport, 831 07 Bratislava, Slovak Republic

Tel.: +42 7 43712 511 Fax: +42 7 43711 611 email: vladimir.foltin@lps.sk

December '00

Dear IGC Delegates,

On behalf of the Slovak National Aeroclub I am pleased to inform you, that Aeroklub NITRA in co-operation with the national aeroclub, national gliding commission will present an official bid to hold the 3rd World Junior Gliding Championships 2003 at Nitra Airport, Slovak Republic.

The NITRA venue has **existing infrastructure** allowing for an international village, suitable briefing areas and repair facilities, nice restaurants, all adjacent to the airport, which will ensure a pleasant stay, and funny atmosphere for all involved.

The greatest fortunes of the countries are people. Slovak people are commonly known for their friendly and hospitable character. The Slovak republic's climate and natural fortune has promoted the country for turism and sports. This Global interest to sport is reflexed in organising activities of the Slovak National Aeroclub such are **the European Club Class Champinships 1994** held at Slavnica airfield, the **European Women's Gliding Championships 1997** held at Prievidza, excellent organised **World Aerobatics Championships – Class Unlimited 1998** at Trencin and finally **European Rally Flying Championships 2000** held at Slavnica airfield..

That's why the world junior gliding community is invited for the 3rd World Junior Gliding Championships in 2003 to Slovakia**.**

The bid is supported by local and state authorities, which will help in organisation. The complete bid has been sent to all NAC delegates. All kind of questions regarding this material you are pleased to ask our national representative who will provide you with all information required at the IGC meeting in Lausanne.

We hope that you will find out advantages of our bid, such are good organisational background, excellent gliding terrain and low costs for all competitors, which should hopefully lead you to vote for our bid.

Thank you for attention to this letter and I hope I would welcome you to NITRA in 2003.

Best regards,

Jozef CESNEK

President, Slovak National Aeroclub

14.2

BID TO HOLD

THE 3rd WORLD JUNIOR'S GLIDING

CHAMPIONSHIP 2003.

Submitted by:

THE SLOVAK NATIONAL AEROCLUB OF GEN. M. R. ŠTEFÁNIK

AND

AEROCLUB NITRA

TABLE OF CONTENTS

Letters of Support

INTRODUCTION

The Slovak Republic is young country by itself, but abundant in it's culture and history. The city of NITRA is excellent example of this. The NITRA venue has existing infrastructure allowing for an international village, suitable briefing areas and repair facilities, nice restaurants, all adjacent to the airport, which will ensure a pleasant stay, and funny atmosphere for all involved.

But the greatest fortunes of the countries are people. Slovak's are commonly known for their friendly and hospitable character. That's why the Slovakia of today is modern country, with growing economy and harmonious society.

The Slovak republic's climate and natural fortune has promoted the country for tourism and sports. The evidence of this are international sport events organised in the fresh past.

This Global interest to sport is reflected in organising activities of the Slovak National Aeroclub such are the European Club Class Gliding Championships 1994 held at Slávnica airfield, the European Women's Gliding Championships 1997 held at Prievidza, excellent organised World Aerobatics Championships – Class Unlimited 1998 held at Trenèín and finally the European Rally Flying Championships 2000 held this year at Slávnica airfield.

That's why the world junior gliding community is invited for **the 3rd World Junior Gliding Championships 2003**.

THE EVENT ORGANIZERS

This proposal is submitted by the **Slovak National Aeroclub of Gen. M. R. Štefánik together with Aeroclub Nitra.** The contest is to be held at Nitra Airport, the home of the **Aeroclub Nitra.**

Details of each of these organisations are as follows:

- The **Slovak National Aeroclub** is the main organisation covering Air Sports in Slovakia. After splitting the Czechoslovakia to the separate states it overdraw the responsibilities of the federal aeroclub within territory of Slovakia. Up to 1600 gliding members is organised in 27 clubs. The great reference of the Slovak National Aeroclub in organising international gliding events are the European Club Class Championships 1994 held at Slávnica airfield and the European Women's Gliding Championships 1997 held at Prievidza.

- The **Aeroclub Nitra** has operated for over fifty years and it has excess of one hundred members and is currently one of the four largest clubs registered within the national aeroclub. The club owns eleven gliders and eight powered planes and operates from own airport Nitra.

AIRPORT AND SITE SUITABITLITY

AIRPORT NITRA

The general layout of the Airport Nitra is shown in **Figure 1**.

The airport is situated LAT 48° 16' 47" N LONG 018° 08' 02" E and lies 5 km south-east from centre of Nitra, which is regional town with population to 100.000 inhabitants. Nitra city is 80 km direction north-east from Bratislava, the capital city of Slovak Republic.

ADDRESS

AEROKLUB NITRA
letisko Nitra
949 07 Nitra
Phone: ++421 87 73348 05
Phone/Fax : ++421 87 73348 05
E-Mail: vladimir.foltin @lps.sk

ELEVATION

135 m / 443 ft

TAKE OFF GRID AND LANDING AREA

The airport has two runways:

- Runway 33R/15L with dimensions 1080 x 50 metres has grass surface with drain system will serve as landing area for tow planes during lunching.

- Runway 33L/15R with dimensions 1080 x 100 metres has grass surface with drain system will accommodate the grid.

The entire airport is available as landing area and is comparable with that available at previous World Junior Championships. **Airport could accommodate up to 100 gliders.**

HANGARAGE AND SECURITY

Hangar will be available for competitors needing to undertake repairs, but not for general use. Security service will be arranged to protect gliders and trailers during nights.

WATER

The airport is connected to permanent supply of water from the local water authority. Adequate points are available from which water ballast can be taken. During event a water taps will be installed along parking lines.

INTERNATIONAL VILLAGE

For the convenience of the competitors and their crews an International Village will be established at the airport. Proposed village will provide following facilities:

- Camping Area with sanitary installation and electricity.
- Airport Restaurant.
- Airport Bar.
- Briefing Hall.
- Banking Service.
- Insurance Service.
- First Aid Medical Services.
- Communication Services (Phones, Faxes, Internet connections and Electronic Mail).
- Media Centre.
- Recreation and Entertainment Areas.
- Place for Opening and Closing Ceremonies.

SAILPLANE AND TRAILERS PARKING

Parking area for gliders and trailers will be situated along 500m long asphalt runway on the north-east part of airport.

REPAIR FACILITIES

Hangar space and state of the art equipment will be made available to affect any necessary repairs to glass-reinforced structures. Full workshop service with professional staff from the plant on the site will be available during normal hours or overnight in special cases. Technician capable to serve modern radios and avionics will be in attendance at site.

OTHER AIRPORT OPERATING DATA

For other airport operating data see enclosed pages of the Slovak Republic AIP in **Appendix 1**.

CONTEST AREA AND AIRSPACE

CONTEST AREA

Tasks will be set within the area as shown on **Figure 2**. This area covers almost whole west and middle part of the Slovak Republic.

TOPOGRAPHY

The site is on the south margin of mountain's region of Slovakia. The contest area has a range in southern direction till Danube River with typical flat land and in the northern direction till High and Low Tatra Mountains with highest peaks up to 2500 m MSL In the valleys of these mountains are sufficient landing areas, even for aerotowing application direct from the field. At whole other area are excellent and safe landing possibilities at period in which the event will be done.

AIRSPACE RESTRICTIONS

The airspace shown on the enclosed map (**Figure 2**) will be penned for both training and competition period.

METEOROLOGICAL CONDITIONS AND SERVECES

In the proposed period very good weather conditions with intensity of average thermals form 2 to 4 metres per second and cloud bases from 2500 to 3500 m MSL are expected. The mountain ranges of Low Tatra and other produce cloud streets with excellent thermals and extended cloud base usable for high-speed cross-country flights. Wave conditions are seldom in the proposed period. Professional meteorologist with good experiences in gliding condition forecasting will provide meteorological service. The satellite service will be available to pilots and crews at the site.

TYPICAL TASKS

Typical tasks set will be Assigned Speed Tasks, Assigned Area Tasks and Time Distance Tasks with length from 200 to 600 km for Club class gliders and from 250 to 650 km for Standard class gliders.

THE REGION

Nitra city is ideally placed to conduct an international gliding event. The town is only 50 minutes highway drive from the capitol city Bratislava. Nitra is regional town with population up to 100.000 inhabitants.

The region of NITRA offers most reliable weather conditions suitable for spectacular and safe gliding for which Slovakia is known among many glider pilots. At the same time the city of NITRA is giving access to a range of facilities, which will ensure that international visitors will have memorable and most pleasant stay in our country. The region is also known for its history, culture, wine and numerous tourist attractions.

ACCOMMODATION

The Nitra has a range of accommodation available from budget class accommodation at the airport to accommodation in hotels in the city.

Hotels

There are at least four hotels available at the site with capacity up to 1000 persons. The hotels are located in the city, which is 10 minutes drive away from the airport. The price is usually very simple.

Guest Houses

There is number of guesthouses situated near the city of Nitra. The standard of accommodation is average but economical. Private houses for rent may be available but in limited number.

Caravan and Camping Site

Camping area with sanitary installation and electricity will be located next to the main building in the International Village. The place will be able to accommodate up to 50 caravans and 50 tents. **The camping at the airport will be free of charge.**

Other Accommodation

Youth hostels for university students are located at various parts of the city. This accommodation could be also cheap variant.

OTHER RELEVANT MATTERS

PRE-WORLD CHAMPIONSHIP EVENT

A pre-world championship competition will be run at Nitra in July/August 2002, using as far as possible the same personnel, systems and facilities as would be used in the World Junior Championships in 2003.

PRACTISE OPORTUNITIES

The normal facilities of the Airport Nitra are available by arrangement at all times for practise both pre-world and world championship competitions. Other gliding clubs situated within contest area will also provide facilities and opportunities for training for a simple price.

MEDIA CAPACITY

Media publicity during European Junior Gliding Championships at Freudenstadt in 1997 and during 1st World Junior Gliding Championships at Terlet will be an example how to manage information flow during the event. All range of media such a regional radio and TV stations and newspapers will be involved in. Also the capacity of whole-state media will be used at adequate level.

PRE-PUBLICITY

The organiser is conscious of the information requirements of the pilots and crews planning to attend a WJGC 2003. The organiser therefore undertakes to produce regular bulletins about the event. These bulletins will be distributed internationally in hard copy format and through Internet. An E-Mail and WEB facility will also be established for the event. During championships progressive competition results will be made available through the Internet. A provisional Press Centre will be situated in the International Village.

MEDICAL AND EMERGENCY SERVICE

High standard medical and emergency services are available within the town. A first aid centre and stand-by emergency service will be provided at the site during the contest.

BANKING AND INSURANCE

All normal banking and insurance facilities will be available in the city. Charge cards such Visa, EuroCard, MasterCard and American Express are also used in Slovakia. A banking and insurance service will be provided at the site during contest.

TOW PLANES

To ensure rapid lunching, the organisers will provide minimum of 8 tow planes during the competition. Naturally, all tow-pilots will be well experienced. The number of tow planes could be extended with relation to number of competitors.

HIRE OF GLIDERS

We assume that there is limited amount of club class and standard class gliders available for hiring in our clubs, we will be able to arrange. We will inform about possibilities and conditions in bulletins.

BRIEFING ROOM

Briefing room will be located at the local club's hangar. All normal visual and acoustic aids will be available.

ROOM FOR STAFF, INTERNATIONAL JURY AND SECRETARY

These rooms will be available in buildings belonging to local club.

ROAD AND TRAFFIC CONDITIONS

Roads are in good conditions, carrying not generally less traffic than equivalent roads elsewhere in Europe. Speed limits are strictly enforced and alcohol limits are zero.

STANDARD OF TELEPHONE COMMUNICATIONS

World-wide, European normal standard. Cellular phone communication available for GSM and NMT standards at 98% of populated areas.

RULES

The latest IGC Competition Rules will be used. Particular conditions or possible restrictions will be given in the Local Rules.

COSTS

ENTRY FEE

Entry Fee is 350 EUR per glider, increased by inflation index as of January 2003.

SERVICES SUPPLIED FOR ENTRY FEE

- All airfield service
- Maps ICAO and road
- Turn points book and floppy disk
- Validation of GNSS Loggers
- Photocopying of briefing / meteorological information
- Results service, trophies, medals certificates

AEROTOWS

Aerotow Fee is 20 EUR per launch.

HOTEL ROOM

Price for hotel room is from 20 to 90 EUR / person / day.

MOTEL ROOM

Price for motel room is from 10 to 25 EUR / person / day.

CAMPING

Camping at the airport will be **free of charge.**

HOTELS MEALS

Hotel Meals costs approximately 12 EUR per day.

MEALS AT THE AIRPORT

Meals at the airport will cost approximately 9 EUR per day.

COST OF FUEL

- Gasoline costs approx. 0,9 EUR per litre.
- Diesel costs approx. 0,9 EUR per litre.

EXCHANGE RATE

1 EUR = 43 SKK

FIGURE 1 – AIRPORT LAYOUT

FIGURE 2 – CONTEST AREA

APPENDIX 1 – AIRPORT OPERATING DATA

Bid for organizing European Gliding Championships, 2002

Békéscsaba Airfield, Hungary

The Hungarian Aeronautical Association became enthusiastic over the European Gliding Championships, organised at Békéscsaba Airfield in 1992 and wishes to perform another championship in 2002. The mayors of Békéscsaba and Gyula towns, the municipality of Békés County and the Ministry of Youths and Sports give full support to this event. Concerning the present economic and political situation of Hungary, there is a great need of this competition of the Hungarian Gliding community.

1. Application for the EGC in 2002

1.1. The European Gliding Championship will be organised by the Hungarian Aeronautical Association with the co-operation of the Aero Club Békéscsaba.

1.2. There are around 1 700 active glider pilots in Hungary.

2. The location of the site

2.1. Békéscsaba Airfield.

2.1.1. Békéscsaba Airfield is situated at southwest part of Hungary, about 200 km from the capital Budapest.
Site Coordinates: N 46°40,55' , E 021°09,62'. Elevation 90 meters above MSL.

2.1.2. Békéscsaba has a population of about 100,000. The road journey from the airfield to the centre of the town takes about 5 minutes.

2.1.3. The organisation for the competition will be staffed mostly by club members of Aero Club of Békéscsaba who have great experience in the organization of successful championships.

2.1.4. Period of the event including one week of practice flying will be from 20th July to 10th August 2002

2.1.4 Competition classes: Standard, Open, FAI 15 m and 18 m classes.

2.2 Airfield operating data: There is an AFIS service on the A/F. Glider flying is not limited. Courses may be restricted by military flying but not in the period of the championship.

2.2.1 The airfield has two grass runways for takeoffs and landings at an angle of each other, their sizes are: 1350m x 400 and 1000 m x 400 m. The airfield is served by an NDB and a pellengator. The airfield operating data as well as airfield layout can be found in Annexes.

2.2.2 The maximum number of sailplanes (including self launching) to be allowed is 120.

2.2.3 There will be around 20 tow planes depending on the number of competitors..

2.2.3 There is an operating meteorological observing station with balloon ascent capability in 6 hours and direct data links to the Hungarian Meteorological Service. During the competition weather forecast will be provided by Kálmán Szabó, an internationally well-known meteorologist, with a complete meteorological database at his disposal.

2.2.4 There will be a tie down, open area behind the central building equipped with permanent water filling points.

2.2.5 A hangar and a club workshop will be available for small repairs. Experts will also be available to carry out thorough repairs if necessary.

2.2.6 Radio and instrument repairs will be helped or carried out by two specialised technicians stationed at the competition site.

2.3 Airfield layout

2.3.1 Briefing room

The size of the room is 20m x 10m which will allow tables and chairs for 160 people and will be equipped with sound system, projection screen, notice board, etc.

2.3.2 Meeting room for International Jury

The room of the International Jury will be in the terminal of the airfield.

2.3.3 Communication facilities available for competitors

There are public phone boxes with both card and coin operated machines. Public fax facilities will be provided by the organisers and fully-equipped team-containers will also be available.

2.3.4 There are no postal and banking facilities on the airfield, but both are available in the city centre.

2.3.5 The buildings of the airfield will have adequate toilet and shower facilities.

2.3.6. Medical facilities. Limited medical help will be available on the airfield. There are well equipped hospitals in Békéscsaba which is the medical centre of the region.

3. Accommodation and Food for Competitors

3.1. Accommodation

3.1.1Camping facilities at the airfield allow to accommodate about 250 people.

3.1.2 There are rooms in the airfield for 2-3-4-6-8 people which can accommodate up to 80 people.

3.1.3 There is a wide selection of guest houses in Békéscsaba from 20 DEM/night/person (cost includes breakfast).

3.1.4 Hotels cost 40-100 DEM/night for a double room with breakfast.

3.2. Meals

3.2.1. There is a restaurant at the airfield where meals are available either a la carte or prepaid set menu. A dinner a la carte costs about 8-12 DEM, menu 6.5 DEM.

3.2.2. A grocery shop and 3 snack-counters, where snacks, fruits, and other food-products are available will operate during the competition.

3.2.3. Other facilities. A variety of good restaurants are available in Békéscsaba and Gyula.

4. Competition area.

The area around Békéscsaba is absolutely flat, there are no hills and mountains nearer than 100 km in any direction and are not higher than 1000 m.

4.1. Topography and outlanding conditions. The economy is predominantly agricultural around Békéscsaba and in the Great Plain of Hungary, which makes the whole of the country an excellent outlanding field.

4.2. Meteorological conditions of the Hungarian Great Plain.

In Hungary gliding tasks are mostly set above flat or slightly hilly countryside due to the topographical features of the country. Advantageous and disadvantageous thermic effects of hills are experienced at aero-clubs, situated in the north part of the country. Therefore, gliding competitions in our country are mostly set in the Hungarian Plain or on its edge, like Szeged, Békéscsaba, Dunaújváros, Õcsény and Pécs-Pogány. The set tasks of the championship contains flying above mountains only in a small percent.

4.3 Typical tasks flown are triangles from 200 to 500 km in SW and NE sector of Békéscsaba. Longest task over this area was flown some years ago during a regional competition, when twenty-eight 750 km triangles were flown with Jantar 2B.

4.4 Road and traffic conditions. The quality and quantity of roads is similar to those of Western European countries, but Hungary has fewer motorways.

4.5 The standard of telephone communication in Békéscsaba and the surrounding area are up to international standard. Each village and town is connected to the international network, so the quality of communication is satisfactory all over the country. Mobile telephones can be used countrywide.

5. Rules

5.1. The IGC rules according to Annex A of Sporting Code Section 3 will be adapted in their entirety and without modification, but the organisers reserve the right to introduce local rules as required.

5.2. Only GNSS documentation including GNSS backups (IGC approved) will be accepted.

5.3. Conditions for participation

5.3.1. The participants accept the rules complying with FAI regulations.

5.3.2. The participants send the application forms and entrance fees by 31st March, 2002 with the approval of the national aeronautical associations.

6. Costs

6.1. Entry fee: 500 EUR

6.2. Entry fee includes the operational costs by organizer for airfield services, photocopying for meteorology,tasks and results, maps (ICAO and road), turn point catalogue on floppy disk also in printed form, trophies, prizes, medals and others.

6.3. Aerotow costs (600m): 30 EUR for gliders of Standard and 15 meter Classes and 35 EUR for gliders of Open Class.

6.4. Price of fuel (September 2000): Petrol 0.92-0.95 EUR/l
Diesel 0.81 EUR/l
(depends on oil cost on the world market!)

6.5. Cost of car-hiring (depends on status of car class, duration etc.)
without tow bar about 30 EUR/day
with tow bar 30 EUR/day is possible.

6.6. Exchange rate (September 2000) 1 EUR = 264 HUF
1 DEM = 135 HUF

7. Training possibilities

7.1. The organisers are happy to accommodate pilots wishing to train at any time of the year. The weather is suitable for distance flying from the midle of April to the end of August.

7.2. A competition with international participation (Pre-European Championship) with the same rules will be organized in July, 2001.

7.3. Up to 70 visiting pilot from other nations can take part on the Pre-European.

Budapest, October 2000

Dr Hegedûs Dezsõ

Addendum for the bid.

