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Report for E Glide contest held at Pavullo Italy.

The first FAI E-concept competition was held in Pavullo Italy from the 1st to the 7th of September 2019, there were 7 competitors with 6 different types of glider. The contest was flown alongside the 13.5m WGC.
Six of the gliders were equipped with FES and one with a pop out electric system from GP.
As there was a performance and span difference between the gliders a handicap factor was applied to the pilots elapsed time.
The competition had 6 out of a possible 7 days. On two of these days the 13.5m WGC did not have a valid competition.

The scoring script and flight evaluation was provided by Seeyou
Scoring was very successfully conducted remotely by Andrej Kolar from Naviter and Seeyou in conjunction with the local scorer. The results were calculated correctly according the FAI scoring formula, but the presentation was not refined during the contest and will require some modifications before the next E-Glide contest.

Energy measurement.
The energy used was measured in KWh (Kilowatt hours). Each day the competitors were given an allowance of energy that could be used during the soaring performance without penalty, usually 2KWh.
Pilots could use energy prior to the start without penalty. (see recommendations)
Most gliders were fitted with an LX9000 flight computers (or its derivatives).
Where the flight computer was connected to the FES bridge or to a MOP sensor it was possible to extract from the flight file the energy used. If no FES bridge or MOP sensor existed, the energy used was measured by the gliders MOP control system with verification of the inflight consumption being made by photo image of the instrument prior to start and on landing.

Use of 2kwh gives approximately: -
At full power setting, 5 mins of engine run approximately 600m of Altitude gain.
At low power setting 30 mins of engine run approximately 50kms enhanced glide angle 1:100

Scoring system.
The Elapsed time scoring was positively received by the pilots and good feedback received from the contest followers. However, the devaluing factors need to be considered. In this contest no pilot could score less than 1.2 times the time of the preceding competitor. Nevertheless, large time differences in the overall score soon developed. We should revisit this factor or consider using place scoring. (see recommendations)

Start procedure
The regatta start procedure was positively accepted with some comments about use of MOP directly prior to the start (see recommendations). It was decided that use of MOP prior to the start should not be part of the energy allowance.

Tactics
During the first few days the pilots considered the use of the MOP to rescue the situation if arriving too low, as in conventional use of a turbo. During the contest the tactical use of the MOP changed to avoid situations where the MOP would normally be deployed.
These tactics included: -
Enhancing the glide to ensure arrival with sufficient altitude at the next thermal to connect with the lift.
To increase rate of climb in weak thermals

To allow pilot more options when pushing on for better thermals.
To increase performance when running energy lines.

Recommendation for discussion of changes to E Concept rules

1. To allow mix of glider performance we should use distance handicap turn points. (DHT). This will allow presentation of the races via live tracking and reduces the complication of handicapping the result.

2. The equalizing factor of 1.2 is possibly too great to ensure an ongoing competitive event. Place scoring was considered not a positive step forward so maybe we could reduce the factor to 1.1 which would arrive at a result somewhere between place scoring and TET.

3. Start speed limit penalty should be variable and announced at briefing on the task sheet.

4. Use of MOP prior to start.
   There was discussion amongst the pilots about use of the MOP prior to start creating a possibility for a pilot to climb above cloud base This could create a hazardous situation and a potential sporting issue.

   It is recommended that use of the MOP is allowed prior to the start at any time up to 200m below the max start altitude. Energy used prior to start is not considered part of the race energy allowed.

5. For future FAI e-glide competitions the organizers should verify that all competing gliders have a functioning FES bridge or MOP sensor prior to contest.

6. The rules should require a wing loading limit be applied for future E-glide contests.