CIAM F5 Subcommittee - Technical Meeting March 2008

Emil Giezendanner opened the Meeting on 28. March 2008 at 09:10h CET at the Meeting Room in Hotel AULAC, Lausanne, Switzerland.

1. Attendance List

GIEZENDANNER Emil	SUI	Chairman
NEU Steve	USA	Member
DARRON Rodrigues	GBR	Delegate
CAVAGGIONI Piermario	ITA	Observer
MOSSA Alessandro	ITA	Member
MEISINGER Peter	AUT	Member
VERSCHOREN Willi	BEL	Member
HUEBNER Norbert	GER	Member
STAMOV Victor	UKR	Observer (General Director of F5 WCh 2008)
SIEGMANN Hartmut	GER	Observer
QUEVEDO Julio	GUA	Delegate

Total number of members voting: 6

2. Future F5 Subcommittee Proposals

F5 SC Member Allessandro Masso will prepare a proposal regarding processing of energy limiters and organiser responsibilities and send this via email to the F5 SC for discussion. The proposal will be send to the Plenary Meeting.

Action: Allessandro Masso

Paragraph 5.5.2.2 needs clarification. Proposal to be discussed by F5 SC. The proposal will be send to the Plenary Meeting.

Action: Emil Giezendanner

3. Local Rules FAI World Aeromodelling Championships 2008 Class F5D and F5B

The Organiser is asked to establish Local Rules for the processing of energy limiters together with F5 SC and in case with FAI Jury. Contest organiser has to define the eletric connectors which the participant has to provide as adapter for processing of the energy limiters. This proposal of Local Rules shall be sent via email to F5 SC and CIAM Bureau.

Action: Allessandro Masso, Emil Giezendanner

4. Proposals Plenary Meeting Agenda 11.12 – Section 4C Volume F5 – Electric

The Proposals had been discussed and following amendments had been proposed to be accepted to be included the Agenda.

F5 SC Technical Meeting 28 March 2008	
AGENDA	**MINUTES**
General Rules **a) 5.5.1 General rules - 5.5.2 Contest rules Electric Subcommittee** *Add new paragraph 5.5.1.4 and re-number subsequent paragraphs. Add new paragraph 5.5.2.2.j. Add new paragraph 5.5.2.5 and re-number subsequent paragraphs.* **5.5.1.4 Energy Limiter** **In classes where an energy limit is defined an energy limiter device must be used. The energy limiter cuts off the motor when the given energy limit is reached. The energy limiter is located in the electric circuit between the battery and the motor. ~~controller. and overrides directly or indirectly the motor on R/C command of the pilot.~~ The interruption must persist permanently or for a defined period of time.** **5.5.2.2.j If an infringement of energy limitation rules occurs the result of that round is discarded.** **5.5.2.5 Processing of Energy Limiters** **~~In classes where an energy limit is defined a pilot is allowed to homologate a maximum of 3 energy limiters at the processing. In case of a failure of an energy limiter during the competition it is allowed to process another one. If an energy limiter fails the homologation the competitor may ask for a second homologation, this result is obliging. Interchanging energy limiters between competitors is not allowed.~~ The organiser of an event has to provide ~~power supply~~ equipment for energy limiter processing. The competitor must have the ability to check their limiters prior to and during the contest.** *Reason:* General Rules for the use and processing of energy limiters is necessary	Amend Proposal a) as follows: Para 5.5.1.4: Delete sentence in the proposal between words "controller … pilot". Para 5.5.2.2.j: Add at the end of the last sentence "the result of that round is discarded." Para 5.5.2.5: Delete sentences "In classes (…) allowed". Replace word "power supply" by "equipment". Add after the last sentence "The competitor must have the ability to check his limiters prior to and during the contest." Amended proposal unanimously approved. **Date of effectiveness: 1st April 2008**
F5B Electric Powered Motor Gliders **b) 5.5.4.1 Definition F5 Electric Subcommittee** *Amend the model specification as follows:* b) Model specifications: Minimum weight without battery 1000 g Type of Battery Lithium Polymer **Minimum Surface Area 26.66 dm^2** Maximum number cells is 6 in series **Cells in parallel are not permitted** **Minimum weight of battery pack 450 g** **Maximum weight of battery pack 600 g** Limitation of energy is max. 1750 watt-min **The limiter is checked by the organiser during contest** d) Maximum number of battery packs to enter the contest: 1 pack per 2 rounds plus 1 pack for relights. **Repair of battery packs is permitted providing the cells used in the repair come from battery packs that were**	Amend Proposal b) as follows: Para 5.5.4.1.b: Remove Brackets (). Add specification "Minimum weight of battery pack 450 g". Para 5.5.4.1.d: Remove Brackets ().