1. In 18 m class there shall be one pilot from one country and in all other classes there shall be max. 2 pilots from each country
2. We are planning the competition dates flexibly, we have talk to the Italians so the pre WGC & EGC will not overlap.
3. Costs of a four pilot team – including ground crew and team captain (9 person)

I. Accomodation in tents at the Airfeld, food by menu
- Entry fee 4x 500 = 2000 EUR
- Towing 14x30x4 = 1680 EUR
- Accomodation 9x19(day)x2,5EUR= 427,5EUR
- Food 9x19x8 EUR= 1368 EUR
- Use of trailers, car 300 EUR

Alltogether 5775,5EUR

II. Accomodation in rooms at the Airfeld, food by menu
- Entry fee 4x 500 = 2000 EUR
- Towing 14x30x4 = 1680 EUR
- Accomodation 9x19(day)x10EUR= 1710 EUR
- Food 9x19x8 EUR= 1368 EUR
- Use of trailers, car 300 EUR

Alltogether 7058EUR

III. Accomodation in rooms at the Hotel, food a la cart
- Entry fee 4x 500 = 2000 EUR
- Towing 14x30x4 = 1680 EUR
- Accomodation 9x19(day)x25EUR= 4275EUR
- Food 9x19x10 EUR= 1710EUR
- Use of trailers, car 300 EUR

Alltogether 9965EUR

Bid for organizing the 11. European Gliding Championships 2002 in Switzerland

Introduction

The Aero Club of Switzerland, in conjunction with Glider Association of Switzerland and the Glider Club of Bern, hereby applies to host the 2002 European Championships in the 15 meter, 18 meter, Standard, and Open FAI Classes.

The 1992 and 2000 Swiss Championships took place at Bern - Belp. The local gliding club proved successfully on both occasions that it could manage high quality and exciting competition. Bern is an excellent starting point for flights into the Swiss Mittleland, the hilly regions of Jura, and the pre-Alps with many possibilities for unplanned landings available. Good weather conditions also provide the opportunity for flights into the Swiss Alps themselves to be undertaken.

We are conscious of Switzerland's position in regards to the standard of living in Europe. We will strive to create a framework where the costs and expenses to the pilots will mirror those of the 2000 EGC in Lüsse, at the same time as offering the competitors an unforgettable experience in Switzerland's attractive airspace.

Switzerland applied for the 1996 Championships, which were awarded to Räyskälä Finland. We recognize what an important and significant opportunity the 2002 EGC represents for Gliding in Switzerland. Even though no major international competition has taken place here in more than 50 years, the success of the Swiss Championships in 1992 and 2000 provides us the confidence and experience to stage a well organized competition. Further, the multi-cultural nature of Switzerland will provide a friendly atmosphere just as multi-faceted landscape will provide rewarding competition.

Berne - Swiss Capital and World Cultural Heritage

Bern is Switzerland's political and diplomatic capital. The city lies right in the heart of Switzerland, and can easily be reached by rail, road or air from the main capitals of Europe.

Berne (founded 1191) is one of the few mediaeval cities which has been preserved intact and in its entirety.

Because of this, UNESCO has placed Berne on its list of Word Cultural Heritage, among such world-famous sights as the Pyramids of Egypt, the Taj Mahal and the centres of Rome and Florence. It is the only Swiss city which as a whole is honoured in this way.

1. Event and year

Swiss application for European Gliding Championsship 2002.

1.1 Name and adress of National Aero Club or other applicant

Aero Club of Switzerland (Segelflugverband der Schweiz des AeCS) with the co-operation of the Gliding Club of Berne (Segelfluggruppe Bern).

1.2 Number of active gliding members

Segelflugverband der Schweiz:	about 4'000
Segelfluggruppe Bern:	about 140

2. Site

2.1 Name of the airield

Bern-Belp Airport.

2.1.1 Coordinates
46° 54' 44" N, 007° 29' 57" E.

2.1.2 Direction and distance to nearest town, population of this town

- 2 km north of Belp. Belp has a population of 8'000.
- 6 km south of Berne. Berne is the capital of Switzerland, population 136'000.

2.1.3 Experience of airfield staff in organizing championships/competitions
The airfield staff has organized the Swiss gliding Championships of 1992 and 2000.

2.2 Proposed period for the event
May OR July.

2.3 Airfield operating data
Refer to APP 2; special facilities during the championships will be available.

2.3.1 Surface of airfield, number and directions of runways
Runway surface: grass
Number of runways: 4
Direction of runway: 14-32 (refer to APP 2 & 3)

2.3.2 Maximum number of gliders which can be accepted
Approx. 100

2.3.2 Number of towplanes which will be employed
10 -12, depending on the number of gliders.

2.3.4 What meteorological facilities can be expected
Professional weather forecasting personnel from the Swiss Meteorological Institute equipped with the latest hardware.

2.3.5 Parking facilities for gliders
Gliders can be parked in the open or in their trailers.

2.3.6 Repair facilities for gliders
Professional repair service is within 45 minutes driving time with trailer.

2.3.7 Repair facilities for radios and instruments
Several maintenance operations on the airfield.

2.3.8 Will oxygen be required, and if so, supply facilities
No oxygen will be required.

2.4 Airfield layout
Refer to APP 2 and 3.

2.4.1 Description of Briefing Room
Briefings are held in the hangar: audio-visual equipment is available.

2.4.2 Description of Common Room(s) for the competitors
A large tent will be on the airfield as a meeting point for the competitors.

2.4.3 Describtion of the Meeting Room for the International Jury
Enough rooms for the jury and the press staff is available.

2.4.4 Description of the Press Center
Up to 4 working places with 1 PC and a copying machine. There will be sufficient communication facilities regarding telephone and fax. Crews are required to bring mobile phones. There will be no telephone lines to teams.

2.4.5 Number of public telephones, telefax and similar equipment
Enough telephones, fax and PC (internet) are available.

2.4.6 Postal and banking facilities at the airfield
There are Post offices and Banks with automatic teller machines in the villages Belp and Kehrsatz (both within 2-3 km) .

2.4.7 Insurance facilities
All major insurance companies are present at Belp.

2.4.8 Toilets, wash rooms and shower rooms at the airfield
We will rent enough shower- and toilet-containers for the period of the training and competition.

2.4.9 Car parking facilities at the airfield
There are enough parking facilities at the airfield.

2.4.10 Emergency and medical facilities at the airfield
The district hospital is located in Belp (3 km). Ambulance helicopter with a medicine docotr is available 24 hours at the airfield.

2.5 Facilities for the OSTIV Congress
If an OSTIV Congress is requested, facilities for 200 persons in Belp are available.

3. Accommodation and food for competitors

3.1 Accommodation facilities
Many hotels (about 3000 beds) around the airfield (within 3-10 km) from 40 Euro for a single room and 60 Euro for a double room.

3.1.1 Camping facilities at the airfield
Camping facilities at the airfield for approximately 100 caravans or tents. Camping costs: 180 Euro per tent or caravan for the complete period inclusive training including 2 persons, each additional person 60 Euro.

3.1.2 Youth hostels
Youth hostel in the center of Berne, 50 beds.

3.2 Catering for competitors at the airfield
Catering for competitors and visitors at the airfield will be supplied high quality by the Gliding Club of Berne. The average cost of a complete warm meal will be between 5-9 Euro. Hangar and tent for about 200 seats. Breakfast, lunch and dinner; snacks during the daytime.

4. Competition area

All of Switzerland and parts of the surrounding countries.

4.1 Description of topography
Flat land, rolling hills and mountainous areas with altitudes between 400 and 1600m; only in very good conditions, alpine mountains with altitudes between 2000 and 3000m; refer to APP 4.

4.2 Comprehensive survey of meteorological conditions
There are good thermal soaring conditions in Switzerland. The thermal period is around 8 hours per day.

Average thermal strength is 2 m/sec, maximum 5 m/sec. Cloud base 2000 - 2500 m, in the mountains area 3000 - 4000 m above sea level. Refer to APP 5.

4.3 Airspace restrictions
Maximum flight altitude is flight level 100, in the mountain areas flight level 135. Airspace restrictions see ICAO map APP 1.

4.4 Typical tasks to be expected
Typical tasks in competitions: 300 km, maximum up to 500 km.

4.5 Road and trafic conditions
Road and communication conditions are superb. Refer to APP 6.

5. Rules

5.1 Proposed modifications to the World Championships' Rules
The latest IGC Competitions Rules will be used.

5.2 Particular conditions or possible restrictions
Particular conditions or possible restrictions will be given in the Local Rules.

5.2.1 For pilots and crews
Foreign pilots may fly, provided they have a valid license from their own country. Passport with or without visa depending on the country of origin is required.

5.2.2 For sailplane and equipment
The third party liability insurance coverage of gliders must meet the Swiss requirements (3 Mio CHF).

6.4 Cost of transportation for pesonnel
Camping fee is 180 Euro per caravan or tent for the complete period inclusive training including 2 persons. Each additional person 60 Euro.

6.5 Hotel cost
Hotel cost depend on category used: Single room starting around 40 Euro/day, double room starting around 50 Euro/day

6.6 Catering costs
Breakfast 4-7 Euro, Lunch 5-7 Euro, Supper 6-9 Euro.

6.7 Example for team cost (4 pilots, 4 assistants, 1 team captain

Entry fee:	2'000 Euro
40 aerotows:	2'000 Euro
Food (20 days):	4'000 Euro
Fuel (4 cars/3000 km, consumpt 10 L/100 km):	1'100 Euro
Total	9'100 Euro

7. Glider hiring

Glider hiring only on private bases.

8. Training

Training is possible during the week prior to the championship on the airfield Bern-Belp.

15.

IGC Meeting March 2001

Proposal – The Policy of the IGC
Ross Macintyre, Sporting Code Specialist

"that the IGC should adopt a policy of not allowing any more major changes to be made to the Sporting Code for a period of at least 3 years".

Minor wording changes or corrections to anomalies are not considered to be major changes, however the important point of this proposal is that the basic ideas and concepts of the Sporting Code should remain unchanged for a lengthy period while the membership, worldwide, get used to the rules as they now are.

The subject has been discussed at length on the IGC Info e-mail and many and varied points of view have been raised. It is raised here to allow IGC to discuss the matter and decide if such a move is warranted or desirable.

Ross Macintyre
Sporting Code Specialist

16.1

Change Proposal from Annex A subcommittee 2001-01-15

By Ake Pettersson, Roland Stuck, Bob Henderson
With much help from Denis Flament

Some comments in italics in the text by the members are considered to be explanations, and will be removed in the final edits after approval.
(Edits of previous version is shown in this file)

ANNEX A

to

FAI SPORTING CODE SECTION 3

CLASSES D AND DM - GLIDERS AND MOTOR GLIDERS

RULES FOR WORLD AND CONTINENTAL SOARING CHAMPIONSHIPS

Passed by IGC meeting ~~in Seattle, USA, on March 13th, 1999~~

This version is a complete update of the Annex,
incorporates all previous amendment lists
and includes Appendix A – Local Regulations.

Effective Date: 01 October ~~1999.~~

CONTENTS *(Page numbers to be verified)*

15.2 Prizegiving 15

PRELIMINARY REMARKS

a) This document (titled Annex A) contains the rules applying to all official FAI international soaring championships. Championships are expected to be run according to these rules. Any proposals for modifications must be ~~noted in the Local Regulations circulated to all IGC delegates at least three~~ **submitted to the Annex A group at least six** months prior to the IGC meeting where they will be considered. The proposals must refer to the paragraphs affected and give reasons for the modification. **The Annex A group will review them and issue a recommendation either to approve or to reject them to the IGC Meeting. If the change is accepted it will become effective on October 1st after the IGC Meeting.**

(The Annex A group recommends that these Rules must be used as the basic rules for all IGC approved Championships occurring between 1 October and 31 September of the following year. The Local Regulations shall only be used to define those aspects of the Rules that are identified as requiring clarification via the Local Regulations and may not be used to modify the Annex A Rule(s).

b)
~~b)~~**These Rules must be completed by Local Regulations provided by the Organizers to describe operational procedures relevant to the site and the specific competition. The Local Regulations shall be written according to Appendix 1 to these Rules and may not include any deviations to Annex A.**
~~**This latest version of Annex A has been reorganized into three sections:**~~

~~i) General, containing rules regarding the organization of the event;~~

~~ii) Flying, containing rules specific to the flying operations; and~~

~~iii) Scoring, containing rules specific to scoring procedures~~

c) The Local Regulations ~~(Appendix 1 to these Rules)~~**must be** ~~, as~~ approved by the IGC ~~,~~**before being published. To enable this approval process they shall be submitted to the Annex A group no later than three months** ~~shall be circulated to the NACs not later than 60 days~~ before the opening ceremony.

(*This clarification is needed to avoid the release of unapproved Local Regulations. The Annex A group should be empowered to approve the Local Regulations but the nomination of Stewards and Jury should still be submitted to the IGC Bureau).*

d) If an international competition is held at the same site in the year before the Championships, it should be conducted under Local Regulations as close as possible to those of the actual Championship.

e) Entry forms containing the information mentioned in the FAI Sporting Code, General Section 3.8 shall be circulated to the NACs together with the official invitation not later than eight months before the opening day. Preliminary entries may be requested. Provisional entry lists shall be circulated after the closing date and about one month before the opening day.

f) In these rules "Championship" includes both World and Continental Championships

unless otherwise stated.

g) In this Annex the words "must", "shall", and "may not" indicate mandatory requirements; "should" indicates a recommendation; "may" indicates what is permitted; and “will" indicates what is going to happen.

h) In this document, wherever the word he, his or him is used, it should be taken as he/she, his/hers or him/her.

GENERAL

1 CHAMPIONSHIP The details of the event shall be listed in the Local Regulations.

2 OBJECTIVES OF THE CHAMPIONSHIPS The objectives are:

- To select the champion in each competition class on the basis of the pilot's performance in the tasks set;
- To foster friendship, co-operation and exchange of information among soaring pilots of all nations;
- To promote worldwide expansion of the public image of soaring;
- To encourage technical and operational development of the sport;
- To encourage the development of safe operational procedures, good sportsmanship, and fairness in the sport of soaring.

The Organizers may state any additional objectives in the Local Regulations.

3 GENERAL REQUIREMENTS

3.1 The Championships shall be controlled in accordance with the FAI Sporting Code, General Section and Section 3 (Gliders & Motor Gliders), and specifically with **Chapter 7 of Section 3 and with** this document which constitutes Annex A to Section 3.

3.1.1 Any competitor or Team Captain violating or tolerating the violation of these rules shall be suspended or disqualified from the Championships.

3.2 The winner in each class is the pilot having the highest total score, obtained by adding the pilot's points for each championships day. In case of a tie, see paragraph 15.2.3.

3.2.1 The winner in each class will be awarded the title of World (or Continental eg `European' etc.) Champion, provided that there have been at least four championship days in that class.

3.2.2 In order that a day may be counted as a championship day, a launch opportunity shall have been given to each competitor in the class in time for the competitor to carry out the task of the day in question (see also 21.5).

3.3 The total period of the event shall not exceed 16 days including two days on which the Opening and the Closing Ceremonies are held. At least one non-flying rest day shall be given during the period, although the Organizers may declare further rest days for stated reasons such as pilot fatigue.

3.4 An official practice period of about seven days immediately preceding the opening of the Championships shall be made available to all competitors.

3.5 The official language of the Championships shall be the English language; this shall include all regulations and information circulated to the competitors, any public announcements during the event, and briefings. The language of the Organizers and additional languages may be used at their discretion.

4 RESPONSIBILITIES OF THE ORGANIZERS

4.1 The Organizers shall provide competitors and Team Captains with all complementary information upon arrival at the contest site, **including:**

4.1.1 Turn Point Catalogue. The Organizers shall prepare and distribute on arrival of the competitors a catalogue of start, turn, and position check points. Each point shall be shown on a large scale map section. In addition, the geographical coordinates, altitude ASL, direction and distance from the contest site, and a short description shall be given.

4.1.2 **Turn Point Database.** The Organizers shall provide an electronic version of the start, turn point and control point data base in the IGC ~~recommended~~ standard file format for turn point data files to each competitor.

4.2 Any matter intended to have the force of a competition rule must have been approved as a minimum by the IGC Bureau, if necessary by post. Only minor matters may be approved by this method.

4.3 The Organizers shall provide all facilities necessary for the satisfactory operation of the Championships.

4.4 Full meteorological information shall be provided during the Championships, access to which shall be available to competitors and assistants in addition to briefing material supplied to the competitors.

4.5 The meteorological, GNSS and other flight data from a championships are the property of the ~~organiser~~**Organizer**s. Such data shall be treated as confidential and only passed on to persons or organisations approved by IGC.

4.6 The Organizers shall perform doping controls in accordance with FAI Rules. Local Regulations may state national requirements**.**

4.7 The Organizers shall pay due regard to safety **and fairness** in all aspects of the championships. ***(Renumber as 4.1 because this is a major responsibility of the organizers.~~–~~ Renumber existing 4.1 to 4.6 as 4.2 to 4.7 inclusive)***

4.8 The Organizers shall form a Safety Committee consisting of at least one of the event Stewards and one pilot from each competing class. The representative pilots shall be selected by vote by the other pilots in the class. The role of the Safety Committee is to receive and investigate complaints regarding poor airmanship. The Committee has no powers of discipline but may censure a pilot and is required to advise the organizers if a pilot repeatedly offends against sound airmanship.

4.9 The Organizers must pay sanction fees to FAI as decided by IGC.

4.10 The travel and living expenses for the International Officials (Jury and Stewards) are the responsibility of the Organizers. Other arrangements may be agreed upon with the individual Official.

5 CHAMPIONSHIP OFFICIALS

5.1 The Championships Director

5.1.1 The Championship Director shall be in overall operational charge of the Championships and be approved by the IGC. He shall have a Deputy Director and Technical Officials to assist him.

5.1.2 The Championship Director is responsible for good management and the smooth and safe running of the Championships.

- He shall make operational decisions in accordance with the rules of the Sporting Code and of the Championships**. The decisions shall be published** ~~and publish these~~ without delay in a manner and at a place to be specified in the Local Regulations.

- He may penalize or disqualify a competitor for misconduct or infringement of the rules.

- ~~He shall attend meetings of the international Jury and give evidence if requested.~~**He shall give evidence to the International Jury if requested.**

5.1.3 The Director is responsible for publishing the officially accepted entry list, for issuing daily results with the minimum of delay, and finally for reporting the full results to his NAC and to FAI.

5.1.4 The Director or his named deputy shall be available at the contest site at all times while Championships flying is in progress.

5.2 Stewards

5.2.1 Stewards are advisors to the Championship Director.

5.2.1.1 They watch over the conduct of the Championships and report to the Director any unfairness or infringement of the Rules and Regulations or behaviour prejudicial to the safety of other competitors or the public or in any way harmful to the sport.

5.2.1.2 They assemble information and facts concerning matters to be considered by the International Jury.

5.2.1.3 They advise the Championship Director on interpretation of the Rules and Regulations and on penalties.

5.2.1.4 Stewards may attend the meetings of the International Jury as observers or witnesses.

5.2.1.5 Stewards have no executive powers. They may neither be competitors nor hold any additional position in the organization.

5.2.1.6 Stewards must understand and be able to speak English, must possess a thorough knowledge of the FAI Sporting Code, General Section and Section 3, and Rules and Local Regulations for the Championships, and have extensive experience of soaring competitions.

5.2.2 The Organizers shall appoint three or four Stewards (minimum two in Continental Championships) of nationalities different to that of the Organizers, except that in the event of a last minute failure to attend, a replacement Steward of any nationality and acceptable to the other Stewards may be invited. The appointments shall be approved by IGC. ~~(~~ ***(Note the separate proposal to reduce Stewards to two~~)~~).***

5.2.3 Two Stewards (one in Continental Championships) shall be present at the contest site throughout all major operational activities, such as task setting, launching, inspections, time keeping, checking of flight verification evidence, etc.

Renumber 5.2.2 as 5.2.1. Renumber 5.2.3 as 5.2.2. Renumber 5.2.1 as 5.2.3. Renumber 5.2.1.5 as 5.2.4. The remaining paragraphs (5.2.1.1, 5.2.1.2, 5.2.1.3, 5.2.1.4, 5.2.1.6, should be collated together under the sub-heading Duties of the Stewards following the new 5.2.4.

5.3 **International Jury** The International Jury (IJ) deals with protests made by competitors. A nominated jury, normally of three members including one who will act as President, shall be appointed by IGC. ***(Note the separate proposal to have remote Jury Members).***

5.3.1 A member of the Jury must understand and speak English and must possess a thorough knowledge of: the FAI Sporting Code, General Section and Section 3; the FAI International Jury Members Handbook; and, Rules and Local Regulations for the Championships. The Jury members shall at all times take care not to get involved in the running of the Championships. They must strive to be neutral and independent of the Championships Director's decisions. However, they should be prepared to give advice and answer queries regarding interpretation of the rules and the general running of the event if raised by officials of the event.

~~5.3.2 The President of the International Jury shall normally be an IGC Bureau member, but may not be of the same nationality as the organizing NAC.~~

5.3.~~3~~2 In addition to being the Chairman at Jury meetings, the President has the right to require the Organizers to abide by the FAI Sporting Code and the published Rules and Regulations for the Championships. If the Organizers fail to do so the President of the Jury has the power to stop the Championships until a Jury meeting has considered the situation.

