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*Fédération  
Aéronautique  
Internationale*

## **Organizers Handbook (OH)**

# **Coupe Aéronautique Gordon Bennett**

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### **Introduction**

The rules and regulations for the Coupe Aéronautique Gordon Bennett consist of:

- These competition rules
- FAI Sporting Code, General Section and Section 1 (Balloons and Airships)

This Organizers Handbook (OH) contains the rules laid down in the April 1980 meeting of the FAI Ballooning Commission (CIA) with Amendments as well as guidelines for the organizers of a Coupe Aéronautique Gordon Bennett. Chapter 2 of this handbook shall be used as guidance.

For guidance for the organizer on website and social media, also refer to the Gordon Bennett Website and Social Media Guide.

## **1 GENERAL RULES FROM 1980**

Minutes of the meeting, 10 & 11 April 1980

Regarding "Coupe Aéronautique Gordon Bennett"

Amended at the CIA Meeting March 2010

Amended at the CIA Meeting March 2011

Amended at the CIA Meeting March 2017

### **1.1 I. ORIGIN AND GENERAL PRINCIPLES**

#### ARTICLE 1:

With a view to maintaining the tradition of the free balloon race entrusted in 1905 by Mr. James Gordon Bennett to the Federation Aéronautique Internationale, it is agreed that the challenge will continue to be run under the name of "Coupe Aéronautique Gordon Bennett".

As an option organizers may additionally use in the second line as a subtitle

"The FAI World Long Distance Gas Balloon Championship"

#### ARTICLE 2:

The Coupe Aéronautique Gordon Bennett, which will be a distance flight competition, shall be organized once every year and conform to the FAI Sporting Code and the provisions of the present rules.

#### ARTICLE 3:

Originally only the General Conference of the FAI, on a recommendation from FAI's Commission Aéronautique Sportive Internationale (CASI), had the right to amend the present rules. The right to change these rules was transferred to the CIA in 1984 (see CIA Minutes 1984, item VIII). In 1987 the CIA changed the Sporting Code Section One to reflect, under 6.2, that the CIA has full control of the Coupe Aéronautique Gordon Bennett rules.

#### ARTICLE 4:

It is the responsibility of the NAC holding the Coupe Aéronautique Gordon Bennett to organize the competition in its country two years after winning the Coupe. However, if for any reason this NAC renounces its prerogative, or it fails to meet any of the event requirements of deadlines published by the CIA, the CIA may entrust the organization of the event to another NAC.

If the holder renounces the organization of the race, it should inform the FAI Secretariat within two months following the competition in which it was the winner.

The NAC organizing the Coupe Aéronautique Gordon Bennett shall be responsible for all costs of the event.

#### ARTICLE 5:

##### **(5.1) PARTICIPATION**

Only NAC members of the FAI shall be able to participate in the race for the Coupe Aéronautique Gordon Bennett. They may not enter more than three balloons each.

##### **(5.2) PROCEDURES for hosting the GORDON BENNETT**

After the competition results have been declared final by the event jury, the CIA President shall immediately send a letter to the winning NAC specifying the requirements and deadlines that shall be met. The winning NAC must have their intention to bid – to organize the concerned Coupe Aéronautique Gordon Bennett event – submitted to the FAI Secretariat within 60 days of the Jury declaring the event finished.

In case the winning NAC positively intends to bid, this NAC has a deadline of June 30th of that following year – about 14 month prior to the concerned event – to submit the bid.

If the winning NAC shows no intention to bid for the concerned Gordon Bennett, they will lose their opportunity to automatically host the Coupe Aéronautique Gordon Bennett that was earned by their winning the Coupe. In this case the CIA will immediately notify all eligible NAC that bids will be accepted

for the concerned Coupe Aéronautique Gordon Bennett – with June 30th as the (same) deadline to submit the bid.