checked at the start of the contest for that pilot. Reason: Clarification.	Amended proposal unanimously approved. **Date of effectiveness: 1st April 2008**
c) 5.5.4.1 Definition Germany *Brought forward from the 2007 Plenary Agenda Deferred Section* *Amend paragraph d as follows:* d) Starting order for world and continental championships: the starting order … team members. **Starting order for other competitions: Pending on the number of pilots and planned rounds the organizer may try to divide the random starting order of the first round by the number of planned rounds to fly and shift the starting order accordingly. E.g. 24 pilots, 4 rounds. Starting order 1st round: 1….24; starting order 2nd round: 7….24, 1…6; starting order 3rd round: 13….24, 1….12 and so on.** *Reason(s):* The regulation for world or continental championships is too complicated for regular "weekend" competitions. However it should be tried to mix the starting order somewhat to reduce the weather impact pending on the local situation.	No changes made to the proposal. Approved unanimously. **Date of effectiveness: 1st April 2008**
F5D Electric Powered Pylon Racing **d) 5.5.6.2 Technical Specifications F5 Electric Subcommittee** ~~*Amend as follows:*~~ *"Add new paragraph c.) and re-number subsequent paragraphs."* **c.) Energy Limit** ~~**An energy limiter must be used which cuts off the motor when the given energy limit is reached. The energy limiter is located in the electric circuit between the battery and the motor controller and overrides the motor-on command of the pilot.**~~ **The interruption must persist for a minimum period of 10 seconds. When the pilot has finished his race or has left the pylon course the motor may be switched on again.** *Reason:* Clarification	Amend Proposal d) as follows: Instruction "Amend as follows" is wrong. It should read "Add new paragraph c.) and re-number subsequent paragraphs." Delete first two sentences in proposed new paragraph c.) Amended proposal unanimously approved. **Date of effectiveness: 1st April 2008**
e) 5.5.6.2 Technical Specifications F5 Electric Subcommittee	Approved unanimously to withdraw.
f) 5.5.6.2 Technical Specifications F5 Electric Subcommittee *Delete all the specifications with NiMH cells.* b) Battery Battery Type: ~~NiMH or~~ Li-Polymer. ~~The battery technology used must be either 1 (NiMH) or 2 (Li-Polymer), as shown below. It must be declared by the competitor at the beginning of the contest. Changing the battery technology after this declaration will mean disqualification from the entire contest. 1) NiMH. The battery is limited by either weight or the number of cells and dimensions: Maximum weight: 425 g The weight of battery includes soldering, insulations, cables and connectors. or~~ ~~Maximum number of only cylindrical cells: 7~~ ~~Maximum diameter: 24 mm~~ ~~Maximum length (including pole): 45 mm~~ (…) *Reason:* Safety., the danger of explosion of NiMH must be eliminated	Amend proposal as follows: Delete "NiMH or" and delete the entire rest of paragraph b). Notice: The new technical specifications can be found in proposal g). Approved unanimously. **Date of effectiveness: 1st April 2008**

g) 5.5.6.2 Technical Specifications F5 Electric Subcommittee *Amend as follows:* a) Model Aircraft Minimum weight **ready to fly**: 1,000 g Maximum surface loading: 65 g/dm2 b) Battery Type of battery Lithium-Polymer ~~The battery is limited by weight, the number of cells in serial connection only and the total number of batteries.~~ **Minimum weight of battery pack: 200 g** Maximum weight of battery pack: ~~275~~ **400** g The weight of battery includes soldering, insulation, cables and connectors. Number of cells in serial connection: up to 5(S) Cells in parallel are not permitted. **Limitation of energy by an electronic limiter that stops the motor: max. ~~800~~ 1000 Watt-min** **The limiter is checked by the organiser during the contest.** ~~**Maximum number of battery packs: 5**~~ ~~**(repair of battery packs is permitted providing the cells used in the repair came from battery packs that were checked at the start of the contest for that pilot).**~~ ~~A competitor is permitted a maximum of 4 battery packs for a singlecontest.The maximum average power within a 60 second period shall be 800 W.~~ ~~The electric power has to be logged during flight. The logging device has tobe placed in the electric circuit between the battery and motor controller.The pilot has to provide technical equipment to analyse the log with a resolution of minimum 10 Watt and minimum 2 logs per second (log frequency ≥ 2 Hz).~~ ~~d) If a Li-Polymer battery is used then the electric power log has to be checked by an official. The average power analysis may be taken arbitrarily at any flight time in the log. Any 60 sec period in the log has to be within the limit. Exceeding the electric power limit by 5,0% is scored as one infringement (cut); exceeding by more than 5,0% means disqualification from that heat. The battery is limited by weight, the number of cells in serial connection only and the total number of batteries.~~ Reason: Clarification and harmonizing with F5B	Amend Proposal g) as follows: Add “ready to fly” in paragraph a) to the model weight specification. Add “Minimum weight of battery pack: 200 g” to paragraph b). Change maximum battery weight specification to 400 g. Change energy limit to 1000 Watt-min. Delete maximum number of battery packs. Delete repair of Battery sentence. Remove Brackets () in the text. Amended proposal unanimously approved. **Date of effectiveness: 1st April 2008**
h) 5.5.6.2 Technical Specifications F5 Electric Subcommittee *Amend paragraph b) as follows.* b) Battery Type of battery: Li-Polymer **Minimum weight: 200 g** Maximum weight: 275 400 g The weight of battery includes soldering, insulation, cables and connectors. *Reason:* Minimum weight to save Li-Polymer because of reasons for safety, higher weight limit saves life cycles and costs. Due to use of the energy limiter this change does not have any effect to the speed of the models	Approved unanimously to withdraw.