5.3.~~4~~3 The Jury has the right to terminate the Championships if the Organizers fail to abide by the FAI Sporting Code and the published Rules and Regulations. They may recommend to the FAI Secretary General that all entry fees be returned.

5.3.~~5~~4 **Meetings of the International Jury**

5.3.~~4~~5.1 Attendance at Jury meetings is compulsory for Jury members, except for special reasons such as illness or emergencies. In such cases the Jury President may accept an eligible replacement nominated by the Jury member concerned.

5.3.~~4~~5.2 Jury meetings are to be conducted in accordance with

the FAI International Jury Members Handbook.

5.3.45.3 Decisions by the Jury shall be reached by simple majority. The President of the Jury shall report the details of any protest to FAI.

5.3.56 **Dissolution of the International Jury**

5.3.56.1 The Jury shall only cease its functions after it has given its decision on all protests that have been correctly made. If no protests are outstanding it shall not cease its functions until the time limit set for the receipt of protests following the last task.

5.3.56.2 The last action of the Jury is to approve the competition results of the Championships and declare the Championships valid, providing they have been conducted in accordance with the rules and the decisions of the Jury.

5.4 ~~The travel and living expenses for the International Officials (Jury and Stewards) are the responsibility of the Organizers. Other arrangements may be agreed upon with the individual Official~~ ***(Moved to 4.10 : Responsibilities of the ~~Organiser~~Organizers).***

6 CHAMPIONSHIP CLASSES

6.1 Championships shall consist of one or more classes as described in the main body of Section 3 of the Sporting Code, Chapter ~~6~~7, and as listed in the Local Regulations.

6.2 If any one class does not have at least ten participants from at least five NACs on the first Championship day, the contest shall take place but no Champion will be declared.

6.3 Two-seater sailplanes may compete in the Open Class either flown solo or dual. If the pilot intends to fly with more than one copilot, a list of the copilots with the intended sequence shall be submitted to the Organizers prior to the event. If a copilot is unable to fly, no further copilots shall be carried. Only the nominated pilot in command shall be listed in the results. Both crew members on board the two-seater must fulfil the requirements for competitors in accordance with the FAI Sporting Code, General Section.

6.4 Motorized sailplanes shall be permitted to participate in their appropriate classes, provided they have fully functioning MoP recorders. The Organizers shall describe the launch procedures in the Local Regulations.

6.5 Pilot changeover from one class to another shall not be permitted later than two months before the opening Day.

7 ENTRY

7.1 **Application for Entry** Application for entry shall be accepted only on the official entry form, and accompanied by the entry fee in full. Incomplete entry forms or those containing inaccurate information will not be accepted. After four months before the opening day applications may be accepted only if there are vacancies, at the discretion of the Organizers. Exceptions may be made for applications from the opposite hemisphere.

7.2 **Entry Fee**

7.2.1 The entry fee shall cover all operational costs during the Championships, except that aero tows may be paid as used, at the discretion of the Organizers.

7.2.2 If the Championships do not take place, entry fees shall be returned in full. If, for reason of force majeure, they are stopped or cancelled, unused fees shall be paid back.

7.2.3 A competitor who withdraws shall have no right to the return of any fees.

7.3 **Pilots**

~~7.3.1 In Championships with more than one class, each NAC may enter the number of pilots approved by the IGC and specified in the Local Regulations, but not more than two plus one reserve pilot in any class. A reserve pilot will replace a nominated pilot in the event of a withdrawal.~~

7.3.1 For single-class or two-class Championships each NAC may enter two pilots per Class. In multi-class Championships, each NAC may enter not more than the following number of pilots:

(a) **Open and 18 m Class – one entry per class;**
(b) **15m and Standard Class – two entries per Class.**

These maximum numbers of competitors per NAC, in each class, may not be exceeded. Organizers may specify a lesser numbers of entries per class in the Local Regulations. Each NAC may enter a reserve pilot, in each class, who will replace a nominated pilot who withdraws from the same class.

(Modified to take into account the latest decisions of IGC about entries~~)~~)

7.3.2 Any number of entries up to 120 is allowed if evidence is provided that the conditions and Local Regulations make it safe to do so (as per section 4.1~~7~~). Organizers shall consider dividing classes exceeding 50 entries into groups by drawing lots. Procedures shall be specified in the Local Regulations to: (a) rotate pilots between the groups to provide an equal opportunity for pilots to compete with each other; and, (b) provide separate Start Points or Zones and tasks for each group.

~~7.3.3 NACs with reserve pilots may be offered entry in class vacancies as detailed in the Local Regulations provided entry fees for the officially entered pilots have been received.~~

~~7.3.4~~ **7.3.3** The current champions may compete as additional members of

their team in their respective classes.

7.4 **Rejection of Entries** The organizing NAC may not reject any entry to a Championship made in good faith and complying with the terms of entry.

7.5 **Conditions of Entry** A competitor, by entering the championships, agrees to be bound by these Rules and the Local Regulations issued for the Championship, and any rulings and requirements stated by the Organizers at any briefings.

8 NATIONAL TEAMS

8.1 Each NAC shall select its own Team Captain, competitors, and assistants. The NACs shall certify to the Organizers (normally in the entry form) that the team members qualify under these rules.

8.1.1 The Team Captain, the competitors and their crew members by virtue of entering are deemed to accept without reservation any consequences resulting from the event (for instance see 12 on insurance).

8.2 Qualifications

8.2.1 A competitor must be a citizen or resident of the country of the entering NAC and satisfy the conditions of the FAI Sporting Code, General Section 3.8 on citizenship and representation, and must;

- hold a gold badge, or, hold a silver badge and have competed in at least two National Championships;
- have flown at least 250 hours as a pilot in command, of which at least 100 hours must be in sailplanes;
- hold an FAI Sporting Licence with a current FAI stamp;
- hold a Pilot Licence or equivalent document issued or endorsed by the authorities of the country in which the sailplane is registered, or of the country where the Championships take place;
- know, understand, and abide by the FAI Sporting Codes and the Rules and Regulations issued for the event.

8.2.2 A Team Captain may be a competitor or assistant but preferably be additional to them. He should be of the nationality of his NAC but a substitute of another nationality, holding written authority from the NAC concerned, may be accepted at the discretion of the Organizers.

8.2.3 An assistant may be of any nationality.

9 TEAM CAPTAIN'S RESPONSIBILITIES

9.1 The Team Captain represents his NAC and is the liaison between the Organizers and his team members. He should endeavour to ensure their proper conduct and that they do not fly if ill, under the influence of alcohol or drugs, or suffering from any disability which might endanger the pilot or others.

9.2 The Team Captain is also responsible for compliance by his team members with the terms of the Certificate of Airworthiness or Permit to Fly of the competing sailplanes and, where appropriate, with the laws of his own and those of the Organizers' country.

9.3 The Team Captain is responsible for ensuring that all members of his team receive and understand all information given at any Championships briefing.

9.4 A Team Captain not fulfilling his responsibilities as detailed in this Chapter, may be suspended or disqualified in accordance with paragraph 3.1.1.

10 SAILPLANES AND EQUIPMENT

10.1 The competitors shall provide sailplanes, trailers, retrieve cars, and other equipment, including GNSS Flight Recorders, radios, oxygen systems, parachutes, and survival equipment of a performance and standard suitable for the event. The Organizers may specify additional mandatory equipment if the conditions of their country so require.

10.1.1 No instruments permitting pilots to fly without visual reference to the ground may be carried on board, even if made unserviceable. The Organizers may specify instruments covered by this rule.

10.1.2 Any navigational equipment is permitted.

10.1.3 To encourage lookout, audio outputs from variometers, GNSS nav devices and glide computers are strongly recommended.

10.2 Each competing sailplane must have been issued a valid Certificate of Airworthiness or Permit to Fly not excluding competitions.

10.3 Each sailplane shall be made available to the Organizers at least 72 hours before the briefing on the first championship day for an acceptance check in the configuration in which it will be flown. This configuration shall be kept unchanged during the whole competition.

10.3.1 Configuration refers to the shape and dimensions of the primary structure of the sailplane, including movable controlling surfaces, landing gear, winglets and wing tip extensions. The configuration is considered to be changed if the shape or dimensions of the primary structure are altered.

10.4 The Organizers have the right to inspect a competing sailplane at any time during the Championship up to the Prize Giving.

10.5 The airworthiness, safety and safe operation of competing sailplanes and any associated equipment and vehicles, as appropriate, shall be the responsibility of the competitors at all times.

10.6 The Organizers may require sailplanes to be marked with high visibility markings to improve in-flight observability.

10.7 Damage to a sailplane must be reported to the Organizers without delay. A damaged sailplane may be repaired. The following items may be replaced instead of being repaired: control surfaces; the complete horizontal stabilizer; airbrakes or flap surfaces; canopy; undercarriage gear and doors; propellers; non-structural fairings; and, wing tips and winglets but not the entire outer wing panels.

10.7.1 If the damage was no fault of the pilot, the whole sailplane or any part of it may be replaced with the consent of the director of the Championships. Landing damage is normally assumed to be the fault of the pilot.

10.8 During the Championships, on days when tasks are set, sailplanes entered in the event may only be flown on Championship tasks, except that the Organizers, at their discretion, may permit a sailplane to be test flown.

~~10.10~~ **10.9** The Organizers may require competing sailplanes to carry GNSS data transmitters to enable the public display of GNSS flight records during competition flights. Such a display will not begin before the start line is opened and the actual position of the sailplanes will be displayed with a time delay of at least 15 minutes. This delay should be reduced to zero prior to the finish.

11 CONTEST NUMBERS

11.1 The contest numbers, as validated by the Organizers, shall be displayed on the underside of the right wing, approximately 2.5 m from the centreline of the sailplane with the top of the figures or letters towards the wing leading edge. ~~The height of the letters or figures should be not less than 80% of the wing chord.~~

11.2 The contest numbers shall also be displayed on both sides of the tail fin and/or rudder. ~~These must be at least 30 cm high.~~ **Numbers shall also be displayed on the glider trailer and crew car.**

~~(~~(Minimum size of the contest number has been deleted because it seems to now be a minor issue~~)~~)

11.3 Contest numbers shall consist of not more than three letters or figures or a combination of letters and figures.

11.4 Contest numbers shall be plain block, sanserif, style with a single colour that contrasts strongly with the sailplane's background colour.

11.5 The Organizers may require competitors to modify contest numbers that they deem to be similar, confusing or not complying with this paragraph 11. Competitors not complying with the ~~organiser~~**Organizer**'s requirements may be denied competition launches.

12 INSURANCE

12.1 Third party insurance as specified by the Organizers in the Local Regulations is the responsibility of the entering NAC.

12.2 Personal medical insurance is required for all team members, covering accidents and sickness, including any local hospital costs and the costs of transport back to the team member's home country.

12.3 Documentary proof of insurance, or medical insurance cards, shall be provided to the Organizers in their own language or in English.

12.4 Required insurance shall be available for purchase at the contest site.

13 REGISTRATION

13.1 On arrival at the contest site, each Team Captain and his competitors shall report to the Organizers' Registration Office to have their documents checked and to receive any supplementary information.

13.2 After the close of registration, no change of sailplanes or pilots shall be permitted. Pilots whose documents have not been checked and found to meet all requirements shall not be permitted to fly until the requirements are met.

13.3 The Organizers, if appropriate, shall require the following documents and translations:

13.3.1 For the pilot:

- proof of nationality or certificate of residence (FAI General Section 3.7);
- valid Pilot Licence or equivalent document and proof of qualification regarding hours and badges; and
- FAI Sporting Licence valid for the year of the event.

13.3.2 For the sailplane:

- valid Certificate of Airworthiness or Permit to Fly; and
- third party insurance certificate for the sailplane.

13.4 The Organizers may require more documents **in the Local Regulations**.

13.5 The Organizers shall state **in the Local Regulations** which documents shall be carried on board the sailplane**.**

14 PENALTIES, COMPLAINTS, PROTESTS

14.1 Penalties and Disqualifications

14.1.1 The Championship Director may impose penalties for infringement of the rules. The severity of the penalties range from a minimum of a warning to disqualification as appropriate to the offence. **A list of standard penalties is given in section 22.3, offences not covered by this list may be penalized at the Championships Directors discretion.**

14.1.2 Penalties shall be listed on the score sheet of the day on which the penalty was given.

14.1.2.1 If a penalty is imposed on a day which does not meet the requirements of a Championship Day (3.2.2 and 21.5), or non-competition days, or during the practice week, then the penalty shall be added to the competitor's cumulative score. **This rule is intended to apply to penalties that are awarded for disciplinary or safety reasons and not penalties that are awarded for a technical failure.**

14.1.3 A competitor who has been disqualified shall surrender his Sporting Licence according to the Sporting Code, General Section 5.3.

14.2 Complaints

14.2.1 The purpose of a complaint is to obtain a correction without the need to make a formal protest.

14.2.2 Prior to the Championships a complaint may be made by an NAC. Such a complaint may concern only failure of the organizing NAC to comply with the regulations for entry or the eligibility or refusal of an entry. A copy of such a complaint shall be sent immediately to the Secretary General of the FAI, who shall keep the President of the IGC informed.

14.2.3 At any time during the Championships a complaint may be made through the Team Captain to the Championship Director or his designated official. Such complaint shall be dealt with expeditiously.

14.2.3.1 If a competitor has no separate Team Captain, he may lodge the complaint himself.

14.3 Protests

14.3.1 A protest against a decision on a complaint as described above in 14.2.2 must have been made prior to the start of the Opening Ceremony of the Championships.

14.3.2 When dissatisfied with a penalty or the decision on a complaint made during the Championships a competitor has the right of protest.

14.3.2.1 Such a protest shall be made in writing, in English, and shall contain the following elements:

- It shall refer to the decision against which the protest is lodged,
- It shall include reasons for the protest, and
- It shall state the remedy sought by the protest

14.3.2.2 A Protest shall be handed by the Team Captain to the Championship Director or his designated official together with the protest fee within 14 hours (2 hours on the last day) of the publication of the ruling or decision against which the protest is made.

14.3.2.3 If a competitor has no separate Team Captain, he may lodge the protest himself.

14.3.2.4 The amount of the protest fee shall be stated in the Local Regulations. The protest fee shall be returned if the protest is upheld, or is withdrawn prior to the hearing by the Jury.

14.3.3 Protests may not be filed against the Championship's Rules.

14.4 **Treatment of Protests**

14.4.1 The Championship Director shall deliver a protest to the Jury President without delay.

14.4.2 The President of the Jury shall call a meeting of the International Jury within 24 hours (as soon as possible on the last day) of receiving the protest from the Championship Director.

14.4.3 The Jury shall hear both sides on the matter of any protest, applying correctly the relevant FAI Regulations and the Rules for the Championships. In considering the protest the Jury shall be provided with access to all persons and information to assist in their considerations.

14.4.4 A protest requires a 2/3 majority to succeed.

14.4.5 The Championship Director is bound by the decision of the International Jury.

14.5 **Appeals** An NAC may appeal to FAI against a decision of the Jury in accordance with the provisions of FAI Sporting Code**,** ~~.~~ General Section, Chapter 9.

15 RESULTS AND PRIZEGIVING

15.1 **Results**

15.1.1 Definition of status of results:

- Performance: The competitors' results expressed in distance, speed, or time~~, and~~ **. They** may be displayed on screens only;

- Preliminary results: Performances converted to points, before any verification~~, and~~**. They** may be displayed on screens only;

- Unofficial results: Preliminary results after verification of flight records from all competitors and including penalties;

- Final results: Unofficial results after expiry of the protest time and after all protests have been dealt with.

15.1.2 All Unofficial and Final results shall be published with minimum delay clearly indicating the status of the result and the time of publication and with the pilots ranked by their performance for the day. Unofficial results shall include the expiry time for protests and Unofficial results and Final results shall be signed by the Championship Director or his nominated Deputy.

15.1.3 The cumulative scores of the Championships shall be final only after the Jury has ceased its functions. They shall be published before the Prizegiving is held.

15.2 **Prizegiving**

15.2.1 At the Closing Ceremony the flags of the countries of the competitors placed first (the Champions), second and third in each class should be flown and the national anthems of the countries of the Champions should be played.

15.2.1.1 The Local Regulations shall state what flags, discs or tapes should be brought by the competitors.

15.2.2 The FAI will award a Gold, Silver and Bronze medal in each Championship class to the competitors placed respectively first, second and third.

15.2.2.1 Up to 10 Diplomas will be awarded to the first third of the competitors in each class.

15.2.2.2 Awarded Challenge Cups shall be held by the winners until they are put back into competition for the following Championships.

15.2.2.3 The Organizers shall award prizes to at least the top 25% of competitors in each class, and give commemorative medals or badges to all competitors, their assistants, and officials.

15.2.2.4 Small prizes may be given to the daily winners.

15.2.3 There shall only be one champion in each class. If two or more pilots have the same number of points after the final competition day, the sequence between these pilots shall be decided by the daily results. The Champion shall be the pilot who has the most daily wins. If a tie still exists, the Champion shall be the pilot with the most second placings, and so on.

FLYING

16 SAFETY

16.1 Each sailplane shall be flown within the limitations of its Certificate of Airworthiness or Permit to Fly.

~~16.2 The Organizers may impose a maximum take-off weight in any class.~~**The ~~16.2~~ Organizers may impose a maximum take-off weight in any class in order to take into account any operational factors such as obstacles, airfield limits, runway and tow plane limitations, and prevailing weather.**

16.3 Any manoeuvres hazardous to others shall be avoided and may be penalized. Unauthorized aerobatics are prohibited.

16.4 Competitors shall avoid dropping water ballast in any manner likely to affect other competing sailplanes.

16.5 On every flight each occupant of a competing sailplane shall use seat belt and shoulder harness and wear a serviceable parachute. The Organizers may require more equipment **in the Local Regulations**.

16.6 Cloud flying is prohibited.

16.7 Competitors shall comply with the Local Regulations and any requirements stated at briefings regarding operations on the Championship site and the airspace regulations in force during the Championships.

16.7.1 The Organizers may establish areas around the contest site within which continuous circling is prohibited or is permitted in one direction only.

16.8 The Organizers shall ensure that the release zones and the release altitudes for launching are selected to enable competitors to land safely for a relaunch prior to the start, after allowing adequate time and altitude to search for lift after release, within the confines of the designated contest site boundaries (see 20.2.7).

16.9 Once launching has started, the Organizers may suspend towing if it is dangerous to continue. If the suspension is sufficiently long to give an unfair advantage to those already airborne, the Championship Director shall cancel the task.

16.9.1 The Organizers may delay or cancel the opening of the start gate if they consider that the conditions are not suitable for the task to be flown safely.

~~16.9.2 If the task for a Class is cancelled, competitors in that class who are already airborne shall land without delay.~~***(Moved to 17.2 because it is not a safety issue)***

16.10 A competitor involved in a collision in the air shall not continue the flight but land as soon as practicable. Both pilots will be scored ~~to the point of collision.~~ **as having landed at**

the position at which the collision occurred.

16.11 Sailplane damage during the Championships shall be reported to the Organizers. The sailplane may be repaired (see 10.7).

16.12 The Organizers may~~—~~ issue additional rules regarding safety **in the Local Regulations**.

17 EXTERNAL AID TO COMPETITORS The following limitations are imposed so that the competition shall, as far as possible, be directly between the individual competitors, neither controlled nor helped by external aid.

17.1 **Radio Transmitters and Transceivers**

17.1.1 Radios are for voice transmissions between team members and between them and the Organizers only. They may not be used to contact Air Traffic Services other than for obtaining permission from an airfield to land on it, unless the **Organizers add** specific requirements ~~by the Organizers~~ **in the Local Regulations**. Any other data transmission between competitors or between them and the ground, except as required by the Organizers is prohibited.

17.1.2 Transmissions may only be made on frequencies prescribed by the ~~organiser~~**Organizer**s.

17.1.3 The **Local Regulations** ~~Organizers~~ shall designate common radio frequencies that shall always be used by competitors for flight safety. A single frequency should be designated for the launch, start, finish, and landing. One frequency should be designated for each Class flying within a common task area.

Note: To improve safety, competitors should maintain a listening watch on the designated frequencies, especially during the launch, prior to starting, while finishing and landing, and when thermalling with other sailplanes.

~~17.1.4 Competitors shall maintain a listening watch on the designated safety frequencies, except that a competitor may use other designated frequencies for short messages, for example, to communicate start times and to contact their Team Captain. These alternative frequencies shall not be used while thermalling with other sailplanes or within a 10 km radius of the designated start areas.~~

(The stewards in Lusse decided against enforcing 17.1.4 because they felt it was not possible.)