Ensuing/resulting bids, supported by the completed bid files and the FAI/CIA Organizers Agreement signed by the organizing NAC and event Organizer shall be received by June 30th of the intermediate bidding year unless these time limits are changed by the CIA under special circumstances.

The bids will be reviewed by the appropriate CIA WGs to determine the best venue for the Coupe Aéronautique Gordon Bennett. The concerned CIA WGs shall then send their recommendations to the CIA Bureau for the official CIA sanction to be granted approximately 13 months before the concerned event. The CIA is empowered to accept or reject such bids.

Fallback Option: Second round of bidding.

If the original bid (of the winning NAC) fails up to the deadline of June 30th, a second round of bidding is established with the same procedure as above. This second round has a shortened 90 day deadline – which would still leave a minimum of 11 month preparation time for the bidding organization.

In addition to the Sporting Code requirements, the bids must contain at least the following information:

- Budget for the event and proposed funding guarantees
- Proposed location and venue
- Proposed Event Director and operation team
- Guarantee for the availability of gas for the entire flight window listed in the bid application
- Letter from the relevant ATC authorities declaring cooperation for the entire event
- Guarantee that night VFR will be allowed for take-off
- Detailed information on entry fee and specifically what it encompasses

## **1.2 II. GENERAL RULES**

### **ARTICLE 6: BALLOON CATEGORIES**

Only gas balloons with a maximum capacity of 1'000 cubic meters may participate in the Coupe Aéronautique Gordon Bennett. A tolerance of plus 5% is allowed. All balloons – whatever their capacity – shall be filled with gas having the same specific weight and the same chemical composition. Pressurization of the balloon to maintain a constant density altitude shall not be permitted. In 2005 the CIA accepted the use of both, Helium and Hydrogen as lifting gases during the same Coupe Aéronautique Gordon Bennett competition.

### **ARTICLE 7: THE CREW**

During the entire duration of the Coupe Aéronautique Gordon Bennett, the crew for each balloon shall be composed of no less than two persons. The pilots shall be of the nationality of the NAC having entered them. Pilots who have been a resident for the preceding five years in the same country as the NAC entering them shall be eligible to be nominated by that NAC. The nominated team numbers will remain the same as nominated by the NAC.

### **ARTICLE 8: DEPARTURE**

The order of departure will be decided by two separate draws. The first will fix the order of departure of the NACs. The second will fix the order of departure of the different balloons of each NAC. The balloons will depart in the following order:

- The first balloon of the first NAC;
- The first balloon of the second NAC;
- The first balloon of the third NAC; etc.
- The second balloon of the first NAC;
- The second balloon of the second NAC;
- The second balloon of the third NAC; etc.
- until all balloons have taken off.

All balloons shall take off within the time limits given by the Event Director.

## ARTICLE 9: CLASSIFICATION

The final classification will be based on the greater distance covered. The distance shall be measured by the determination of the arc of the great circle, in accordance with the General Section of the FAI Sporting Code.

### **1.3 III. SPECIAL RULES**

#### ARTICLE 10:

The organizing NAC shall publish the special rules at least six months before the date of the Coupe Aéronautique Gordon Bennett.

#### ARTICLE 11:

The special rules shall indicate:

- a. the place and date of the race;
- b. the amount of the cash prizes;
- c. the date of entry and the registration fee;
- d. the compulsory equipment required;
- e. the facilities offered to competitors;
- f. any other important information.
- g. the list of potential open countries for the competition must be published 60 days in advance of the event. Countries open for the competition must be open to all participating pilots and teams.

### **1.4 IV. AWARDING OF THE COUPE AÉRONAUTIQUE GORDON BENNETT TROPHY**

#### ARTICLE 12:

The organizing NAC shall decide on the awarding of the Coupe Aéronautique Gordon Bennett. The results shall in principle be circulated within 15 days after departure. The prize shall be given to the winner in the month following the publication of the results.