F5F 10 Cell Motor Gliders **i) 5.5.8.1 Model Aircraft Specifications F5 Electric Subcommittee** *Amend the model specification as specified below:* Minimum weight ready to fly 1500 g Minimum surface area 36 dm2 Maximum surface loading 75 g/dm2 ~~Type of battery NiCd or NiMh~~ ~~Maximum number of cells 10~~ ~~Size of only cylindrical cells 1/1 SubC~~ ~~Definition of SubC size:~~ ~~Maximum diameter: 24mm~~ ~~Maximum length (including pole): 45mm~~ **Type of battery Lithium Polymer** **Maximum number of only serial cells 4** **Cells in parallel are not permitted.** **Minimum weight of battery pack 300 g** **Limitation of energy by an electronic limiter that stops the motor max. ~~1100~~ 1300 Watt-min** **The limiter is checked by the organiser during the contest.** **Maximum number of battery packs to enter the contest: 1 pack per 2 rounds; 1 pack for reflights.** **Repair of battery packs is permitted providing the cells used in the repair come from battery packs that were checked at the start of the contest for that pilot.** *Reason:* State of the art battery technology should be used for all F5 classes. Specification of battery allowes to further use same equipment and model size as 2007 rules without disadvantage. Energy limiting equals the power for all pilots. (Like winches in F3B). Maximum 4 cells and 1100 W set the energy in relation to the 2007 rules between F5B and F5F. Minimum weight of 300 g for battery pack prevents to abuse the battery.	Amend Proposal as follows: Amend Proposal I) as follows: Change energy limit to 1300 Watt-min. Remove Brackets () in text. Amended proposal unanimously approved. **Date of effectiveness: 1st April 2008**
j) 5.5.8.1 Model Aircraft Specifications Austria *Change* Minimum weight: 1500g (ready to fly) Minimum surface area: 36 dm² Maximum surface loading: 75g/dm² Type of battery: ~~NiCd~~, NiMH **or Lithium Polymere** Maximum number of cells: **10 NiMH or 3 serial no parallel (3s1p) Lithium Polymere** Size of only cylindrical cells NiMH: 1/1 Sub C Definition of Sub C size: Max. diameter: 24mm Max. length (incl. pole): 45mm **Minimum weight of Lithium Polymere battery: 320g** **Maximum weight of Lithium Polymere battery: 420g including soldering, insulations, cables and connectors** *Reason:*	In favour: 1 Against: 4 Abstentions: 2 F5 SC do not recommend this rule. Austrian Delegate will ask for a voting of Plenary Meeting.

k) 5.5.8.2 Distance Task Austria *Amend as follows:* **Same rules as F5B except:** **After 200 seconds a minimum motor run time of 40 seconds must be used.** **A maximum of 4 legs per climb is allowed.** **If the motor run time of 40 seconds is not used completely, for each full second remains under 40 seconds, 5 points will be deducted from the score of this task.** *Reason:* In the meantime, Lithium-Polymer cells are a preferred option in electric flight classes and therefore it's necessary to allow it optional in F5F too. The proposed configuration provides appr. the same Voltage as 10 NiMH-cells. The proposed amendments of Distance task are causing a limitation and "freeze" of Power and should make the getting in for Juniors easier. In this manner it'smpossible t rich a power limitation witout electronic devices.	In favour: 1 Against: 4 Abstentions: 2 F5 SC do not recommend this rule. Austrian Delegate will ask for a voting of Plenary Meeting.
l) 5.5.8.1 Model Aircraft Specifications Belgium	Will be withdrawn by Belgium Delegate.
m) 5.5.8.1 Model Aircraft Specifications Germany	Will be withdrawn by German Delegate.

End of Meeting 12:55h CET.

Minutes of Meeting taken by SIEGMANN Hartmut.