17.2 **Other Types of Aid** Leading, guiding, or help in finding lift by any non-competing aircraft is prohibited. Competing sailplanes abandoning their task **or still airborne after cancellation of their task** must land or return to the competition site without delay **and may not lead, guide or help in any way competitors in other classes still flying their assigned task.**

18 BRIEFING

18.1 During the training and championship flying periods, a briefing shall be held each morning at which full meteorological and operational information ~~concerning~~ **appropriate to** the task of the day shall be given.

18.2 All pilots shall attend briefing, except that a competitor who is unable to attend, for reasons outside his control, shall be represented by his Team Captain.

18.3 Flight and safety requirements given at briefing shall carry the status of Local Regulations.

19 TASKS

19.1 The Organizers shall **select the tasks** ~~list in the Local Regulations the types of tasks that will be set~~ from the following:

~~- Assigned Speed Task (AST) or speed task around prescribed turn points~~

~~Time Distance Task (TDT) or time limited cat's cradle~~
~~- Pilot Selected Task (PST)~~

~~Assigned Area Task (AAT)~~

- **Assigned Speed Tasks (AST)~~–~~**
  The pilot has to achieve the highest speed around turn points assigned by the Organizers. Points are deducted if the pilot outlands.

- **Time limited~~–~~ Distance Task (TDT)~~–~~**
  The pilot has to achieve the greatest distance either around turn points he chooses from a list nominated by the Organizers (TDT/TP) or via areas assigned by the Organizers which he has to visit in the correct sequence (TDT/AA). A designated (maximum) task duration is set by the Organizers. If a pilot flies longer than the designated time, the distance used for scoring is proportional to the total distance flown as determined by the ratio of the designated time to the actual flight time. Points are deducted if the pilot outlands.

- **Distance and Speed Task (DST)**
  The pilot has to achieve the best compromise between speed and distance either around turn points he chooses from a list nominated by the Organizers (DST/TP) or via areas assigned by the Organizers which he has to visit in the correct sequence (DST/AA). Maximum points are gained by increasing the distance flown as long as the achieved speed over the extra distance does not fall below (approximately) 75 % of the average speed. A designated minimum time is set by the Organizers. If a pilot completes the task in a time shorter than the designated time, his speed is calculated by dividing the distance he has flown by the designated time. Points are deducted if the pilot outlands.

  (Attempt to rename the tasks and to clearly define them to avoid any misinterpretation…A minimum time is introduced in the DST tasks to avoid that pilots flying very short distances at very high speeds may win).

The Organizers must ~~ensure that at least 33% of the tasks set are different from the primary task used.~~ **set more than one type of task during a Championship and should aim to have at least 33% of the tasks set being different from the primary task used.**

19.2 **Assigned Speed Task (AST)**

19.2.1 The Organizers shall set a number of Turn Points in a sequence.

19.2.2 The competitors shall pass through these Turn Points in the correct sequence as designated by the Organizers and return to the contest site in the shortest time.

19.2.3 The score given to each competitor shall take into account the marking distance **and speed**, as defined in section 21, ~~and the speed achieved if the pilot completes the task.~~

~~(~~ ~~(~~***Speed points are given also for non finishers***~~)~~~~)~~

19.3 Time Limited Distance Task with Turn Points (TDT /TP)

19.3.1 The **O**~~o~~rganizers ~~will~~ **shall** ~~set a number of~~ **nominate several** Turn Points, and **set** a ~~maximum~~ **designated** task duration.

19.3.2 ~~The competitors shall pass through as many Turn Points as possible within the preset task duration.~~**To complete the task the competitors shall pass through at least one of these Turn Points and cross the finish line**

19.3.3 The following restrictions may apply to these Turn Points:

19.3.3.1 A maximum of 10 Turn Points may be utilized.

19.3.3.2 Certain Turn Points may be declared ineligible for use as a first or a last Turn Point.

19.3.3.3 The Organizers may, for safety reasons, impose the first and/or the last Turn Point. This is to avoid congestion of more than one class on the first leg, and to avoid crossing and/or converging traffic on the finish leg(s).

19.3.3.4 Eligible Turn Points may be attempted in any order. However, after rounding a Turn Point, the competitor may return to it only after having rounded at least two other Turn Points. There is an exception to this rule for the last two legs which may be flown as an out-and-return from the finish point to a Turn Point and back.

19.3.3.5 The Organizers may restrict the total number of times a particular Turn Points may be rounded.

19.3.3.6 **19.3.3.6 The Organizers may, for safety reasons, require the competitors to nominate their first point prior to take off. The organizers shall be prudent not to use this rule if there is a risk that it introduces arbitrary opportunities for the pilots by unforeseeable differences in the soaring conditions between the nominated turnpoints.**

~~19.3.4 The Local Regulations may require the competitors to nominate their first Turn Point prior to take off.~~

19.3.~~4~~5 The score given to each competitor shall take into account the marking distance as defined in section 21. ~~No speed points shall be given.~~

~~19.4 Pilot Selected Task (PST)~~

~~19.4.1 The Organizers shall nominate several Turn Points and a minimum task duration.~~

~~19.4.2 The competitor shall set his own task by selecting a certain number of these points.~~

~~19.4.3 The following restrictions apply to these Turn Points:~~

~~19.4.3.1 A maximum of 10 Turn Points may be utilized.~~

~~19.4.3.2 Certain Turn Points may be declared ineligible for use as a first or a last Turn Point.~~

~~19.4.3.3 Eligible Turn Points may be attempted in any order. However, after rounding a Turn Point, the competitor may return to it only after having rounded at least two other Turn Points. There is an exception to this rule for the last two legs which may be flown as an out and return from the finish point to a Turn Point and back.~~

~~19.4.3.4 The Organizers may restrict the total number of times designated Turn Points may be claimed.~~

~~19.4.4 The competitor shall round these points and return to the contest site.~~

~~19.4.5 The earlier finish time is given by adding the nominated task duration to the time of the last valid start of the competitor.~~

~~19.4.6 The score given to each competitor shall take into account the marking distance and speed as defined in section 21.~~

19.4 Time limited Distance Task with Assigned Area (TDT/AA)

19.4.1 The organizers shall nominate a number of areas, which the pilots must pass through in the required sequence, and a designated task duration.

19.4.2 An area shall be defined as the area enclosed by a circle of a given radius, centered on a GNSS position from the Turn Point Database.

19.4.3 To complete the task the competitors shall pass through these areas in the correct sequence and cross the finish line .

19.4.4~~5~~ The score given to each competitor shall take into account the marking distance as defined in section 21.

19.5 Distance and Speed Task with Turn Points (DST/TP)

19.5.1 The organizers~~–~~ shall nominate several Turn Points, and a minimum task duration.

19.5.2 To complete the task the competitors shall pass through at least one of these Turn Points and cross the finish line.

19.5.3 The same restrictions as in 19.3.3 may apply to these Turn Points.

19.5.5 The score given to each competitor shall take into account the marking distance and speed as defined in section 21.

19.6~~5~~ Distance and Speed Tasks with Assigned Area (DST/AA) ~~Task (AAT)~~

19.6~~5~~.1 The Organizers shall ~~define areas, which the competitor will have to enter in a prescribed order,~~ **nominate a number of areas, which the pilots must pass through in the required sequence, and a minimum task duration.**

19.6~~5~~.2 ~~An area may be defined as follows :~~

~~- As the area between two radials originating at the competition site , or any other designated point, and located between a minimum and/or maximum distance from the site or from that point or~~

- ~~As the area enclosed by a circle of a given radius , centered on a GNSS position or on a geographic point~~

An area shall be defined as the area enclosed by a circle of a given radius centered on a GNSS position from the Turn Point Database.

~~((~~The sectors have been deleted because there are too many problems of accuracy in defining the boundaries of the sectors~~–~~ and it is easier for the pilot to measure his distance to~~–~~ the center of a circular area)

19.6~~5~~.3 ~~The competitor shall fly the maximal distance via these areas.~~ **To complete the task the competitors shall pass through these areas in the correct sequence and cross the finish line.**

~~19.5.4 To complete the task the competitor must provide a GNSS flight record with at least one GNSS fix in each area in the prescribed order.~~

19.6~~5~~.4~~5~~ The score given to each competitor shall take into account the marking distance **and speed** as defined in section 21~~, and the speed achieved if the pilot completes the task~~.

19.7~~6~~ A task shall not be cancelled unless 16.9 applies, or the weather deteriorates so that the task may not reasonably be attempted.

19.8~~7~~ Where possible the classes shall fly different tasks with turn points **or assigned areas** chosen to minimise any head-on conflicts ~~on each leg and to avoid short legs (length below 50 km).~~ **on each leg and to avoid legs of less than 50 km.** This minimum distance requirement shall not apply to the leg from the last Turn Point or control point to the nominated final Turn Point**.**

20 COMPETITION FLYING PROCEDURES

20.1 The Launch Grid

20.1.1 The classes shall be launched in separate groups.

20.1.2 The complete grid order shall be drawn by lot before the first flying day. The grid order shall advance progressively by 2/7 of the number of sailplanes in each class, or by entire rows provided that there are approximately 2/7 of the sailplanes in each class allocated to each row, after each Championship Day.

20.1.3 The grid order and the sequence of the classes shall be published in the early morning. Sailplanes must be on the grid at the time specified by the Organizers.

20.1.3.1 Only sailplanes on the grid at the time of the start of the launch shall affect the opening and/ or closing times of the start.

20.1.4 Checking the take-off weight shall normally be completed before the sailplanes reach the grid. Adding weight beyond the weighing point is prohibited. **The Local Regulations shall give details of the weighing procedure.**

20.1.5 ~~Dropping of ballast water on the grid is not permitted, unless the water can be removed from the grid area in suitable containers.~~ **The Organizers shall state in the Local Regulations whether water ballast may be discharged on the grid, and any required control of the discharge.**

20.2 Launching and Aero Tow Procedures

20.2.1 **The launch should be organized so that the time to launch each class is as short as possible.** ~~—~~ If a sailplane or pilot is not ready to be launched due to a fault by the Organizers, the launch in that class shall not be started.

20.2.2 Each sailplane is permitted a maximum of three launches per day. However, if a pilot postpones his first launch on his own initiative, or he is not ready when his turn comes up, he shall lose that launch.

20.2.3 Towing patterns, release areas, and release height or altitude shall be given at Briefing. The release areas shall be separated by at least 5 Km and a release area shall only be used by one Class at a time. A release area may be used by a subsequent Class once the start gate for the initial Class in that same area has opened.

20.2.4 Pilots shall not release until after the tow pilot has rocked the wings of the towplane. Pull-ups before releasing are prohibited.

20.2.5 A competitor requiring a second or third launch shall be launched after the completion of the class launch in progress at the time the competitor is ready for such a launch. The Organizers shall designate a re-landing area which shall be shown at briefing.

20.2.6 If the Organizers delay the start of launching, other relevant times shall be delayed accordingly **or the day cancelled**.

20.2.7 A competitor landing outside the contest site boundaries after a regular launch shall not have any further competition launch on that day. Contest site boundaries shall be designated by the Organizers and displayed on a map.

20.2.8 A failed take-off or a failure of the tow plane resulting in jettisoning or premature release of a sailplane shall count as an official launch if the pilot elects to stay airborne. It shall not count as an official launch if the pilot lands immediately, even if outside the contest site boundaries, and reports to the launch point without delay.

20.2.9 The launching period shall be announced at briefing and given on the task sheet. The end of the launching period shall be before finishers are expected.

~~20.2.10 The launch should be organized so that the time to launch each class is as short as possible.~~ ~~(~~ ***~~(Included~~ ~~– in 20.2.1)***

20.2.10 Motor gliders may self launch or launch by aero tow (provided they comply with the weight limits for gliders). If they self launch their MoP must be shut down in the designated release area below the maximum release altitude. If they require a second launch for a start, they must land prior to taking the new launch, otherwise they will be scored to the position at which they started their MoP.

(Clearer definition of the launching procedures of motor gliders)

20.3 General Control Procedures

20.3.1 Flights shall be controlled by GNSS flight recorder (FR).

20.3.2 All GNSS FR's approved by the IGC prior to the deadline for Class change shall be accepted. A valid calibration certificate must be provided for each FR.

(To prevent Organizers from making arbitrary choices in the types of recorders accepted and to spare them the calibration of all recorders)

20.3.~~3~~2 Two GNSS FRs may be used. One being **designated** to the Organizers **as the primary recorder** and **the other one** as a back-up~~ for GNSS starts. A second time recording camera may be used as back up for photo starts~~. The Organizers shall require the backup FR only in the event that the primary FR fails. The Organizers shall be informed of any change of equipment including the designation of the primary FR. **Non compliance – may be penalized.**

~~20.3.3 The Local Regulations shall state which GNSS FRs are accepted for the event. All FRs used in World and Continental Championships shall be IGC approved and have an event marker.~~

20.3.~~4~~**4** Penalties may be imposed by the Organizers for unauthorized interference with the GNSS equipment, data or internal program.

20.3.~~5~~**5** GNSS FRs recording intervals shall be set to 10 sec or less. Non-compliance may be penalized.

20.3.6 ~~FRs shall be turned on well before takeoff to establish an altitude baseline.~~ **FRs shall be switched on for at least two minutes before take off to establish an altitude baseline. On motor gliders having an MoP capable of being started in flight the engine must be started and run for at least two minutes before the launch, even if the motor glider is launched by aerotow. This is required to provide a positive record on the GNSS trace.**

(Clarification of the GNSS procedures for motor gliders)

~~20.3.8 Motor gliders, including gliders with sustainer engines, shall comply with all requirements for gliders. Self launched motor gliders shall shut down their MoP in the designated release area. Motor gliders must land prior to taking another launch for a start, otherwise they will be scored to the position at which they started their MoP.~~ ***(Included in 20.2.10)***

20.3.7~~8~~ The Organizers shall state in the Local Regulations if they require the event marker to be used for marking the starts.

20.4 Start Procedures

20.4.1 **General** The Organizers shall select one start procedure **for every task** from the following options:

(a) **Start Option 1** A circle of radius at least 15 km encompassing the departure airfield and the release area(s). **The start becomes valid by crossing the boundary of the circle outbound. If the event marker is in use, the start shall be marked before the circle is exited.**

(~~b~~c) **Start Option 3~~2~~** Multiple start points, **defined by cylinders** of 0.5 km radius, separated by a**pproximately~~t least~~** 5 km from each other and at least 5 km from each of the release areas. Start points for each Class shall be adjacent to the release area for that Class and positioned so that sailplanes from one Class do not have to pass through the start points of another Class while travelling from their release area to their start point. Sufficient multiple start points shall be provided to ensure that at least two start points are available for allocation to each Class. Pilots should be allocated a specific start point at briefing each day. ~~-~~**The start becomes valid by crossing the boundary of the designated 0.5 km radius circle outbound. If the event marker is in use, the start shall be marked before the circle is exited.**

(~~c~~b) **Start Option 2~~3~~** A start line of defined length. ~~This start line may be defined by distance from the first turn point. If a start line is used with TDT or PST tasks the first turn point must be defined.~~ **This line may be a straight line perpendicular to the track to the first turn point or the arc at a constant distance from the first turn point. The Organizers shall define the length of the line as a maximum distance from the center of the line or the arc to their extremities. The start becomes valid by crossing the start line in the direction of the first turn point or, if the event marker is in use, by marking a start on the FR before crossing the start line. If this option is used with TDT/TP or DST/TP tasks the first point must be defined.**

(d) **Start Option 4** Multiple **groups of** start points, **defined by cylinders** of 0.5 km radius, separated by at **approximately~~least~~** 5 km from each other and arranged in 3 to 4 groups of at least three start points each. Groups should be at least 10 km apart. Each pilot is allocated one start point in each group with a maximum of 10 pilots per start point. This can be done randomly or selected to ensure pilots from the same NAC in the same class do not have common start points. All classes share all turn points. **The start becomes valid by crossing the boundary of one of the designated 0.5 km radius circle outbound. If the event marker is in use, the start shall be marked before the circle is exited.**

(Definition of the validity of the start for the various options, with and without event marker)

20.4.1.1 The start shall normally be opened 20 minutes after the take-off of the last sailplane in the class, which was in its specified grid position on time.

20.4.1.2 Opening of the start shall be announced by radio. The radio procedures for announcing the start shall be detailed in the Local Regulations.

20.4.1.3 A maximum ~~start~~ altitude of 2000 m AGL expressed in QNH should be imposed prior to the opening of the start gate and shall be announced by the Organizers. **Following the opening of the start gate the Organizers may:**

(a) raise the altitude limit to an altitude at least 300 m below the main cloud base; or,

(b) delete the altitude limit.

~~The start altitude may be raised following the opening of the start gate provided that it is at least 300 m below the main cloud base. The Organizers may permit a climb through the start altitude to be recorded as a valid start in which case the start time shall be recorded as though the altitude limit was a start line~~

The maximum altitudes, if any shall, be specified at the briefing. The Organizers must describe the altitude procedures before starts in the Local Regulations.

(The possibility to start through the altitude limit has been deleted to avoid complications and risks of collision. Altitude limits should be given at briefing and by radio to avoid any misunderstanding)

20.4.1.4 If there is no proof that the competitor had a valid start after the opening of the start in his class, ~~–~~ **the start may nevertheless be validated if the competitor was closer than 500m to the start line or to the boundary of the start zone after the opening of the start. The start position and the start time will be derived from the closest GNSS fix, but a penalty will be applied. If no such event is detected the competitor** ~~he~~ shall be scored zero points. ~~If a valid start is completed after the closing of the start gate then the start time shall be given as the gate closing time.~~

(~~–~~(Tolerance margin allowed for pilots missing the start by less than 500m. Last sentence moved to 21.4)

20.4.1.5 **If the event marker is used a** ~~A~~ start is invalid if done more than one and less than 15 minutes after a preceding **valid start** ~~one~~. **If no start has been marked, a penalty of 15 minutes will be applied**

20.4.1.6 Pilots shall communicate their start times to the Organizers within 30 minutes of their last valid start to an accuracy of two minutes. These times shall be used for display of performance and for preliminary results. Penalties may be given for non-compliance or incorrect notification.

20.4.1.7 The Organizers shall publish starting times as quickly as possible.

20.4.1.8 A new **valid** start invalidates all previous performances of the day.

20.4.1.9 **If start option 3 or 4 are used, a valid start at an incorrect**

start point ~~Incorrect start procedures and photos~~ may be penalized.

~~20.4.2 **GNSS Start Procedures** A GNSS start becomes valid either (a) by crossing a start line while traveling in the direction of the first turn point, or (b) by marking a start on the FR while anywhere within a defined circle centered on the start point. The specific starting procedures, including altitude or speed limitations, shall be described in the Local Regulations.~~

~~20.4.2.1 A start line (20.4.2(a)) may be a straight line, the boundary of a circle centered on the start point, or an arc at a constant distance from the first turn point. The sailplane shall also be required to remain below the start altitude, either for 30 seconds or for 1,000 m before crossing the start line. *This rule complicates for the pilot and does not seem to add safety or sporting value.*~~

~~20.4.2.2 If the start is permitted within a defined circle (20.4.2(b)), the individual distance used for scoring shall then be the true distance measured from the position at which the start has been marked. The sailplane shall also be required to remain below the start altitude either for 30 seconds or for 1,000 m before crossing the start line. *This rule complicates for the pilot and does not seem to add safety or sporting value.*~~

~~20.4.2.3 When using the start line system the start time used for scoring shall be the last valid crossing of the start line (as interpolated to the nearest second from the last fix before the line and the first fix beyond the line), after a GNSS start marked with the event marker. When using the start circle system the start time shall be the last valid start marked with the event marker.~~ ***(These procedures are now included in 20.4.1)***

20.5 Turn Point or Area Procedures~~:~~

20.5.1 Turn points should be identifiable points on the ground.

20.5.~~1.1~~**2** The sailplane shall pass through the turn points **or areas** in the correct sequence **if any is required by the type of task** ~~as~~ designated by the Organizers.

~~20.5.1.2 Incorrect turn point roundings may be penalized.~~

20.5.~~2~~**3** The ~~Turn Point~~ **Observation** Zone for a GNSS turn point shall be a cylinder of radius 0.5 km, cent**e**red on the turn point. ~~A GNSS recorded turn point rounding is valid if the FR shows a valid fix or a straight line between two subsequent valid fixes within the GNSS Turn Point Zone.~~

20.5.4 The Observation Zone for a Area shall be the area itself.

20.5.5 A turn point~~.~~ or area rounding is valid if the FR shows a valid fix or a straight line between two subsequent valid fixes within the Observation Zone.