#### ARTICLE 13:

The NAC whose team wins the race will be the holder of the Coupe Aéronautique Gordon Bennett for one year. An NAC shall become the final holder of the cup after winning three consecutive races.

#### ARTICLE 14:

For the Coupe Aéronautique Gordon Bennett to be considered as valid a minimum of three countries shall be entered.

#### ARTICLE 15:

If an NAC holder of the Coupe Aéronautique Gordon Bennett disappears or ceases to be a member of the FAI, the Coupe Aéronautique Gordon Bennett shall be handed over to the FAI Headquarters.

### **1.5 V. THE OFFER OF A NEW Coupe Aéronautique Gordon Bennett**

#### ARTICLE 16:

The NAC which becomes the final holder of the Coupe Aéronautique Gordon Bennett has the right to offer a new Coupe. If within one month this NAC has not informed the FAI of its intention to use this right, the FAI may accept a new Coupe from another NAC or another source.

## **2 Guidelines for Organizers**

Guidelines for Organizers intending to host the FAI Coupe Aéronautique Gordon Bennett

### **2.1 Title of the Event**

The CIA Plenary confirmed that the title of that prestigious event remains:

#### **FAI Coupe Aéronautique Gordon Bennett**

The event may carry a subtitle, but only with a smaller font, of minor (displayed) importance:

FAI Long Distance Gas Balloon World Championship.

### **2.2 Location / Flying Area**

When submitting a proposal to host the Gordon Bennett, organizers should consider a location where long distance flights can be achieved – based on statistically normal weather conditions for the date of the event. The current generation of racing aerostats, 1.000 cubic meter gas balloons has the capabilities of flying up to 100 hours and a range of 3.000 km, so plenty of flyable area down wind is sensible. The Event Director should review historical trajectories to ensure the proposed site is suitable for a long distance event.

### **2.3 Schedule / Timeframe**

The Gordon Bennett should be held in the autumn months (preferable weather conditions: no strong thermal activity and not too cold). The launch window shall be as close as possible to a full moon (from launch to landing provided a four day flight window – considering also the inflation window, full moon for better visibility for a possible night landing).

Organizers should plan for a three day launch window to insure the best possible chance for a successful inflation. A three day launch window will also give the Event Director the ability to select the best conditions for the flight. A start of the launch window on Friday proved to be more sensible in Europe (hydrogen gas trucks availability).

### **2.4 Launch field / Inflation**

The field selected for the balloon inflation and launch should be large enough to accommodate all balloons with ample spacing: . A square of 30 by 30 meters for each balloon is required for a safe inflation and considered adequate room for each team. More spacing/distance between balloons is needed if wind conditions are to be expected above 5 knots (to avoid balloons bouncing into each other). The inflation should be conducted in calm winds if possible. For inflation, a maximum wind speed of ten knots is possible – if no gusts are present – but is not recommended.

Sometimes during inflation problems occur with the rigging of the balloon. As an upright balloon is about 18 meters tall it could be hard to reach up to fix a tangled line. The organizer should have means for getting people up on a balloon on site (a long ladder or some other lifting devices).

### **2.5 Ballast Sand:**

There should be 1.5 tons (1.500 kg) of sand per balloon with a grain size from 0.1 to 1 mm (avoiding fine dust). Sand should be relatively dry, but does not need to be completely dry and should be covered on the site to keep it as dry as possible. If freezing temperature is expected to be encountered during the flight at 18.000 ft altitude organizers should provide 20 kg salt for each team (to be mixed into the sand to avoid freezing of sand).

### **2.6 Ground Handling of Sand**

Teams will fill their inflation ballast and flight ballast bags from the sand pile. They will put their 60-100 bags on four palletes (per team!) nearby, for the later pickup and delivery to the actual inflation point. A front end loader (forklift) should be on site for delivery of these palletes of sand bags to the balloons. Provide four pallets per team to put ~100 filled sand bags on them so that the forklift can bring the sand to each balloon. The front end loader (forklift) on site could also be used to lift crews if there are problems

with the balloon after the balloon is upright. If local rules do not allow forklift use after inflation, a long ladder should be on site.

