

Agenda item 4 a,
"Water rocket event"

APRSAF Water Rocket Event: Outline, Programme and Rule for the Competition

The attached are the outline and the tentative programme of the APRSAF Water Rocket Event, to be held from 23 to 25 November 2007 in Bangalore, India, as well as the rule for the water rocket launch competition to be held on 24 November. The outline and the rule for the competition, as attached, were distributed to the Working Group members at the beginning of October 2007.

APRSAF-14 Water Rocket Event: Outline

1. **Date:** 23 – 25 November 2007 (Friday – Sunday)
2. **Venue:** National Aerospace Laboratories Central School, Bangalore, India
3. **Lodging:** Hari International, (about 10 km, 45 min. away from the venue by car)
Address: Subhedhar Chatram Road, Near Anandrao Circle, Bangalore, 560 009, India
Telephone: +91 80 4021 4021; Fax: +91 80 4021 4200;
E-mail: enquiry@hotelhariinternational.com;
Website: www.hotelhariinternational.com
4. **Official Language:** English
5. **Tentative Schedule:**
 - 22 November (Thu.) Arrival at Bangalore: transportation to the lodging
 - 23 November (Fri.)
 - Morning: Arrival at Bangalore: transportation to the lodging
 - Afternoon: Registration (at Hotel Hari International)
Lunch (at ISRO Satellite Center Guest House)
Orientation (at NAL Central School Auditorium)
Lectures on the space activities in India
By Mr. B. R. Guruprasad
 - Evening: Welcome Reception, hosted by ISRO (at Hotel Atria)
 - 24 November (Sat)
 - Morning: Briefing on the Water Rocket Launch Competition: schedule and rules of the competition (NAL Central School)
Making of water rockets
 - Afternoon: Lunch (at ISRO Satellite Center Guest House)
Launch competition (NAL Central School)
Award ceremony
 - Evening: Friendship party, hosted by JAXA (venue to be announced)
 - 25 November (Sun) Departure
Transportation to the airport

6. Participants:

- 1) Competitors: School students at age between 12 and 18 years old from countries in the region of Asia and the Pacific
- 2) Selection: A participating country should hold its national Water Rocket Competition to select competitors.
(Note: It is suggested that the competitors be selected based on not only their performance in water rocket launch but also their interest in space and science and in friendship and cultural exchange across the countries. The selected students should preferably have adequate English language proficiency.)
- 3) Teachers/Leaders: The students shall be accompanied by teachers or leaders of youth activities to travel to Bangalore. The accompanying teachers or leaders must be interested in space and science education, willing to engage in the exchange of knowledge, experience and skills with water rocket and other educational activities with those from other countries and committed to promoting space and science education activities among young people in their home countries.

(Note: In view of the capacity of the venue and accommodation, **each participating country** is invited to limit the number of students and accompanying teachers/leaders to participate in APRSAF Water Rocket Event to **6 in total**.)

7. **Application Deadline:** The final list of all participants must reach ISRO, India, no later than **15 October (Fri), 2007**.

8. **Local Organizer:** Indian Space Research Organization (ISRO)

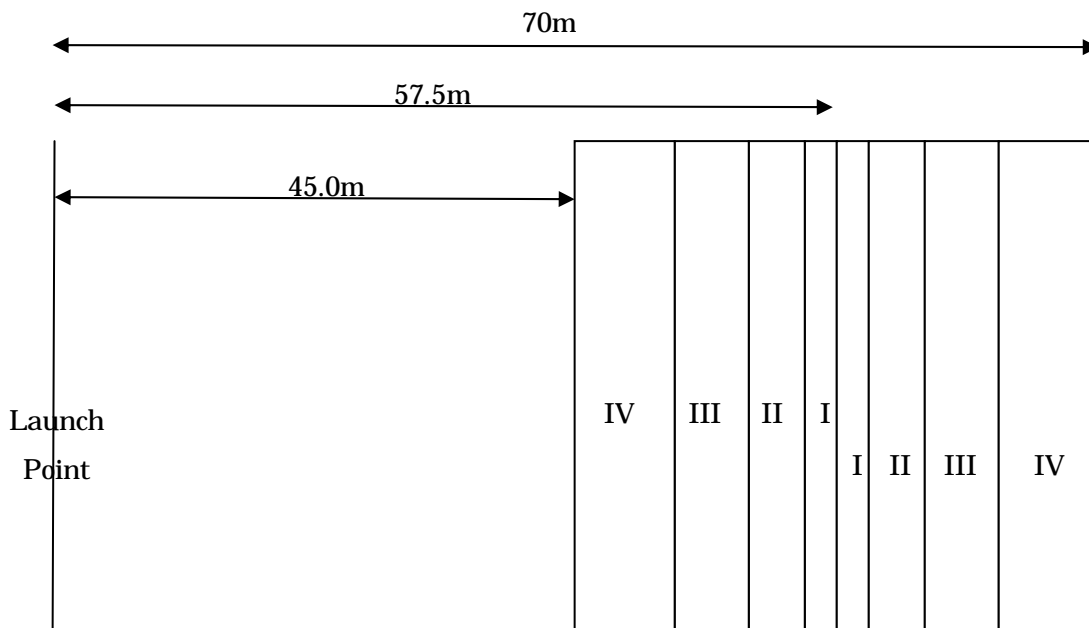
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RULES FOR APRSAF WATER ROCKET LAUNCH COMPETITION

1. APRSAF-14 Water Rocket Launch Competition will be held at National Aerospace Laboratories Central School, Bangalore, India. All competitors should make their water rockets and launch them at the designated places (See map and layout below).
2. All materials to make and launch water rockets, including 2-liter PET bottles, tools, nozzles and launchers, will be provided by the organizer.
3. Each competitor should make 2 rockets, one as the main rocket and the other as a back-up.
4. The competitors are encouraged to be creative in designing nose cones and fins of their water rockets.
5. At the time of launch, each competitor may adjust the volume of water. Within the maximum limit to be notified by the organizer, the competitors may also adjust the air pressure.
6. Each competitor will be given opportunities to conduct 2 launches.
7. The highest score is 100 points per launch, which will be given if the rocket hits the target point of 57.5 m from the launcher, or the impact point is within the range of $\pm 1.5\text{m}$ from the target point (Zone I). Less points will be given if the impact point is farther away from the target point as indicated below:
 - a. Zone I: 56.0-59.0m: 100 points
 - b. Zone II: 53.5-56.0m and 59.0-61.5m: 80 points
 - c. Zone III: 50.0-53.5m and 61.5-65.0m: 60 points
 - d. Zone IV : 45.0-50.0m and 65.0-70.0m: 40 points



8. If the impact point is exactly on the zone marker, i.e. the line between two zones, the points for the zone closer to the launch point will be awarded.
9. If the impact point is outside the dedicated zone, i.e. Zones I, II, III and IV, no point will be awarded.
10. A competitor who scores the most points after two launches will be declared the winner of the Launch Competition.

DIRECTION TO THE LAUNCH COMPETITION SITE