20.5.6 Incorrect turn point or area roundings may be penalized.

(~~(~~Addition of the procedures for circular areas)

20.6 Outlandings

20.6.1 Real Outlandings

20.6.1.1 When landing out the competitors shall comply with the instructions given in the Local Regulations. The Organizers shall be informed without delay. Non-compliance shall be penalized.

20.6.1.1.1 The Organizers shall assist competitors and crews in every possible way to locate outlanded sailplanes.

20.6.1.1.2 If a number of sailplanes all outland within the boundaries of the same field, airstrip or airfield, they shall all be scored as having landed at the same position as that which yields the average distance for all aircraft in the group.

20.6.1.1.3 The starting of a motor glider's MoP is regarded as an outlanding. The counting distance shall be to the last ~~artificial~~ **virtual** outlanding before the start of the MoP.

20.6.1.2 ~~**Outlandings with a functioning GNSS FR**~~

~~20.6.1.2.1~~ The position of the sailplane after outlanding shall be determined from the last valid fix on the GNSS flight record when the aircraft comes to rest.

~~20.6.1.2.2~~~~**20.6.1. 3**~~ ~~The outlanding certificate must be filled out by the pilot, but the two witnesses are not required if the flight is verified by a valid GNSS FR record. (Note: As the pilot may not know of a possible failure of his FR(s), it is advisable that the signatures be obtained.)~~

~~20.6.1.3 **Outlandings when the GNSS FR is not functioning**~~

~~20.6.1.3.1 The outlanding certificate must be filled out by the pilot and signed by two independent witnesses.~~

~~(~~***~~(~~To be included in the general~~–~~ procedures to be used in case of failure of both GNSS FR's at the end of chapter 20)***

20.6.2 **Virtual Outlandings** ~~A virtual outlanding is a claimed termination of the flight for scoring purposes. To reduce risks in outlandings the Organizers may allow virtual outlandings. A competitor may continue the task or land elsewhere after passing any such point.~~ **A virtual outlanding is an event that occurs if the marking ~~-~~distance at any valid GNSS fix registered during the flight is greater than the distance measured to the actual landing point. If a virtual outlanding occurs, the pilot shall be scored a distance to the point that yields the longest marking distance.**

**(*This change means that the pilot always gets the advantage of a virtual outlanding without needing to claim it. The administrative effort to collect and handle the claims is eliminated) (Note: The Annex A group would prefer a wording that awards maximum total points rather than yielding the longest*

marking distance. But we anticipate problems because this requires interaction between the software that calculates the distance and the software that calculates scores.)

~~20.6.2.1 A competitor may claim only one virtual outlanding on any one task. They shall be scored as if the claimed point were the landing point, should the distance to that point yield a greater distance than the actual landing point.~~

~~20.6.2.2 A GNSS outlanding may be claimed provided the FR shows that the valid GNSS fix nearest to the finish point or next turn point gives a longer scoring distance than the actual landing point.~~

20.7 Finishing

20.7.1 General

20.7.1.1 ~~20.7.1.1~~ The finish line shall be **either:**

a) a straight line at the elevation of the airfield clearly identifiable on the ground ~~or a ring around the finish point at a specified distance~~. The straight finish line may not exceed 1,000 m in length, and shall be so placed that sailplanes can safely land beyond it.

b) – a ring around the finish point at a specified distance. The finish ring shall be at least of 3 km radius and encompass the airfield and the landing circuits.

(Clearer definition of the start circle)

20.7.1.1.1 The Organizers ~~shall~~ **may** establish a number of final turn points or control points prior to the finish line to align the sailplanes with the desired direction of finish.

20.7.1.2 **When the straight line option is used a finish is valid if** ~~To complete a task,~~ the sailplane ~~shall correctly transit one of the final turn points as specified at briefing or selected by the pilot for a TDT~~**TDT/TP**, ~~PST~~**DST/TP** ~~or AAT~~**DST/AA** ~~task and~~ cross**es** the finish line unassisted, in the direction specified at briefing. However, a sailplane landing back at the airfield without crossing the finish line shall be **deemed to have finished and shall be** given as finish time the ~~landing~~ time **at which the glider stopped moving** plus five minutes. **A maximum height for crossing the finish line shall be stated in the Local Regulations, and a minimum height may be imposed. Non-compliance may be penalized.**

20.7.1.3 ~~A maximum height for crossing the finish line shall be stated in the Local Regulations, and a minimum height may be imposed. Non-compliance may be penalized.~~
When the ring option is used a finish is valid if the sailplane crosses the ring boundary unassisted and at a minimum QNH altitude specified in the local rules so that sailplanes can safely come back to the airfield and land after crossing it. This minimum altitude should be significantly higher than the landing circuit altitude. Crossing the finish ring below minimum altitude shall be penalized.

(To improve safety if the finish ring is used)

20.7.1.4 Competitors shall announce their arrival on the finish line frequency by giving their contest number and the distance to go. The acceptance reply will be the contest number. The Local Regulations shall state the procedure in detail.

20.7.1.5 All crossings of the finish line shall be manually timed as backup for the GNSS timing.

20.7.1.6 The finish line officials shall repeatedly announce strength and direction of the wind, together with other significant meteorological data at the contest site.

20.7.1.7 The finish line shall be closed:

- at sunset; or
- when all competitors are accounted for; or
- when there is no more possibility of gaining speed points; or
- at a set time announced at briefing.

Competitors still on task after closure of the finish line shall be considered as outlanded at the last valid GNSS fix before closure time.

~~20.7.2 **Finish Time** The finish time shall be interpolated, to the nearest second, from the last GNSS fix prior to the finish line and the first fix after the finish line. If the primary and back-up GNSS unit (if carried) fail, then the manual timing of the finish line crossing shall be used.~~

~~20.7.3~~ **20.7.2 Landing**

~~20.7.3.1~~ **20.7.2.1** The Local Regulations shall define the landing procedures, and give the radio frequency for landing, which preferably should be the same as the finish line frequency.

~~20.7.3.2~~ **20.7.2.2** Hazardous manoeuvres when approaching and after crossing of the finish line shall be penalized. Having crossed the finish line the competitors shall land without delay.

~~20.7.3.3~~ **20.7.2.3** Landing later than the end of legal daylight is not permitted. Non-compliance shall be penalized.

20.8 **Aero Tow Retrieves** The Local Regulations shall state if aero tow retrieves are permitted, and in what way they will be handled.

20.9 **Flight Documentation** All flight documentation, including GNSS records, list of overflown turn points, and outlanding certificates shall be handed in after landing within a period which shall be stated in the Local Regulations. The Organizers may also require back-up documentation within a period stated in the Local Regulations. Non-compliance may be penalized.

20.10 Procedures in case of failure of both GNSS Fr's

(Not yet written!)

21 SCORING

21.1 **General Requirements** Scoring systems used in World and Continental Championships should previously have been tested in National Championships and fulfil the following requirements:

- be fair;
- be reasonably simple;
- be easy to understand for pilots, media and the public;
- enable the Organizers to publish results quickly; and
- encourage competitors to their best individual performance.

21.2 **Common Rules**

21.2.1 Each competitor shall be given daily points based on his performance on each championship day.

21.2.2 The marking distance or speed achieved by a competitor, as appropriate, shall be multiplied by the handicap factor prior to the calculation of any daily points.

21.2.3 Flights that have been disqualified shall be given zero points for the day, but shall be included in the scoring formula.

21.2.4 For safety reasons a bonus may be given for landings on airfields.

21.2.5 Cumulative and final scores shall be calculated by adding the points obtained each day on the nominated scoring system.

21.3 **Assessment of Marking Distance**

"Start Point " shall be taken

- **at the intersection of the flight path and the boundary of the circle for start option 1**
- **at the center of the start line for start option 2**
- **at the position of the start point (the center of the cylinder) for start options 3 and 4.**

"Goal" shall be taken as

- **the middle of the straight finish line**

or

- **the centre of the finish circle.**

"Outlanding Position" shall be taken as the real or virtual outlanding position.

~~(~~ ***(These definitions are needed to explain how the distances and time are measured)***

21.3.1 **Assigned Speed Task (AST)**

21.3.1.1 The marking distance is the sum of the legs correctly completed, commencing from the start point, in the proper order and the distance achieved on the next leg attempted but not completed, if any. If Start Option 1, 3~~2~~, or 4 is used then the marking distance **for calculating the distance points of the finishers shall be taken as the nominal distance of the task** ~~shall be calculated~~ by assuming that all competitors had the same nominal start point.

21.3.1.2 The achieved distance of the uncompleted leg is the length of that leg less the distance between the ~~Landing Place~~ **Outlanding Position** and the next Turn Point, or Goal in the case of the last leg, with the provision that if the achieved distance of the uncompleted leg is less than zero, it shall be taken as zero.

21.3.2 **Time Limited Distance Tasks with Turn Points (TDT/TP) or Distance and Speed Task with T~~t~~urn Points (DST/TP)**

21.3.2.1 If the competitor returns to the airfield~~ before the task closing time~~, the marking distance is the distance from the Start Point, round all correctly rounded **nominated** Turn Points, to the ~~Finish Line~~**Goal**.

21.3.2.2 If the competitor has outlanded, ~~or is still on task at task closing time,~~ then the marking distance is the distance from the Start Point, round all correctly rounded **nominated** Turn Points ~~, to the Finish Line minus the distance from the Finish Line, via the final Turn Point (if any has been set by the Organizers),~~ to the **O**~~o~~utlanding **P**~~p~~osition ~~or the position of the sailplane at the time of the closing of the task .~~

21.3.2.3 If a competitor lands out outside the boundary of the task area, or if he is outside the boundary when the designated time expires, he will be considered as outlanded at the last fix inside the task area

~~21.3.3 **Pilot Selected Tasks (PST)**~~

~~21.3.3.1 If the competitor returns to the airfield the marking distance is the distance from the Start Point, round all correctly rounded Turn Points, to the Finish Line.~~

~~21.3.3.2 If the competitor has outlanded, then the marking distance is the distance from the Start Point, round all correctly rounded Turn Points, to the Finish Line minus the distance from the Finish Line, via the final Turn Point (if any has been set by the Organizers), to the outlanding position of the sailplane.~~

21.3.~~4~~3 **Time Limited Distance Tasks with Assigned Areas (TDT/AA) or Distance and Speed Tasks with Assigned Area ~~Task~~ (~~AAT~~DST/AA)**

21.3.~~3~~4.1 If the competitor returns to the airfield after having visited all the assigned areas **in the correct order**, the marking distance is the distance from the Start Point, round all **Assigned** Areas, to the ~~Finish Line~~**Goal**. The distance is calculated from the ~~competitor's actual GNSS S~~~~s~~tart **Point**

position to the Finish LineGoal, via the valid GNSS's fixes in Area No. 1, and Area No. 2, and so on, that yield the maximum distance.

21.3.34.2 – If the competitor has outlanded, then the marking distance is the distance from the Start Point, round all Areas (calculated as for 231.3.34.1) to the **nearest point— of the next area or to the Goal** outlanding position minus the distance from the **O**outlanding **P**position to the nearest point of the next Area or to the **G**goal if the sailplane is on the last leg .**with the provision that if the achieved distance of the uncompleted leg is less than zero, it shall be taken as zero.**

21.3.3.3 If a competitor lands out outside the boundary of the task area, or if he is outside the boundary when the designated time expires, he will be considered as outlanded at the last fix inside the task area.

21.4 Assessment of Speed on Tasks

When using the line crossing system (start option 2) the start time used for calculating the speed shall be the last valid crossing of the line (as interpolated to the nearest second from the last fix before the line and the first line beyond the line).

When the event marker is used, the start time shall be the time at which the last valid start was marked. If the event marker is used to mark the start the speed will be calculated from the GNSS start time and marked position.
When start points are used, (start options 3 and 4) the start position is taken as the position of the used start point, and the start time is the time when the competitor exits the 0.5 km radius cylinder at the last valid start.
If the multiple start system is used (Start Options 32 and 4) the speed will be calculated from the actual start time and position.

If a valid start has been made after the closing of the start gate the start time shall be taken as the gate closing time.

The finish time shall be interpolated, to the nearest second, from the last GNSS fix prior to the finish line and the first fix after the finish line. If the primary and back-up GNSS unit (if carried) fail, then the manual timing of the finish line crossing shall be used.

21.4.1 **Assigned Speed Task (AST)** **The s**Speed points will be given**calculated** only to competitors achieving valid finishes by dividing the marking distance by the elapsed time on task. **For speed assessment, in start option 3 or 4, the marking distance shall be calculated from the actual start point of each competitor. For start option 1, the marking distance shall be calculated from the intersection of the flight path with the boundary of the circle.**

21.4.2 **Time limited Distance Tasks (TDT/TP or TDT/AA)** No speed points will be given.

21.4.3 **~~Pilot Selected~~ Distance and Speed Tasks ~~(~~ (~~PST~~DST/TP or DST/AA)**

~~The s~~Speed ~~points~~ will be **assessed** ~~given only to competitors achieving valid finishes~~ as follows:

21.4.3.1 For competitors finishing **or outlanding** before the expiry of the nominated minimum task duration ~~time~~, the speed shall be calculated by dividing the marking distance by the minimum task duration ~~time~~.

21.4.3.2 For competitors finishing **or outlanding** after the expiry of the nominated minimum task duration time the speed shall be calculated by dividing the marking distance by the actual time on task.

~~21.4.4 **Assigned Area Task (AAT)** Speed points will be given only to competitors achieving valid finishes after completion of the task. The speed shall be calculated by dividing the marking distance by the actual time on task.~~

21.5 **Championship Day** A Championship day is defined as one on which more than 25% of the competitors in the class who have had a competition launch on that day, fly a marking distance of at least 100 km (see also 3.2.2).

22 CALCULATION OF SCORES The ~~Organiser~~**Organizer**s shall score competitors according to either:

(a) The 1000 point system (22.1), or

(b) The ~~(b) Place scoring (22.2).~~Distance Scoring System (22.2)

The same system shall be used for the whole contest.

22.1 Calculation Of 1000 Point Scores

22.1.1 The score given to each competitor shall be expressed to the nearest whole number, the value of 0.5 being rounded up.

22.1.2 Maximum Points Available Pm (subject to correction by the day factor f) is
the least of either: Pm = 1000 or: Pm = (5 x Do) - 250 or: Po = (400 x Do/Vo) - 200

where: Do = the maximum marking distance (Dh) of the day in km, and
Vo = the best Corrected Speed of the day as defined in 22.1.3, in km per hour.

22.1.3 Uncorrected Score for all tasks (except distance tasks as of 22.1.4)

Definitions :

Dt = length of the task (AST)
D = competitor's marking distance (assessed according to 21.3)
V = competitor's ~~marking~~ speed (assessed according to 21.4)
To = designated task duration (TDT/TP & TDT/AA), or minimum task duration (DST/TP & DST/AA)
T = competitor's time (assessed according to 21.4)
H = competitor's handicap (if used)
Ho = highest competitor's handicap for the class
Dh = competitor's handicapped marking distance = D x Ho / H
(AST, DST/TP & DST/AA) Vh = handicapped competitor's speed = V x Ho / H
(TDT/TP & TDT/AA) Vh = Dh / max (To, T)

F = Finish Factor :

Finishers :	**F = 1**
non finishers (landed on airfield, if bonus for airfields)	**F = 0.85**
non finishers (otherwise)	**F = 0.80**

Corrected Speed (Vc) :

(AST) Vc = (D / Dt) x Vh x F
(TDT/TP & TDT/AA) Vc = Vh x F
(DST/TP & DST/AA) Vc = (¾ Vh + ¼ Dh/To) x F

Vo (best Corrected Speed) = highest corrected speed (Vc)

Uncorrected Points (Pu) :

(if (Vc/Vo) < 2/3) Pu = (3/2 x Vc/Vo) x (2/3 - Rn/3) x Pm
(if (Vc/Vo) > 2/3) Pu = (Vc/Vo - 2/3) x (1 + Rn) x Pm + (2/3 - Rn/3) x Pm

with Rn = number of competitors with Vc exceeding 2/3 of Vo

number of competitors with a competition launch on that day

Nota : a virtual outlanding happens when it gives a better Vc.

22.1.4 Uncorrected Score (for Distance Tasks only)

$$Pu = Pm \times Rd \quad \text{where } Rd = \frac{\text{Marking distance}}{\text{Maximum marking distance flown}}$$

22.1.5 **Day Factor** The Uncorrected Points Pu are multiplied by a Day Factor f to give the score for the day (P).

P = f x Pu with **f = 1.25 x n / N** (when f exceeds 1 it shall be taken as 1).

n = the Number of competitors who achieve a Marking Distance of at least 100 km;
N = the Number of competitors having had a competition launch.

22.1.6 **Penalties** Any penalties shall be deducted after the score for the day has been calculated according to 22.3 and shall not change the day factor (if applicable).

22.~~1.7~~ 3 List of Standard Penalties

(~~(~~Renumbered and placed after the distance scoring system)

Type of Offence	First Offence	Subsequent Offence	Max Penalty
Overweight of W kilograms	W x 2 pts	n x W x 2 pts	n x W x 2 pts
Wrong, late or missing information			
Documentation not complete	No launch	No launch	No launch
Scrutineering not complete	No launch	No launch	No launch
Notification of start time > 30 min after start	Warning	10 pts	25 pts
Declared start time differing from the real time	Warning	10 pts	25 pts
Changing FR without advising the Organizers	10 pts	20 pts	25 pts
Incorrect FR adjustment (Time interval between fixes > 10 sec)	Warning	10 pts	25 pts
Late delivery of documentation (FR, outlanding certificate)	Warning	10 pts	25 pts
Late delivery of backup documentation	Warning	10 pts	25 pts
Incomplete outlanding report	Warning	10 pts	25 pts
Incorrect Start			
Between 0 and 0.5 Km from the start line	**50 pts**	**50pts**	**50pts**
More than 0.5km from the start line	**No valid start**	**No valid start**	**No valid start**
~~**Incorrect Startpoint (Start Options 2 & 4)**~~			
Valid Start at Incorrect Start Point	100 pts	100 pts	100 pts
Incorrect Rounding of Turnpoints			
Between 0.51 and 1.00 km	50 pts	50 pts	50 pts
More than 1.00 km	No Control	No Control	No Control
Dangerous or hazardous flying			
Cloud flying	100 pts	Day Disqual.	Disqualification
Circling in wrong direction in the local zone	Warning	(n-1) x 25 pts	Disqualification
Circling in the start zone	Warning	(n-1) x 25 pts	Disqualification
Towing: early or late release	Warning	(n-1) x 25 pts	Disqualification
Towing: pull-up before release	Warning	Day Disqual.	Disqualification
Finish line: crossing below altitude limit	Warning	(n-1) x 25 pts	Disqualification
Finish line: incorrect approach lane	Warning	(n-1) x 25 pts	Disqualification
Landing: incorrect landing lane	Warning	(n-1) x 25 pts	Disqualification
Flying above the absolute altitude limit (defined at briefing) if excess altitude < 100m	1 pt/m	n pts/m.	Day Disqual.
Flying above the absolute altitude limit (defined at briefing) if excess altitude > 100m	Day Disqual.	Day Disqual.	Disqualification
Starting above the altitude limit	5 pts/m	5 x n pts/m	Day Disqual.
Entering restricted or closed airspace	Day Disqual.	Day Disqual.	Disqualification
Landing after legal daylight	10 pts/min	Day Disqual.	Disqualification
Cheating or falsifying documents			
Falsifying documents	Disqualification	Disqualification	Disqualification
Attempt to obtain external help for finding lift from non competing glider or airplane	Day Disqual.	Disqualification	Disqualification
Other Violations			
Flying under influence of alcohol	Day Disqual.	Disqualification	Disqualification
Positive doping control	See FAI policy	See FAI policy	
Wing Span Penalty in 15m & STD Class (#)	1 pt/cm	1 pt/cm	1 pt/cm

(#) If the span of a glider in the 15 m Class or in the Standard Class exceeds 15,000 mm, a penalty of a fixed number of points shall be subtracted from the daily score. The number of daily penalty points is obtained by subtracting 0.3 cm from the measured overspan, then rounding this number to the nearest whole cm.

Examples:

(i) A 2.7 cm overspan will give daily penalty points of 2.7 - 0.3 = 2.4

which is then rounded down to 2 points.

(ii) A 3.9 cm overspan will give daily penalty points of 3.9 - 0.3 = 3.6 rounded down to 3 points.

~~22.1.8~~ Other violations: At the Championships Director's discretion.

~~22.2~~**~~Calculation Of Place Scores~~**

***(Place Scoring has been deleted because it was never used and has been replaced by a new concept based on points given as a function of the distance*)**

22.2 Calculation Of Distance Scores

22.2.1 The score given to each competitor shall be expressed in distance unit and rounded to the nearest whole 1/10, the value of 0.05 being rounded up to 0.1.