After the take-off the inflation ballast (approximately 900 kg per team) will need to be disposed of. Each team should have a container or a big industrial bag to empty their sand bags into after the balloons are launched. These containers need to hold one ton of sand. The onsite forklift can then take these containers back to the main sand pile.

## **2.7 Lifting Gas – Logistics**

The inflation and launch field will need to be accessible for the large and heavy trucks with the lifting gas that will be needed to fill the balloons. All government bodies that may have jurisdiction for the event should be informed about the type of lifting gas that the event will use. The organizers need to seek permission from these government bodies before the bid presentation (and include that in the bid presentation).

Organizers should submit the name of the company providing the lifting gas with guarantees their trucks can be on site for the three day launch window and can start the flow of gas when the Director requires balloons to start inflation. Fueling manifolds and about 300 meters of fueling hoses must be organized in advance. It is recommended to have enough equipment to fill three balloons at the same time.

## **2.8 Lighting (flood lights)**

Lighting (flood lights) will be needed that will illuminate the entire inflation and launch area. Many Gordon Bennett events end up inflating in the evening hours. There should be signage on field with safety precautions such as “no smoking or open flame” and the launch field should be flagged/fenced so spectators cannot mingle/walk among the balloons. Have a sound system available to announce the launches or other information.

## **2.9 Launch Podium**

To mark the spot of the launch, a podium (not a stage) has to be prepared. For safety reasons, it needs to have a size of about 5 by 5 meters (basket and people assisting the launch around it should fit on it). It need not to be higher than 40 centimeters and should have no reeling (consider windy, wet and dark conditions during the launch – we do not want to put people into danger of being squeezed between balloon and hard structures or fall off of high podiums). In wind speeds higher than 5 knots the launch podium should not be used.

## **2.10 Accommodation and Briefing facilities**

Hotels and the pilot briefing center should be close to the inflation field, preferably within in walking distance. Briefing rooms should have enough space for 80 persons and a loudspeaker system (fitting for voice). Reasonable internet accesses should be at the hotel and at the briefing facilities and the launch field. Food establishments should be close by or catering should be arranged for the pilots, crews and staff. (Usually an inflation takes 5-8 hours of constant presence at the balloon).

## **2.11 Ceremonies**

There should be an opening ceremony and an awards banquet for pilots, crews and staff. Any dress code requirements should be given to the pilots already in the entry documents. A good sound system fitting for voice (that has been tested) should be in place for briefings and open and closing ceremonies. National anthems must be tested and be on site for launch and awards. FAI and country flags must be available for all functions.

## **2.12 Command Center / Office**

The command center (an office) should be equipped with telephone, wireless internet, printer, copy machines and office supplies. The Command Centre should be close to the hotel (at least for the officials) or within the main hotel and should stay there for the whole time of the competition. If a change of location is needed, this information must be forwarded to the event director before the event and to the participants at least at the General Briefing.

A command center should be staffed to follow the balloons and help with ATC and any rescue services that pilots may require. A 24 hours staffed command center is always great help for crews that have numerous issues while following their pilots.

A meteorologist should be on site and on staff and give complete weather details before pilots launch. Briefings should include all weather during inflation and what the teams may face while in flight such as landing winds along balloon trajectory paths. Trajectories and weather forecast should be printed and given to each team at all briefings.

ATC members of the Directors team are essential to help keep our sport alive. These members help with permissions and with notifying ATCs that balloons may be flying into their airspace. Pilots should be able to call into the Command Centre and talk with these ATC advisors.

A tracking system must be provided by the organizers that is capable of transmitting a pilot's position to a receiving station for final display of positions of participants on the internet. That also helps the Air Traffic Coordination as well.

