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To: Human-Powered Helicopter Competition Participants  
From: J.M. Drees, AHS-HPH Coordinator

**MAY 1993 UPDATE OF HPH RULE-INTERPRETATIONS**

Interpretation of some of the rules of the Igor I. Sikorsky Human-Powered Helicopter (HPH) Competition (revision 7/23/86) were discussed in my Vertiflite article (Jan/Feb 1993, Vol 39, No 1). Since then, more questions concerning the rules have come up which I will discuss in this update.

It is important that active participants working on HPH and Regional AHS-HPH Contacts are aware of all the published rule-interpretations.

1. I suggested - tongue in cheek- in my Vertiflite article that Lighter-Than-Air Solids can be used (Rule 4.1.1 states that the HPH shall be a heavier-than-air gases are prohibited). Ultra light "aerogel" solid materials indeed have been developed by Lawrence Livermore National Laboratory. I don't know whether they have practical use for an HPH, but we will allow their application for matters like shock absorption or for supporting airfoil shapes, etc., but not if their sole function is to provide buoyancy (like in a balloon).
2. The use of ELECTRONICS for control and stability has come up recently. Rule 4.1.4 does not permit energy storage devices. My article specifically states that batteries and capacitors are a no-no. I asked the AHS-HPH contacts Dr. Dave Peters and Dr. Dick Bennett for advice. With their help I concluded that the use of CAPACITORS should be allowed in electronic devices, but kept the NO-BATTERY rule while also ruling out the use of SOLAR-POWER. This interpretation enables the use of on-board computers and other electronic equipment as long as all needed power is supplied by on-board generators driven by the crew.
3. The use of REMOTE RADIO-CONTROL DEVICES to control blade pitch and flapping by helpers on the ground or by ground-based computers has been ruled out. Control inputs from the on-board flight crew and computers are not prohibited to be transmitted by radio to actuators as well as to other on board devices. Remember however: no batteries!
4. For setting NATIONAL or WORLD RECORDS the Federation Aeronautique Internationale (FAI) rule interpretation often differs from the AHS interpretations given here.

Participants who want to go for setting a record are advised to contact the National Aeronautic Association (NAA) for their position on these matters. The NAA address is as follows:

National Aeronautic Association  
1815 North Fort Meyer Drive, Suite 700  
Arlington, VA 22209