22.2.2 Maximum Score Available = Winner's Distance (Dh)

22.2.3 Uncorrected Score for all tasks (except distance tasks as of 22.2.4)

Definitions :

Dt = length of the task (AST)
D = competitor's marking distance (assessed according to 21.3)
V = competitor's ~~marking~~ speed (assessed according to 21.4)
To = designated task duration (TDT/TP & TDT/AA), or minimum task duration (DST/TP & DST/AA)
T = competitor's time (assessed according to 21.4)
H = competitor's handicap (if used)
Ho = highest competitor's handicap for the class
Dh = competitor's handicapped marking distance = D x Ho / H

(AST, DST/TP & DST/AA) Vh = handicapped competitor's speed = V x Ho / H
(TDT/TP & TDT/AA) Vh = Dh / max (To, T)

F = Finish Factor :

Finishers :	**F = 1**
non finishers (landed on airfield, if bonus for airfields)	**F = 0.85**
non finishers (otherwise)	**F = 0.80**

Corrected Speed (Vc) :

(AST) Vc = (D / Dt) x Vh x F
(TDT/TP & TDT/AA) Vc = Vh x F
(DST/TP & DST/AA) Vc = (¾ Vh + ¼ Dh/ To) x F
~~To~~

Uncorrected Points (Pu) :

(AST) Pu = Vc x T1 (with T1 = time of the competitor with the highest Vc)
(TDT/TP & TDT/AA) Pu = Vc x To
(DST/TP & DST/AA) Pu = Vc x To

Nota : a virtual outlanding happens when it gives a better Vc.

22.2.4 Uncorrected Score (for Distance Tasks only)

Pu = Dh x F

22.2.5 Correction Factor

The Uncorrected Scores Pu are multiplied by a Correction Factor k to give the Score for the Day (P), so that winner's score (P1) be equal to his handicapped distance (Dh).

P = k x Pu with k = Dh1 / Pu1 where Dh1 and Pu1 are Winner's Dh and Pu.

22.2.6 Penalties

Any penalties shall be deducted on distance score (P) after it has been it has been calculated, according to 22.3 with the correspondence of 0.2 km by point[1], and shall not change the correction factor.

[1] 10 points in 1000 points scoring represent usually a speed difference of 0.5% (when above 2/3 of best speed)
For an average task distance of 400 km this is equivalent to 2 km difference (400 km x 0.5%)

Appendix 1

LOCAL REGULATIONS

Organizers of Championships shall use these guidelines for their Local Regulations.

~~The Local Regulations have to be approved by the IGC and circulated to NAC's not later than 60 days before the opening ceremony for the Championships.~~

References to the rules in Annex A are in brackets.

The Local Regulations must be approved by the IGC before being published. They shall thus be submitted to the Annex A group at least three months before the opening ceremony.

(*This clarification is needed to avoid the release of unapproved Local Regulations~~.~~)*

After approval by the IGC the Local Regulations may be incorporated in the Rules, each Local Regulation being inserted in italics after the corresponding rule in Annex A.

A CHAMPIONSHIP

Name of the event (1):

Championship Class(es) (6.1):

Location of the event (1):

Contest area:

Time schedule (1):
- Preliminary entries due:
- Final entries due (7.1):
- Reserve pilots may be accepted after (7.3.3):
- Deadline for approval of new GNSS FRs:
- Deadline for class change (6.5):
- Airfield closed for training flights:
- Registration :
- Official training (3.4):
- First Team Captain Briefing:
- Configuration change closes (10.3):
- Opening Ceremony:
- Contest flying (3.3):
- Farewell party:
- Closing Ceremony and Prizegiving:

Names and functions of the Organizers' staff (1):
- Director of the competition:
- Deputy Director:

Safety Officer:
Task Setter:

Nominated Jury (5.3):
President:
Members:

Stewards (5.2.2):

Additional objectives of the championship stated by~~–~~ the O~~o~~rgani~~z s~~ers, if any (2):

Addresses:
For all official matters , such as entries until the contest:
For all matters during the contest:

B DOPING CONTROLS

National requirements concerning doping test (4.6):

C ENTRY

Entry fee (7.2.1):

Total number of allowable entries (7.3.1):

Number of allowable entries per NAC (7.3.1):

D SAILPLANES AND EQUIPMENT

Additional mandatory equipment required (10.1):

List of prohibited instruments (10.1.1):

High visibility markings, if required (10.6):

Will GNSS data transmitters be used for public display of flight records (10.9)?:

E INSURANCE

Third party insurance cover (12.1):

F REGISTRATION

Additional documents required by the ~~organiser~~**Organizer**s (13.4):

Documents to be carried on board the glider (13.5):

G PENALTIES, COMPLAINTS, PROTESTS

Protest fee (14.3.2.2):

H RESULTS AND PRIZEGIVING

Flags, discs or tapes to be provided by the competitors (15.2.1.1):

I SAFETY

Maximum take-off weight if any has been set for a particular class (16.2):

Additional equipment required, if any (16.5):

Circling direction within- designated airspace (16.7):

Areas over which continuous circling is prohibited, if any (16.7.1):

Additional rules concerning safety,- if any (16.12):

J EXTERNAL AID TO COMPETITORS

Specific requirements regarding contact with Air Traffic Services, if any (17.1.1):

Radio frequencies for the competition (17.1.3):

Radio frequencies for Teams (17.1.4):

K TASKS

~~Types of task that will be set (19.1):~~
~~(~~***(The Organizers have a free choice)***

L COMPETITION FLYING PROCEDURES

Place of publication and display of operational decisions (5.1.2):

Procedures to manage more than 50 entries in a class (7.3.2)

Details of weighing procedures that will be used (20.1.4)

Start procedure(s) that will be used (20.4.1) :

Description of launch procedures for motorgliders (6.4) :

~~Location of re-land area (20.2.5):~~
(Given at briefing)

Contest site boundaries (20.2.7):
(Given at briefing)

~~Type of GNSS Flight Recorders accepted (20.3.3):~~
(Deadline fixed in annex A)

Radio procedures for announcing the start (20.4.1.2):

~~Rules for communicating start time (20.4.1.6):~~
(Fixed in Annex A)

Specific start procedures including altitude and/or speed limitations, if any (20.4.2):

~~Information required to be given to the organizers about outlandings (20.6.1.1):~~
(Given at briefing)

~~Are virtual outlandings allowed (20.6.2)?~~
(Automatic now)

Maximum and minimum heights for crossing the finish line, if any (20.7.1.3):

Finish line frequency and finish line radio procedures (20.7.1.4):

Landing procedures (~~20.7.3.1~~ **20.7.2.1**):

Time period for delivery of flight documentation and back-up documentation (20.9):

Retrieval aero tow procedures, if permitted (20.8):

M SCORING

Scoring system to be used (22):

Bonus given for landing on airfields, if any (21.2.4):

~~Addition to the penalty list, if any (22.1.7 or 22.2.8):~~

~~N DEVIATIONS FROM ANNEX A (if any)~~

(Deviations will no longer be accepted!)

16.2

To: Larry SANDERSON, IGC Secretary
From: Austrian Aero Club
Date: 14 January 2001
Event: IGC meeting March 2001 in Lausanne, proposals to be considered
Subject: Sporting Code for Gliding

Dear Larry,

Please include the following proposals from the Austrian Aero Club in the IGC agenda.

Dear friends,

We would like you to consider the following proposals for the Sporting Code, for Distance flights:

1. Free Triangle Distance World Record

Background. The current list of record categories includes:
Straight: pre-declared & free (course decided after flight)
Out & Return: pre-declared & free (course decided after flight)
Triangle: pre-declared, but no free equivalent.

1.1 The addition of a Free Triangle Distance World Record would complete the set of alternatives available to pilots. The inclusion of the other free flights but exclusion of the popular triangle task, does not appear to be logical. The addition of the triangle would increase choice available to pilots, particularly those flying in large continental land masses.

1.2 Those pilots who prefer to fly pre-declared courses can still do so, this would be an additional record category.

1.3 Klaus Ohlmann's 2460km distance flight in South America has recently shown the huge distances you can fly if you are allowed to use free waypoints. Conditions actually met in flight can be fully exploited, compared to making a declaration that is tied to a forecast before flight that is likely to be both out-of-date and less than accurate. This type of distance flight is good for the world gliding movement, and should be encouraged rather than discouraged.

1.4 Computer programs such as CAL, DMST(G), FTM , OPTI, SEEYOU, STREPLA, etc. make it easy to find the optimum way points for such Free Triangles, and to submit the evidence to OOs and NACs in a clear form.

1.5 Additional Rules for the Free Triangle which seem to be reasonable:
a) The Official Distance of the Free Triangles shall be the Triangle Distance (=sum of the three legs of the triangle) minus the Residual Difference between the finish and start point. This Residual Distance shall not exceed 20% of the Triangle Distance.
b) the start height shall be the lowest point between the release point and the start point and
c) the finish height shall be the highest point between the finish point and the landing point (or the point where the MoP (means of propulsion) is set on again).

2. Free way points for badge and diploma distance flights.

All distance flights for badges and diplomas should include those with free waypoints, the course claimed being selected by the pilot after the flight in accordance with the usual IGC rules for the geometry of the type of course used (28%, etc.).

2.1 Goal badge achievements are different and have to be pre-declared.

2.2 It is an anomaly to insist on pre-declaration for flights that are pure distance achievements, particularly now that technical progress in GPS recorders and analysis programs make certification of such flights straightforward.

2.3 The existing rules for pre-declaration even for pure distance achievements, are believed to originate from days when Observers had to be pre-positioned at way points, and were continued when photographic evidence was introduced.

2.4 With modern recording equipment these constraints on calculating distance flown in accordance with IGC geometry rules (28%, etc) no longer apply and the constraints should be removed for pure distance achievements.

3. Distance Flights with Free Waypoints - Pre-flight Actions

It should be made clear in the Code that no preflight declaration of any sort is required for a distance flight that uses free waypoints, the course claimed being selected by the pilot after the flight in accordance with the usual IGC rules for the geometry of the type of course used.

3.1 Proofs. The pilot has to prove in the usual ways (Annex C to the Code) that there is evidence, independent of Flight Recorder data which can be entered by the pilot, that the pilot was in the glider concerned with the recording equipment concerned, for the flight that is claimed.

Best regards to all

Herbert Pirker
Austrian Delegate to IGC
for the Austrian Aero Club

IGC Meeting March 2001

IGC Specialist comment on Sporting Code Proposals from Austria

As all of the following proposals did not have the proposed wording change to SC3 included, some assumptions have had to be made as to the meaning and intent of each proposal.

Proposal 1
Free Triangle Distance World Record
Comment

Consideration should be given to the situation that introduction of a further type of record adds not just one record, but eight separate records to those already in existence. A special committee set up by IGC rewrote the record list just 3 years ago. Since then, not one year has gone past without some move to introduce new records. The records committee was of the opinion that records should be rare and for very special performances not already covered by existing records. The current "distance around a triangle" covers the performance of this proposal, the only difference being to declare the waypoints.

When the "Free" Out and return record was set up, originally as a trial, we were told that with the new found freedom pilots would be able to extend their flights and great improvements in performance would result. The results are, in fact, not yet bearing out this contention.

Of the 12 "Free Out & Return" records claimed at the time of writing, 3 have exceeded the standing "Out and Return" distance record, 5 have not exceeded the "Out and Return" record, and 4 were achieved in the same flight as the corresponding "Out and Return" records. Of these last flights, only one used the opportunity to increase the "Free Out and Return" distance to more than the "Out and Return" claimed, by 4.75 kilometres. One flight, classed above as not exceeding the "Out and Return" record (Open Class Feminine) also claimed the 15 metre "Free Out and Return" and the "Out and Return" in the Feminine category. It is clear from this that many pilots are actually declaring their courses, and then taking advantage of the opportunity to claim 2 or more records with one flight. The proposer found that to be anomalous at a previous meeting and tried to prevent multiple claims, although this was not passed, this proposal gives another opportunity for multiple claims from one flight.

It is yet too soon for the performance gains of this type of record to be proven. The trial of the "Free Out and Return" should continue, but it is too soon to add yet another record of this type until the concept is fully proven. The contention that not to have such a record is “unfair” is nonsense, it is just as unfair not to have a record for a quadrangle either with or without declarations.

Another consideration is safety. With triangles, the leg length proportions must fit the proportion rules, so this could mean pilots doing calculations of leg length in flight, with consequent lack of attention to lookout and flying, but if calculated beforehand, it would have much the same effect as a pre-declaration.

When the “free” concept was introduced it was argued that only the distance counts. This argument persuaded the meeting in 1999 to change the 3 turnpoint distance flight into a “free” flight, so to now introduce a new type of flight with restriction on the turn points, namely that they must conform to the FAI triangle definition must be regarded as a retrograde step according to these same arguments.

The proposal has one advantage. If introduced, modification of the Sporting Code to include a "Free Distance around a Triangle" record would not require a large number of changes to the Sporting Code.

This proposal is not recommended at this time.

Proposal 2:

Free waypoints for badge and diploma distance flights.

Comment

The rejection of the same proposal last year, to allow all distance flights in badges to be non-declared is hardly a reason to reintroduce the same proposal, at this years meeting. To accept this proposal would inevitably mean another reversal of the policy decided only last year.

It is not clear from the argument supporting the proposal if it is the intention to introduce rules for the geometry of badge and diploma triangles. No such rule currently applies other than for a triangle to have three legs.

If the meeting were to accept this proposal, it would also be necessary to change the name of badges and diplomas done with this type of flight to something else, as the new badges done with this type of flight would no longer be comparable to those done under the present rules.

Changes to the Sporting Code would be difficult to make without confusion for those reading it and would require very careful wording.

This proposal is not recommended.

Proposal 3

Distance flights with free waypoints– Pre flight Actions.

Comment

It is unclear just what is being proposed here. But if the intent is to remove from the Sporting Code the data needed to verify a flight then it would be a very retrograde step.

The current code requires a declaration to be recorded on paper, board or electronically on a flight recorder, prior to flight.

There are the date of the flight.
Name of the pilot.
Type and registration of the glider
Type and serial number of barograph or flight recorder.
Way points and the sequence to be flown, start, turn(s), finish/goal as applicable to the specific soaring performance*
Date and time of declaration
Signature of pilot**
Signature & name of OO with date and time.**

* not required for free distance records
** not required for electronic declarations

It can be seen from the above that there are a number of items, which are required to identify the pilot, glider and flight recorder before the flight can be validated. The exception for way points for free distance records is clear, as is the exception for signatures. To delete all such recording would make verification impossible with any degree of security.

Some amendment to the list of exceptions above would be necessary if proposal number 2 is accepted, but other data would still need to be recorded.

This proposal is not recommended.

Ross Macintyre
IGC Sporting Code Specialist.

To: IGC Delegates
From: Fred Gai / Axel Reich, Delegates Germany
Subject: **Proposals for changes of Sporting Code Section 3, Annex A**

The German Aero Club has 3 Proposals for changes of SC 3 Annex A to vote on:

Proposal 1:

Annex A 7.3.1 Total replacement:
In Multiclass Championships (Championships with more than one class) each NAC may enter a maximum of two plus one reserve pilot in any class, in Singleclass Championships (Championships with only one class) a maximum of three plus one reserve pilot. Deviation of this has to be approved by IGC.

Annex A 7.3.2 *Any number of entries up to 120* **in Multiclass Championships, up to 50 in Singleclass Championships** *is allowed if evidence is provided that the conditions and Local Regulations make it safe to do so (as per section 4.7).*
Delete next two sentences (see document "Significant dates for IGC approved Competitions": No class shall have more than 50 competitors)

Annex A 7.3.3 *NACs with reserve pilots will be offered entry in class vacancies as detailed in the Local regulations,* **at the discretion of the organizers, normal on a first come - first serve bases until the maximum number of entries is reached,** *provided entry fees for .... received.*

The wording needs to be adapted to the new championship structure of single- and multiclass championships.
To ensure economical realization championships with entry fees less than 500 US$ required enough competitors to cover all operational costs. In single class or feminine championships only two competitors in each class will not cover this costs (see Bulletin No. 1 of 1st Women's WGC and draft of 1st WGC 18m-Class and 3rd WGC World Class) except IGC would accept a higher level of entry fees in future.

Proposal 2

Annex A 4.1.1 delete

Annex A 4.1.2 rename 4.1.2 in 4.1.1

Since flights are controlled by GNSS flight recorders (see SC3 A 20.3.1) each start, turn and position check points are geographical coordinates. Competitors needs only the electronic version of the this catalogue.

Proposal 3

Annex A 5.2.2 *The Organizers shall appoint* **one Steward per class (but not more then three in Multiclass Championships)** *of nationalities different to….*

Annex A 5.2.3 **One** *Steward shall be present at…..*

To reduce costs one steward per class is enough to watch over the conduct of a championship.

Proposal to Vary the Composition Of The International Jury and the Stewards

23 December 2000

Proposal

It is proposed that the International Jury and Stewards for future IGC Category One Events be as follows:

(a) The International Jury. The International Jury shall consist of the President of the Jury plus two Members.

(i) The President of the International Jury. The President of the International Jury shall be appointed by the IGC.

(ii) Selection of Jury Members. Both Members shall be appointed by IGC. One Member may be of the same nationality as the event organisers. One or both Members may be permitted to be absent from the event in accordance with the following requirements:

a. Being able to be at the event site within 12 hours from the Jury President being formally notified of a Protest, and
b. Being present at the event site for the final day of competition to:
    i. Handle any Protests arising from the last day of competition, and
    ii. Attend the final Jury Meeting to confirm the results.

(b) Stewards. For International Events, a minimum of two and a maximum of three Stewards shall be appointed by the IGC. For Continental Events, at least two Stewards shall be appointed by the IGC.

Background

Until 1995, IGC used a “representative” International Jury (IJ) to control International Events, with only the President being appointed. Since 1995, IGC has been using a “nominated” IJ. This has meant the appointment of a President of the IJ plus two Jury Members.

In addition, Annex A requires the appointment of three or four Stewards to assist with the overall conduct of the event. The members of the IJ and the Stewards form the International Officials.

Over the same time FAI has altered the requirements for the support of International Officials so that travel to the event has become the responsibility of the Organizers. Prior to 1995 Organizers were only responsible for the in-country costs of the President of the IJ plus the Stewards. As a result Event Organizers have been faced with increased costs arising from supporting travel and living expenses for up to six (or possibly seven) International Officials for category One events.

The net effect has been an increase in the order of 50% in the cost of the living expenses of the International Officials plus the variable costs of travel, depending on the location of the event and the nationality of the International Officials. These costs must effectively be loaded directly onto the entry fees for the event.

Discussion

The International Jury

Precise powers are vested in the President of the IJ and also with the Jury as a body. There are specific restrictions on who may be a member of the Jury, and an expectation that they will conduct themselves in an appropriate manner.

In considering the composition of the IJ we need to be mindful of the FAI requirements for a Jury. The FAI Sporting Code, General Section, Chapter 4 states:

> *4.3.1.1 Matters of advice, arbitration or rule interpretation shall be the responsibility of the International Jury… . Matters of subjective evaluation of performance shall be the responsibility of FAI Judges… . International Jury members and FAI Judges are International Officials acting on behalf of the FAI and shall have been appointed or approved by the FAI Air Sport Commission concerned.*
>
> *4.3.1.2 An International Official may hold only one of the above offices in an event. He may not be a competitor, nor hold any operational position in the organisation.*
>
> *4.3.1.3 The International Officials in any one group or position must represent different NACs.*
>
> *4.3.2.3 (A) Nominated jury - is one in which the President is appointed by the Air Sport Commission concerned. The members consist of two or four persons appointed by the Commission according to the relevant section of the Sporting Code.*

Further, the FAI provides some very specific responsibilities to the Jury during an event. The Sporting Code, General Section states:

> *4.3.2.4 … the Jury President has the right to require the Organisers to abide by the FAI Sporting Code and the published rules and regulations for the event. If the organisers fail to do so, the President of the Jury has the power to stop the event until a Jury meeting has considered the situation. The Jury has the right to terminate the event if the organisers fail to abide by the FAI Sporting Code and published regulations.*
>
> *4.3.2.5 … At least one jury member is to be on site during competition operations.*

The following statements are from the FAI Jury Handbook:

> *Jury members are not Competition Officials and, although they are required to monitor the conduct of the event, they should take care not to get involved in any way in the running of the event.*
>
> *The Jury President and Jury members should … be prepared to give advice and answer queries raised by the Event Director regarding the rules and the general running of the event. However, when replying to such queries and giving advice, care should be taken to represent the position of the Jury as a whole and not just the individual Jury member.*

And the FAI has specific views on how the members of the Jury should conduct themselves:

> *Courtesy also dictates that a low profile is maintained at all times and care taken not to interfere with any of the staff or their work. It is important to remember that Jury members walk a fine line between the competitors and the competition officials.*

<u>The Stewards</u>

There are specific restrictions on who may be a Steward. Unlike the Jury, however, the Stewards have no authority and have a much more freer brief. There is a specific duty placed on them to be present around the contest site whenever flying is being planned, occurring, or scoring is being processed.