### **2.13 Administration / Registration**

Phone numbers for all crews and pilots should be compiled latest at registration and distributed to all teams (confidential, not to be publicized). Frequencies and emergency procedures should be given to each team. A comprehensive page of useful phrases in several languages should be compiled and distributed. This list will help pilots communicate after the landing (assuming that the pilots don't know the language of the locals).

Teams should be allowed to have as many crew members as needed to help with inflation. Ten crew members are not unreasonable as pilots need as much rest as possible before the flight.

Organizers must accept credit cards or pay pal for entry fees. Bank transfers are fine as an option for pilots but not to be made mandatory.

### **2.14 Website**

Organizers web page must be current and updated in a timely manner. The website should be available before the start of the previous event but must be online no later at the time of the invitation to the NACs. The main information about the event must be available in English.

The domain gordonbennett.aero is owned by FAI and will be used for every year's event. Organizers are advised to use this domain address for all international communications.

Refer to the Gordon Bennett Website and Social Media Guide for more details.

### **2.15 Live Tracking**

At the Gordon Bennett 2017 a new live tracking system (from YB Tracking) was used. It is strongly recommended to use the same tracking for all future events. The trackers including the presentation can be directly rented from YB tracking.

It is the organizers responsibility to book the trackers and handle them through the event. The organizer or Event Director should have a dedicated person who deals with the trackers before takeoff and during the flight. YB tracking will provide remote support. YB tracking can also provide local support for a fee. The trackers should be reserved latest early spring before the event. Quote request and booking should be sent to [sales@ybtracking.com](mailto:sales@ybtracking.com).

Refer to the Gordon Bennett Website and Social Media Guide for more details.

### **2.16 Fiesta gas balloons**

After approval by the Event Director, Fiesta gas balloons may be allowed to take off before or after the competition balloons as long as they do not create foreseeable disruption of the competition.

Fiesta balloons must be equipped with the same safety features as the competition balloons and must be required to follow the same ATC procedures as the competition balloons. They must be equipped with live trackers for monitoring, while their track should not be shown to the public.

The Fiesta balloon pilot in command must be present at all briefings.



### **2.17 Official notice board**

The official notice board should be made in an electronic format. Ideally the documents are available on a website and the competitors are informed via email or text message about updates.

Failure to access the system shall not create a ground for complaints or protests.

### **2.18 Social Media**

Pilots and officials should be advised about social media activity to ensure that the communication to the public is in the best interest of the sport.

- Pilots should be encouraged to publish news, stories, pictures and videos in the social media such as in Facebook, Twitter and Instagram
- The official website should reference wherever possible to the social media channels
- Clear guidance should be given to communicate in a professional way and to be polite and fair.
- A plan about communication in case of any incident or accident should be communicated which advises the pilots not to publish pictures and videos, not to communicate rumors, and to delete any inappropriate content.

Refer to the Gordon Bennett Website and Social Media Guide for more details.

### **2.19 Video production**

The event organizer should produce high-quality video (HD quality, clean-clean) from interviews before the take-off as well as video from the take-off.

This video should be given to TV stations that ask for it free of charge. (e.g. from the country of the winner).

### **2.20 Result calculation**

In 2020 the result calculation was changed from using the FAI sphere to the WGS84 ellipsoid. This was done because in 2019 one team had a 30m shorter distance using the FAI sphere, but a 150m longer using the WGS84 ellipsoid compared to another team. It is assumed that the WGS84 ellipsoid shows the actual distance more accurately and modern computer systems have no problem to do the calculation.

The recommended algorithm for the great circle calculation on the WGS84 ellipsoid is the Vincenty formula. See also the FAI distance calculator:

<https://www.fai.org/page/world-distance-calculator>

Other algorithms are accepted as long as they are validated that the result (after rounding) is +-1m of the FAI reference calculation.

The result should be calculated using the precision as indicated in the rules (7.2).