The Sporting Code, General Section, defines Stewards:

> *4.3.4.2.1 Stewards are advisers to the Event Director. They watch over the conduct of the event and report any unfairness or infringement of the Rules and Regulations or behaviour prejudicial to the safety of other competitors or the public or in any way harmful to the sport. They assemble information and facts concerning matters to be considered by the International Jury.*

And the General Section also puts the following limits on their involvement with the Organizers:

> *4.3.4.2.2 A Steward has no executive powers. He must not be a member of the Organising Committee.*

In addition, Annex A places the following restrictions on the choice of Stewards:

> *5.2.2 The Organizers shall appoint three or four Stewards … of nationalities different to that of the Organizers …*

The Sporting Code does not define any specific ‘work’ requirements, but Annex A states:

5.2.3 Two Stewards (one in Continental Championships) shall be present at the contest site throughout all major operational activities …

Workload

One Jury Member is required to be on site during the competition operations. The President of the IJ can fulfil this role. This is essentially a passive role - there is no stated requirement that the Jury Member must be directly involved in any activities on the site.

Annex A requires two Stewards to be present during competition operations. The nature of the Steward's role suggests that this presence should be active – observing task setting, competition procedures, scoring etc.

If a protest must be heard there are a number of conflicting requirements that restrict the timing of the Jury Meeting. These include:

a. The requirement that two Stewards to be present around the contest site during flying conflicts with the requirement that they: " … *assemble information and facts concerning matters to be considered by the International Jury"*. The Stewards are, therefore, restricted in their ability to gather information when competition flying is occurring.

b. Competitors and their Team Captains are invariably required to be present during IJ meetings – as both protesters and witnesses – and the Championship Director is likely to also be required to be present. These persons are unlikely to be available when competition flying operations are being conducted.

Consequently, the IJ is likely to have to meet after flying is complete (or cancelled if the day is not suitable) to consider any protest. The experience of the IJ at St Auban (1997) and Bayreuth (1999) was that protests could only be considered when flying was not occurring because of the need to have persons present whose first priority was the competition operation.

Streamlining Jury and Steward Positions

In reviewing the responsibilities, duties and profile of the two groups, there is one obvious area of conflict. This is in relation to the Members of the IJ being charged with maintaining "*a low profile … at all times and care taken not to interfere with any of the staff or their work*".

While the Stewards are not charged with the same duty of care they must still be mindful that they are present to advise and assist with the conduct of the event and must, therefore, be respectful towards the Organizers.

Neither the Members of the IJ nor the Stewards may hold roles within the Organization. They may both provide advice and counsel, and both need to be guarded in the advice or counsel that they provide. They must all be knowledgeable regarding the Sporting Code, Annex A, and the Local Regulations for the Event.

Annex A requires the Stewards to be of nationalities different to the Organizers. All International Officials are appointed by the IGC.

Options

There are a number of possible options that would assist in reducing direct costs to the organization and competitors. These are:

1. Combine the role of Steward and Jury Member for one or two of the Jury Members.

   Advantages This option is not excluded within FAI, or Annex A requirements. It would reduce the total number of event officials and direct costs by approximately 33% plus the variable costs of transport.

   Disadvantages A possible conflict of interests could arise from the Steward providing *advice* and the Jury Member maintaining a *low profile* and taking care to *not get involved in any way in the running of the event.* The ability of the officials to be effective could be compromised by conflicting requirements. The individuals could be open to challenges regarding integrity and personal involvement.

   Conclusion This option is not desirable due to the conflict between the two roles.

2. Reduce the IJ to a President plus one Member.

   Advantages It would reduce the total number of event officials and direct costs of the IJ by approximately 33% plus the variable costs of transport.

   Disadvantages The reduction in numbers of the IJ conflicts with FAI requirements. The reduction of the IJ to a President plus one Member could result in a 'hung' jury. The provision of an uneven number of jurors (3 or 5) ensures that a majority vote may be determined and allows the President the opportunity of using his vote to break any deadlock between the opinions of the Members.

   Conclusion This option is not desirable due to the requirements of an effective jury.

3. Reduce the minimum number of Stewards to two.

   Advantages This option is not excluded within FAI, or Annex A requirements for the Stewards. It would reduce the total number of event officials and direct costs of the Stewards by approximately 33% plus the variable costs of transport.

Disadvantages The workload on the two Stewards would increase by approximately 50%. The ability of the Stewards to be effective would, therefore, be reduced. The Stewards would need to be adequately supported with transport etc to ensure they could achieve their tasks.

Conclusion This option is desirable.

4. Require that attendance of the Jury Members on an as-required basis.

Advantages This option is not excluded within FAI, or Annex A requirements. The built-in delays to the timing of a protest hearing, due to the conflicts with flying commitments, would provide a time window for Jury Members to travel to the event. The fact that one Jury Member could be appointed from the host nation assists with the travel requirement. It would reduce the total number of event officials and direct costs plus the variable costs of transport.

Disadvantages The President of the IJ would still be required to be present for the entirety of the event to be able to discharge his responsibilities. At the very least the Jury Members would have to attend the final Jury Meeting to confirm the event results. The Jury Members would also need to be able to attend the event promptly to hear any protests on the last day of competition. These two requirements suggest that the full IJ should be present for the last 24 hours of the event. The Jury Members would, therefore, need to be within one-half days travel of the event. This may restrict the availability of suitable Jury Members.

Conclusion This option is desirable.

Summary

The proposal contained in this paper will provide a balance between numbers, effectiveness and cost so that future Events will be: (a) appropriately supported and controlled; and, (b) direct costs to the event Organizers, and therefore the competitors, are minimised.

It is suggested that the combination of Option 3 (reducing the number of Stewards to two) and Option 4 (having remote Jury Members) provide the best opportunity to provide appropriate assistance to the event while minimising the costs to the organizers.

Bob Henderson
IGC Alternate Delegate, New Zealand
Member of the Annex A Rules Committee

16.4

PROPOSAL TO IGC MEETING MARCH 2001
TO INCLUDE STEWARD DUTIES AND REPORTS AS IGC DOCUMENTS

Proposal:

1. That IGC adopt the attached "IGC Steward Handbook" to expand on the duties and responsibilities of an IGC Steward.

2. That IGC adopt the attached "IGC Steward Report Form" to provide feedback from the Stewards to IGC to facilitate development of the Annex A Rules and Local Regulations.

Background
FAI publish a Jury Handbook to assist the members of the International Jury in the completion of their duties. The duties of a Steward are listed in the FAI Sporting Code General Section (4.3.6) and in Annex A. CIVL have published a Steward Job Description to assure a "*high quality of Steward work which will improve competition fairness"*.

Discussion
It is suggested that a similar IGC Steward Handbook would assist in ensuring:

a. An clear understanding of the roles and responsibilities of the Steward.

b. A clear differentiation between the role of the Steward and the Jury Member.

c. An explanation of the subtleties of the Stewarding role.

The CIVL Steward Job Description has been used at past IGC championships to provide guidance to the IGC Stewards. The IGC Steward Handbook has been developed from the CIVL Job Description, which has been modified to meet IGC requirements.

The addition of a formalized Steward report would assist in providing feedback to the IGC on amendments to the Annex A Rules and Local Regulations that would assist the management and organization of future events. The Report format has been developed over the past three World Gliding Championships.

Bob Henderson
IGC Alternate Delegate, New Zealand
Member of the Annex A Rules Committee

Attachments:
1 IGC Steward Handbook
2 IGC Steward Report

IGC STEWARD JOB DESCRIPTION

March 2001

1 INTRODUCTION

The Steward is the independent representative of the IGC attending a Championships to observe the conduct of the event. The Steward can and should liaise with the Organisers and Jury for the purposes of rule interpretations and factors affecting the fairness and safety of the competition. However, the Steward is not empowered to overrule officials.

2 BASIC ROLE

The basic role of the steward at FAI events is defined in the FAI Sporting Code - General Section 4.3.6 as follows:

> *Stewards are advisers to the Event Director. They watch over the conduct of the event and report any unfairness or infringement of the rules and regulations or behavior prejudicial to the safety of other competitors or the public or in any way harmful to the sport. They assemble information and facts concerning matters to be considered by the International Jury. They advise the Event Director on interpretation of the rules and regulations and on penalties. A Steward has no executive powers. He must not be a member of the Organizing Committee. A Steward may attend a meeting of the International Jury as an observer or witness.*

Requirements for the Steward at IGC events are also outlined in Annex A.

To be effective a Steward must:

- Be aware that he has no formal power or authority to make decisions. His role is one of providing advice and/or support to the Director, the International Jury, the Team Captains *and* the competitors.

- Possess a thorough understanding of Annex A and the Local Regulations and have these documents available at all times during the event. As he must advise the Director on rule interpretation, it is desirable that he has been present at the Commission meeting where the local regulations were approved. It is helpful if he has had experience in the interpretation of complex documents.

- Be able to anticipate, and recognize in advance, issues that may cause competitors to consider that they have not been treated fairly by the organizers. The steward should ensure that the information given to Team Captains and competitors is unambiguous. He must be aware of difficulties created by language. He should ask himself "Was that briefing clear? How could the information be misinterpreted? Was the briefing

consistent with the regulations? Were any changes, from what was required yesterday, clearly defined as different? Were all the items that were supposed to be covered, mentioned?" He should back up his judgement in these matters by enquiring of Team Captains and/or competitors of their understanding. In addressing such issues he must not reduce the credibility of the Director.

- Be prudent in answering questions from Team Captains and competitors. His answers must be consistent with the rules and regulations and what the Director has stated, or will state at briefings. If the Steward is unclear in any detail, he *must* confer with the Director.

- Be able to establish a good working relationship with the Organizers, the Team Captains and competitors. By recognizing potential problems in advance he should take steps to avoid them becoming issues. Many problems arise from a breakdown in communications. He should be aware of the strengths and weaknesses of the Director and his organization.

- Be experienced in sporting events at the highest level and the stress under which all involved operate. He must be sensitive to the human aspects of high performance sport.

- Not take it for granted that all things are happening in accordance with the rules and/or the way they appear on the surface. He should be looking at the systems the organizer has in place to make sure that they are robust. "Are the scores being calculated correctly and is all the required information being presented in daily score sheets? What security is in place to ensure that flight verification records cannot be tampered with? How are any official timepieces synchronized? What systems are in place to make sure a pilot's finish time is always recorded?" These and a multitude of other questions should be asked continuously.

- Be visible, watchful and observant. Take notes of incidents that may be unsafe or cause for complaint or protest. Record time of briefings, launch opening, complaints or protests being submitted. Be able to provide objective, accurate and factual evidence.

3 SPECIFIC RESPONSIBILITIES

The requirements of the sporting codes are by necessity rather general. The specific duties are expanded below.

3.1 Watching over the conduct of the event

The Steward should be aware that many of the participants in a world championship are operating at a high level of stress. This is true, not only of the competitors but also of the organizer, and his helpers. It is important that the Steward avoids being loaded by the organizer with routine activities that prevent him from overseeing the competition in a relaxed but thorough manner.

The Steward should:

- Contact the organizer as early as possible before the meet to establish rapport, offer support and detect potential problems.
- Attend all briefings
- Make notes of all statements by the organizer or other competition officials, including times of all events such as launch opening, closing, briefing times, etc.
- Listen carefully to all announcements and check that the language used is able to be easily understood by those participants who do not have the official language as their first language.
- Collect, and have on hand at all times, all documents issued by the organizer, including Local Regulations, Appendums and rule clarifications. These should also be "language checked". If documents are not dated and time stamped, record the time, date and place of issue.
- Collect information, statements and documents concerning points of contention in regards to rule application and interpretation.
- Confirm with Team Captains and competitors that announcements and documents are able to be correctly interpreted.
- Check that briefings are adequate, that all information required by competitors is included, and consistent with the Sporting Code(s) and all other written documentation. Be particular aware of "literal translations" that when retranslated may mean something different.
- Establish a relationship with Team Captains and competitors to identify impending problems or difficulties that participants are experiencing (Do not promise to fix these problems—the “fix” is the responsibility of the team or the organizer as appropriate).
- Monitor the status of scores, check that briefings clearly state when protest time elapse and that all competitors have adequate opportunity to lodge complaints and/or protests.
- Review all systems for accuracy and soundness of operation by observing various points (task setting, launch, finish, outlanding, scoring, etc)

3.1.1 Launch system - Check that:

- The launch system is understood by the launch marshalls.
- Adequate instructions exist, and it will work under all the likely (and unlikely) weather conditions.
- The system records any times of launch delays if this is required to determine if the day is valid or to set specific task related times.

3.1.2 Turnpoints and Finish - Check that:

- Turnpoints are adequately defined.
- The finish line is defined in a manner that allows crossing to be determined unambiguously and preferably in a manner that allows the pilot to view for themselves that close finishes are valid or invalid.
- The system used to record finish line crossing minimizes the possibility of pilots being missed, mistakenly identified or errors being introduced.
- Adequate crowd (and team) controls exist.

3.1.3 Scoring system - Check that:

- The scores are being correctly calculated in accordance with the published scoring formulae. Do not assume that computer based scoring systems are in fact correct.

3.1.4 GNSS evidence - Check that:

- The system whereby GNSS records are collected, processed, checked and stored is controlled so that the possibility of flight records being tampered with, lost and/or stolen is minimized.
- The method by which GNSS records are being checked is thorough.

3.1.5 Safety - Check that:

- Adequate arrangements are in place to respond to pilot injury.
- Mechanisms are in place to cancel the task if necessary due to unsafe conditions.
- Record instances where safety is compromised.

3.2 - Reporting references to the Rules and Regulations

As a Steward you are requested to submit a complete report on the competition to the Organizers and the IGC Bureau. The primary purpose of this report should be to identify desirable changes to rules and procedures for future competitions. The IGC Steward Report form attached should be used. Specifically the report should:

1. Identify Rule and Local Regulation problems.
2. Record instances where meet fairness is compromised.
3. Record instances where meet safety is compromised.
4. Record clarifications, decisions, and problems.

IGC Steward Report - *Name and Date of Event*

1 ORGANIZATION *(Comment where appropriate)*

1.1 Overall organization

1.2 Quantity of officials

1.3 Experience of officials

1.4 Suitability of meetings and briefings

1.5 Suitability of weather information

1.6 Suitability of facilities

1.7 Transportation

1.8 Information dissemination (Pronouncements, schedules and decisions)

1.9 Pilot assistance

1.10 Retrieval

1.11 Launch control for fair access and efficiency

1.12 Opening and closing ceremonies including presentation of Jury and Stewards

1.13 Other social events

1.14 Total number of scheduled days and number of contest days

1.15 Media liaison

1.16 Other organizational comment

2 RULES *(Comment where appropriate)*

2.1 Adequacy of local regulations

2.2 Addendums or changes

2.3 Fair applications of local regulations

2.4 Possible improvements of rule regulations

2.5 Task setting and operations.

2.6 Scoring system (use and application)

2.7 Protest handling and registration

2.8 Pilot position System and on line reproduction

3 SAFETY *(Comment where appropriate)*

3.1 General safety of the event.

3.2 Occurrence of accidents

3.3 Availability of medical personnel

3.4 Use of safety officers

3.5 Launch safety

3.6 Pilot skills relating to safety

3.7 Suggestions for future safety enhancements

Name	Name	Name
Signature	Signature	Signature

16.5

From: Smilian Cibic - Italian Delegate to IGC

To: Larry Sanderson - IGC Secretary

Subject: About FAI Sporting Code - Section 3

Vicenza, 14 January 2001

A discussion about SC3 seems to have exploded suddenly at about the end of one Millenium and the beginning of a new one.

Having been deeply involved with this matters for at least two decades, I think I may as well add to... the confusion with some ideas for which I don't ask any immediate action, but only consideration when intervening on the Code in the future.

To simplify, the points being presently discussed are essentially Pirker's proposals and a possible moratorium for changes. But I'll take this opportunity to discuss the whole layout of SC3, unsatisfactory, in my opinion, from many points of view.

First of all I'd consider the bulk of the documents versus first the difficulties of producing and circulating them and second the willingness, or rather unwillingness, of the intended users to read them.

I have here copies of SC3, editions 1981 and 1992, both of about 30 pages. The present edition, that Ross optimistically defines "short", has about 45 pages. plus Annex C, which, according to the texts, is its integral part, with more than 50 pages (are we under the influence of the European Community, that regulates the diameter of the peas, the straightness of the cucumbers et similia?).

Realistically, how many of the non English speaking countries have a translation of SC3 (we have); and how many a translation of Annex C? We have not, and will not have it; instead we'll prepare a short document (more or less the "shorter, simpler and easier to read version..." decided in the 1997 annual meeting).

How many of the pilots involved in sport and how many OOs have this documents and how many actually read them? From my experience, not only in my country, a tiny minority.

And what about amendments? They should be translated, if necessary, and distributed to all possessors of copies of the Code: not so easy. I don't believe a strict moratorium for amendments is possible, but at least let's limit them to really important and urgent matters, leaving cosmetics for the next radical

revision (AL1, issued one year after the SC3, consists of six pages with 24 points: too many)

All this should invite us to be realistic and try to simplify things as much as possible.

Whereas the scope of Annex A is clear, although recently, as I'll explain later, it has been misused, Annex B is probably not more necessary, I think that Annex C is altogether a wrong document, and certainly, as we'll see later; not what we urgently wanted and needed.

In other words if SC3 needs a longer explanatory document, there is something wrong

Therefore I think that the whole Code should be reconsidered, rewritten or deeply revised in a few years time, maybe with a contest to get the shortest and simplest text. To this end I will express some ideas, not necessarily right.

Section 3

This is the basic document. The text should be clear, complete on its own, like it used to be, and not needing to be interpreted, at least for an average informed reader, with references to Annex C, as it happens now (see points 4.6.3a(i), 4.6.4a, 4.6.4a(ii), 4.6.4b)).

Actually I find it very dangerous what Ross says in his web message of 2 January 2001: "In many ways **Annex C is now the more useful document** because it gives the detailed way of satisfying the (short) rules given in SC3 itself". This tends to reduce the importance of this basic document: Annex C cannot and must not be a substitute of SC3

About the shortness of the rules I already wrote above. Going into detail, where could SC3 be shorter and/or simplified?

Here are just some examples.

First of all, and certainly not very important, but an example of mixing bureaucracy with rules: Are the Copyright and the Rights (pages 2 and 3) really necessary here? Should they really be translated in all languages? And the FAI logo on page 3, and the addresses of FAI given twice in the two pages, by the way with different web addresses? I am not a lawyer, and think they should find place in a set of documents for NACs, officials, etc. and not be a concern for pilots and OOs, the normal users of this document.

Having decided for only GNSS control of records, we could easily get rid of something rather archaeological, like the direct observation from the ground

(4.6.1a - 4.6.2f(i)), and the use of radar (4.7.1). Somebody has an idea of how many times they were actually used in the last years?

And what about measuring times, in the third millennium with "timepieces displaying only minutes" (4.5.1a)?

Certainly important is the list of the tasks, leading to a lot of discussions about the distance tasks, for which I think we need a logical and clean scheme.

In my opinion we should have for each declared distance task a corresponding free one. Apart from what Pirker says (with a hardly understandable kind of religious war against his ideas), what is so wrong in adding a free triangle to complete a logical scheme? We have record tables full of blank positions (about 30 only in the feminine World Class and ULs). What harm can this one do, which will certainly have clients, especially in some countries, not favoured by nature and with a difficult meteorology?

And a more logical scheme could help to simplify the rather confusing present point 1.4, certainly not easily understandable at first glance.

Annex A

In my opinion, this part of the rules is intended to be a guide for the rules of international championships. Until the European Championships 2000, the organisers used to prepare a booklet containing the rules and the local regulations as approved by IGC, and the system worked well, especially with the solution adopted for the World Championships 1999, where the local rules were inserted in the most appropriate place in the middle of the rules. This resulted in an easy consulting for teams and organisers.

The decision (to my knowledge made officially known only to the organisers) not to have a special set of rules, but to use Annex A to this end, was in my opinion, but also of the organisers and most everybody concerned, very unfortunate. As president of the jury I knew about it when I arrived to Luesse; the organisers, the stewards and the jury were unhappy, the teams and competitors did not have copies of the Annex.

I'll add more to that: I made an inquiry on the grid: the great majority of the pilots did not know what was Annex A (one pilot asked me: "does Annex A exist also in my country?"); again most of the ones who knew, had never read it, as was of the most known pilots confessed.

The same opinions are expressed by Fred Weinholtz in his "Stewards' Report EC 2000", who says "There should be one (pocketsize) booklet with only the

information valid for this event and developed necessary for the pilots, as short as possible."

We always had something like that: why these inventions not tested before in less important events?

The same applies to the decision imposed to the organisers transforming the Assigned Area Task (a speed task, point 19.5 of Annex A) into a distance task? Why do we spend time and money to discuss, decide and publish rules in Annex A, if then suddenly somebody has the right to change them without a communication and justification?

Annex B

This document is obsolete and should be rewritten or split, with parts going to different documents for different users.

It starts with the Glossary, where it reads "This expands the Glossary in the main volume of Section 3…", but there is no more glossary in SC3.

Chapter 1 and 2 contain information certainly not needed by pilots and Oos.

Only Appendix 1 may be interesting to pilots and OOs, but it regards information that is already partly or totally in Annex C, and could in any case be included there.

At this point we could easily get rid of Annex B.

Annex C

I copy from the minutes of the 1997 IGC Annual Meeting:

8.1.1 …..

VOTING: it was unanimously agreed to form a new sub-committee chaired by Ross MacIntyre with 2 objectives:

(a) to produce a shorter, simpler and easier to read version of Section 3 of the Sporting Code, and

(b) to write a guide to the Sporting Code for OOs and pilots.

……

I think Annex C which is certainly not the most needed "quick reference guide" of point (a), nor the guide of point (b).

I insist on the importance of the really needed document of point (a), which, in my opinion and I think of the ones that requested it, should be a very short digest for pilots and OOs to keep in their pockets, with a synthesis of the rules they need in the field, something similar to what we have for example for a video recorder or similar gadgets where, together with a complete set of instructions, we have a few pages with the essential for a quick help.

About Annex C, I don't discuss its quality, which is certainly good, but it is not a "guide to the Sporting Code". It is rather something with a much wider scope, a handbook or a manual, comparable with similar books published in different countries, with useful information for cross country, badge and record flying.

In other words I do not think that in what was intended under (b), we should teach people how to fly badges or records, but we should only to stick to explaining, for the ones less familiar with them, the rules of SC3. As I said before, there should be no need for a person normally familiar with SC3, to use Annex C.

I studied carefully Annex C and made boring pages of notes, but here I'll just say that most of the text is redundant, far beyond the necessities of pilots and OOs. Mechanical Barograph Procedures, Motor Glider Considerations, Photo-Interpretation Techniques are far beyond the scope of the document, as are the appendixes regarding GNSS, the Motor Glider MoP Recording System, etc. .

The example of the calculation of the loss of height (2.1) assumes subnormal readers. The same for Appendix 1 - Common conversion factors (the whole SC3 is metric, so why does somebody need this table anyway).

In conclusion Annex A, rather then a guide to SC3 is a study book for club instructors, national analysts and processors of the claims, instructors of OOs.

Reading it will certainly do no harm to a pilot ar an OO, but, as I said, is beyond the limited scope of point (b).

What should we do then? In my opinion this text should not be called Annex A, but possibly be published by IGC, something like OSTIV's Handbook of Meteorological Forecast.

Instead we should stick to what was decided in 1997 and produce as soon as possible the "quick reference guide" of point (a).

16.6

Motion for alteration to Annex A.

This proposed motion is based on the premise that Open Class is a non-restricted class and therefore any weight limitations need to be within legal and some operational guidelines.

The current rules in the Sporting Code leave all decisions on the weight of Open Class aircraft to those specified in the Local Regulations. This does not provide any guidance to organisers. In practice, this has resulted in differing conditions being applied to gliders, single seat motor gliders and two seat motor gliders.

Specifically, single place motor gliders have been restricted to a weight lower than their certified weight whereas two place motor gliders have been permitted to operate at their certified weight. This provides an advantage to two seat motor gliders over the single seat versions. The single seat motor gliders therefore are also disadvantaged compared to the single seat gliders as their (normal) weight/wing loading variation is restricted.

The following motion is intended to provide general guidance on weight restrictions for Open Class.

"That all aircraft competing in Open Class be permitted to fly at their legally certified weight unless local operational requirements, such as towplane or airfield restrictions that are advised in the Local Regulations, impose a lower limit."

In practice this could mean that Gliders are restricted to 750Kg, some single place motor gliders are restricted to 820Kg and two seat motor gliders approx 840 Kg. Towplane limits may impose a weight limit on gliders/motor gliders that need a launch to 750 Kg. Airfield limits may mean that no glider can be flown which exceed 850 Kg.

Terry Cubley IGC representative, Australia

Proposal from the French delegate Roland Stuck

We think that no major changes should be introduced to SC3 without thorough reflection.

Nevertheless, Klaus Ohlmann's recent near -2500 km flight in the Andes has highlighted two anomalies in badge rules that should be corrected without delay :

1 - Cancelling predeclaration of turn points for "free distance with up to three turn points", as is proposed by Austria,

2 - Establishing the rules for two-seaters. That is the reason for this present change proposal :

In the actual Sporting Code (2.0.1) it says: "The pilot must be alone in the glider".

This rule is intended mainly for 50km, 300km etc. to avoid a student pilot being awarded a badge with an instructor in the back seat. That has to be preserved.

But when nobody in the glider already has a given badge (such as a 2000 km badge for Ohlmann's flight) there is no such reason. And it would be too bad to forbid someone to allow a local copilot to enjoy such a marvelous flight in a modern high performance two-seater, by forcing him to fly alone.

There could be an advantage in flying with a copilot, but this is the same for records and the monoplace/multiplace distinction has been removed. In long flights, safety is improved by the presence of a copilot. But the badge being an individual standard of achievement, it may only be given to the pilot in command.

We therefore propose the following change :

In SC3 2.0.1, replace the sentence : "The pilot must be alone in the glider" by
"The pilot must be alone in the glider ; as an exception, if no one in the glider has already been awarded a given badge, a flight may count towards this badge performance, the badge being awarded only to the more experienced pilot, declared as pilot-in-command"

END OF PROPOSAL

18-Meter – let's go back to the selflaunching FAI class!

The establishment of the 18-meter FAI class was opposed for many years due to the fear it would cannibalize the 15-meter FAI class.

This cannibalization is now happening, because one the original reasons to establish the 18-meter class was forgotten, and any 15-meter glider with additional wingtips can (and many do) compete in the 18-meter class.

This has two negative effects: it harms the 15-meter class, and destroys one of the original intents of the 18-meter class.

One of the main reasons to establish the 18-meter FAI class was that an 18-meter glider could have a selflaunching capability without severely compromising its weak thermalling capability, due to a still reasonably low wingloading with an engine on board.

The idea was that establishing an 18-meter FAI class would induce manufacturers to design competitive selflaunching gliders, thus allowing a substantial number of competition pilots that live isolated and cannot, alone, economically sustain the availability of a towplane on their airport, to fly with a selflaunching FAI class glider able to compete in its own class in international competitions.

But nowadays we have a problem: most international 18-meter competitions do not prescribe a selflaunching capability for competing gliders, and therefore engine-less gliders increasingly start to compete in these competitions.

It is impossible for a glider with an engine on board to compete fairly with a glider without engine in weak conditions – any competition pilot knows that the difference in wingloading is just too high - so the only solution is for the pilot to remove his engine, a cumbersome and often technically delicate operation.

This situation obliges the manufacturers to optimize the glider design in the engine-less configuration, which destroys "selflaunchability", one of the original aims of the 18-meter class, and opens an obvious door to the "wingtipped migration" from the 15-meter class.

There is a simple solution to this problem: 18-meter class gliders must be able to selflaunch in order to participate in a FAI sanctioned contest.

This will:

- Induce the manufacturers to optimize their glider designs with an engine on board
- Eliminate the easy migration of wingtipped engine-less or "turbo" (selfsustaining) 15-meter gliders to the 18-meter class, thus preserving the 15-meter competition community and the value of their gliders
- Allow for 18-meter class competitions in areas where no towplanes are available.

Therefore the Spanish Royal Aeronautical Federation proposes to introduce a simple rule for 18-meter class competitions organized according to FAI-IGC rules: **an 18-meter class glider must be able to selflaunch at any time during a FAI 18-meter class competition. Aerotowing is permitted, but the organizers may verify the selflaunching capability at any moment.**

IGC Meeting March 2001

Proposal

by Ross Macintyre, Sporting Code Specialist

to amend Sporting Code Section 3 Paragraph 4.3.4c to say:

"Satisfactory evidence is produced showing that the glider was in the observation zone and within 1000 metres of the finish point."

Background

As noted in the specialist's report to the IGC, an anomaly was found where, when finishing a flight by flying through the Observation Zone of the finish point it was possible for the finish to actually be a very considerable distance away from the start/finish point, whereas the concept of a "closed course" is for the glider to return to the start point to achieve the goal. Other methods of finishing include landing within 1000 metres of the start/finish point, or on the airfield which is the start/finish point, or crossing a finish line at the Start/finish point. All these finishes place the glider within a suitable distance of the start/finish point to conform to the concept of a finish at the start point.

The proposed wording would create the same requirement for a "flying" finish where no landing or finish line is available, so no advantage could be gained by using a the different type of finish.

Note that this wording places the onus on the pilot to provide ***satisfactory*** evidence. In the current Code and Annex C this has not been emphasized.

The distance can be measured quite easily where a flight recorder is used; so record attempts are simply covered. For badge flights, using visual sighting by an Official Observer, no difficulty in assessing the distance should be found. However, it is accepted that there could be a degree of uncertainty with camera evidence, and to obtain a ***satisfactory*** finish would seem to require a finish photo that is incontrovertibly *near* the waypoint, essentially showing the glider close to being overhead. If there can be *any* argument about this distance on viewing the waypoint photo, then ***satisfactory*** has not been met. The onus is on the pilot using camera evidence to be clearly within 1000 m of the start/finish point.

This onus and precautionary statement would be described in Annex C, in a new para 4.7 This would say, in words to this effect:

4.7 Achieving a goal using camera evidence (SC3-4.3.4c). One of the four ways a pilot can prove completion of a goal flight is to provide ***satisfactory*** evidence showing that the glider was in the OZ of the finish point and ***within 1000 metres of it***. If a camera is being used on a badge flight, exact position is difficult to determine, nevertheless the onus is on the pilot to produce satisfactory evidence. Without the use of specialized photo-interpretation techniques, this requires a finishing photo from a position that is incontrovertibly close to the TP. If there can be *any* argument about being within 1000 metres of the finish when viewing the photo evidence, then ***satisfactory*** has not been met. It would be preferable to use one of the other three finishing methods of SC3-4.3.4 and not rely on a finish photo, but a photo is acceptable if the pilot is clearly close to the TP.

Ross Macintyre
IGC Sporting Code Specialist

Deutscher Aero Club
- Segelflugkommission -

Braunschweig, 12.01.2001

Nomination for Annual Award 2001
"Lilienthal Gliding Medal"

The Gliding Commission of the German Aero Club nominated for eminent services of gliding and his pioneer flight of almost 2500 km

Klaus Ohlmann

Klaus Ohlmann, born 29.06.1952, belongs toe the most outstanding glider pilots and gliding teachers in Germany.
He deserved well of study the Lee-waves for long distance flights. On this occasion he delivered flight-practical results for the Alps-area helpfull in many scientific gliding symposiums to substantiate and to consolidate theories.
With his gliding-scientific work during the "Mountain-Wave-Project", the exploring of the Andes in Argentina, he achieved true pioneer flights in the last both years to find the limits in distance flights.
Klaus Ohlmann is a glider pilot who commits his whole person, his proficiency and physical performance to reach the highest performances, like his successful flight in the Andes at November 26 2000:
With a motorglider "Stemme S 10" he flew a Free Three Turn Points Distance of **2.459 km.** This record claim exceeded the longest gliding distance of the World - so far - by 400 km.

The name of Klaus Ohlmann stands for the following flying top-performances:

Acknowledged World Records:

Free Out and Return Distance	1412,22 km	(D-O)

Announced World Records:

Free Out and Return Distance	1550,00 km	(D-O)
Free Three Turn Points Distance	**2459,60 km**	**(D-O)**
Speed over an Out-And-Return Course of 1500 km	122,34 km/h	(D-O)

Another 3 Acknowledged German Records

Deutscher Aero Club **Braunschweig, 15.01.2001**
- Segelflugkommission -

Nomination for Annual Award 2001
"Pelagia Majewska Gliding Medal"

The Gliding Commission of the German Aero Club nominated for extraordinary performances in gliding during the past years

Dr. Angelika Machinek

Angelika Machinek, an exceptional female athlete, flies since the age of 14. She made her first solo flight 1971 at Ith/Niedersachsen with a "Rhönlerche". Beside gliding she also feel at home in many other categories of airsports, i.e. motor-gliders, motor-planes, ultra-light-planes as well as ballooning.
Angelika is also active as a teacher in all these categories of airsports to pass her experiences to others. She is the spokes-woman for the Female National Team of Germany, foundation member of the German section of the Ninety-Nines, chief-instructor at her flying-club Aero-Club Bad Nauheim and examination councilor for the state of Hessen.

In the turn of the year 1996/1997 Angelika made some headlines with a series of record flights in Bitterwasser/Namibia. In the category "singleseater motor-gliders female" she set up 10 World Records.
As first female gliderpilot in Germany she flew in January 1999 a FAI-triangular course of more than 1000 km and in addition to this three other World Records.

Other sporting results:

1985	Participation at the first Gliding Aerobatics World-Championship in Mauterndorf/Austria
1994	German Champion 15m-class Female (Marpingen)
1995	Bronze Medal Women's European Championships in Marpingen/Germany
1997	Bronze Medal Women's European Championships in Prievidza/Slowakia
1998	German Champion 15m-class Female (Jena) Winner of the Elly-Beinhorn-Rally (Motorflight) in Damme/Germany
1997	Bronze Medal Women's European Championships in Leszno/Poland
1998	German Champion 15m-class Female (Neresheim) 2. Winner 15m-class at the International Hahnweide-Competition
1999	Bronze Medal Women's European Championships in Leszno/Poland
2000	German Champion 15m-class Female (Neresheim) 2. Winner 15m-class at the International Hahnweide-Competition

19.3

AERO CLUB

SCHWEIZ SUISSE SVIZZERA

IHR ZEICHEN
UNSER ZEICHEN
6006 LUZERN,

PS/SCH
October 26, 2000
[L:\SB 1\segelflug\Korrespondenz\FirstAwardPiratGehriger.doc]

Fédération Aéronautique
Internationale (FAI)
Internat. Gliding Commission (IGC)
Avenue Mon Repos 24
1005 Lausanne

Proposal for the first PIRAT GEHRIGER Award

Gentlemen:

Please find enclosed the proposal written by Hans Nietlispach for the nomination of **Max Bachmann** to be awarded the first **PIRAT GEHRIGER Award**.

While the letter of Hans Nietlispach is self-explanatory, we are pleased to herewith officially support his Proposal in view of the high merits of Max Bachmann within the National an International Soaring Scene.

Yours sincerely,

AERO-CLUB OF SWITZERLAND

Peter Schneuwly
President Swiss Soaring Association

François Thorens
President Aero-Club of Switzerland

cc: FAI, Internat. Gliding Commission, Lausanne
Ross A. Macintyre, Chairman IGC
Tor Johannessen, Member of the Diploma Committee
Dick Bradley, Member of the Diploma Committee
Hans Nietlispach, IGC-Delegate AeCS
Per e-mail

encl: Proposal Hans Nietlispach **Pirat Gehriger Award**

AERO-CLUB ZENTRALSEKRETARIAT VERKEHRSHAUS DER SCHWEIZ TELEFON 041/370 21 21
AERO-REVUE SECRETARIAT CENTRAL CH-6006 LUZERN, LIDOSTRASSE 5 TELEFAX 041/370 21 70

Hans Nietlispach, Swiss Delegate IGC/FAI, Maulbeerstr. 14, CH-3011 Bern, Switzerland
Email: Hans_Nietlispach@hotmail.com

Bern, September 2000

TO: **IGC / FAI**
av. Mon Repos 24, Olympic Museum
CH-1005 Lausanne
Ross MacIntyre, Tor Johannessen, Dick Bradley

Proposal for the first PIRAT GEHRIGER AWARD / Annex Agenda IGC 2001

The following person is proposed for the first PIRAT GEHRIGER AWARD for his services to the soaring community on international and national levels over the past 12 years, featuring

- **his efforts to maintain good communication between the Swiss National Soaring scene and the FAI/IGC at times of constantly changing rules and technologies.**
- **his efficient organization over the past 12 years of the participation of Swiss National Gliding Teams and Junior Teams in various World- and European championships.**
- **his various activities in defense of soaring sites in an increasingly adverse political environment**

Max Bachmann, Esq., Aircraft Engineer, born Feb. 17, 1928, soaring pilot since age 17, aerobatics and instrument flight, holder of FAI Gold C with 3 diamonds, 1000 km Diploma

Personal History

1988 Election as a member of the board of the **Swiss Aeroclub' Soaring Association,**
- Coaching the **National Gliding Team and Juniors Division** for over 12 years
- monitoring the **selection of the Swiss national teams** during the same period
- serving as a consultant for FAI rules (Sporting Code) and logger applications to the soaring pilots.

1990 Election as **Swiss Alternate Delegate IGC/FAI** - attending IGC meetings all-over the world

Various remarkable international actions, such as:

- **Bitterwasser/Namibia:** Starting 1985, Max Bachmann played a vital role organizing the yearly Swiss expeditions to the farm and helped make the site a tremendous success in soaring history.
- **WGC 1991 Uvalde/Texas - OSTIV Conference**: Acting as a Co-Manager of the Swiss Team, he gave an outstanding presentation of the study ICEBREEZE which was awarded a medal.
- **EGC 2000 Lüsse:** After the resignation of the new Swiss Team Captain on Day 1 of the contest, Max Bachmann resumed on an emergency basis his functions as a Co-Manager without delay.

Further important activities in favor of the soaring community

1963 - **Discoverer/Promotor** of the new airfield **Hausen a/Albis**, to be built by his employer Swissair
- Co-founder and MBO of the **Swissair Soaring Club**, in charge of the purchase, the technical maintenance and quality standards of the soaring planes.

1981 Co-Founder and MBO of **Swiss Airfields Association** (awarded the **FAI Diplôme d'Honneur in Athens 1992)** to support airfields against nationwide actions of anti-airfield groups and politicians.

1996 Initiator and co-member of the **Airfield Buy-Out Hausen a/Albis**, which after dissolving of the state-financed local Pilots School was in danger of being closed down for political reasons. Thanks to this action, the airfield is preserved and is owned today by the **FGHO Association** run by the three soaring clubs based on this airfield.

2000 Still going strong at age 72 as soaring pilot, **Swiss Alternate Delegate IGC/FAI** and new **Stewart** for international championships, **Manager Swiss National Soaring Team**, member of the board Swiss Soaring Association of the **Aero Club**, member of the Board FGHO **Association Hausen a/Albis,** member of the board **Swiss Airfields Association**.

NOMINATION FROM THE ROYAL AERO CLUB OF THE UNITED KINGDOM

AWARD OF PIRAT GEHRINGER DIPLOMA TO CHRIS WILLS

Within the international gliding movement, the Vintage Gliding Club is now well recognised as the main guardian of our history, collecting and retaining glider plans and other documents, also restoring vintage gliders so they can be flown by pilots, many of whom were not born when the gliders were built. The Vintage Gliding Club was the first oldtimer glider club to be formed with a truly international structure and membership.

Christopher Wills, the son of the World Champion Philip Wills was the initiator of the Club's formation in 1973 and has remained its very popular President throughout. His talents and dedication have been the essential factors in making the Vintage Glider Club such a success.

Chris is an accomplished musician. He is able to speak five languages and has a warm personality. These attributes have enabled him to encourage and motivate gliding enthusiasts the world over, to join him in the work of discovering and saving long lost and missing information. He has collected and archived an enormous number of documents and photographs and is always prepared to share his collection and knowledge with fellow enthusiasts Worldwide.

Without Chris Wills' hard work and leadership over more than a quarter of a century, our gliding history would undoubtedly not have been properly documented and many classic gliders would not now be flying. He has worked tirelessly without seeking the limelight and so is probably little known amongst contest pilots.

Nevertheless he has contributed enormously to our sport and it is accordingly strongly recommended he be awarded the Pirat Gehringer Diploma by the Federation Aeronautique Internationale.