NASA Policy for Balloon Flight Operational Support, International Agreements for Foreign Contributions, and Assessment of Fees

Balloon Support Overview

NASA supports conventional flights and long duration balloon campaigns. The conventional flights are launched from the Columbia Scientific Balloon Facility (CSBF) in Palestine, Texas, or from the semi-permanent launch site in Fort Sumner, New Mexico. Occasionally, conventional flights are flown from Lynn Lake, Canada. Long duration balloon campaigns are conducted in Antarctica, the Arctic region, and at mid-latitude..

The primary users of NASA's balloon carriers are members of the astrophysics community, with the solar and geo-space communities also being occasional users. The Astrophysics Division manages the balloon capability on behalf of all NASA users. **Balloon flight support is also provided to non-NASA agencies and foreign users at various levels of reimbursement and user fees.**

Management

The PS for Balloon Operations is responsible for scientific oversight of the balloon program. The PE for the Balloon Project manages program resources. Responsibility for management of balloon flight operations is delegated to the Balloon Program Office (BPO) at GSFC/Wallops Flight Facility (WFF). Implementation is through a competitively selected contractor managed by GSFC/WFF. The GSFC Balloon Project Scientist acts as liaison between SMD and the user community. A Balloon Working Group (BWG) comprised of representatives from the user disciplines advises the BPO on implementation matters affecting the users. The Balloon Project Scientist chairs the BWG.

Acquisition and Implementation

A number of R&A disciplines support the development of payloads for science investigations using balloon carriers, Proposals are solicited via NRAs, typically ROSES. Long-duration balloon payloads are also solicited as Missions of Opportunity in the Explorer program via Announcements of Opportunity (AO). Flights for non-NASA agencies and foreign users are supported with various levels of reimbursement and user fees. Prior to selecting investigations, discipline scientists are encouraged to have the BPO conduct a review of any proposal perceived to have non-traditional needs (e.g. large area, high hook height). Operations personnel have an opportunity to screen selected proposals. The operations budget covers the operations costs associated with balloon-carried payloads.

Principle investigators till out a flight application form a few years prior to flight and must submit an updated form in the year before a flight is requested. During the last quarter of each fiscal year, the NSBF sends the BPO a list of the flight requests for the upcoming fiscal year, along with their recommendations and an assessment of their capability for conducting the requested flights within their budget. The BPO then compiles a list of the requested flights, attaches a dollar value to each flight, groups the flights by discipline, and sends the list to the PS. The PS consults with the discipline scientists, validating and prioritizing the flight requests. After resolving any conflicts from the discipline scientists, the PS prepares the fly list for the new fiscal year and submits it to the BPO. The PS then works with the contractor to implement the fly list. Significant changes are negotiated with the PS and the affected discipline scientists.

After each flight, the PI submits a short assessment of the payload's performance. The CSBF submits the PI assessment along with its own assessment of the flight operations to the BPO. The BPO forwards it

to the PS with any clarifications.

International Agreements for Foreign Contributions to SMD-Led Balloon Payloads Funded by Grants

NASA Headquarters has decided that it is not appropriate for NASA to negotiate an international agreement with partners of a non-NASA institution being funded by a NASA grant to conduct a scientific investigation involving a balloon payload flown by a NASA contractor. A NASA Center leading the development of a balloon payload being funded by an RTOP would need to pursue appropriate agreements with its international partners.

The Science Mission Directorate (SMD) selects balloon investigations via annual NASA Research Announcements (NRA), which require a signed commitment letter in the proposal from all co-investigators. In addition, foreign participation requires a description of the foreign contribution and a letter signed by an official authorized to commit the resources for that contribution. Selected investigations are funded by grants, which have no deliverables. However, if selected, the Principal Investigator (PI) institution is expected to implement the project as proposed. So, in effect, NASA has an agreement with the non-NASA institution that spells out the international participation by virtue of selecting the project for funding. NASA holds the PI and PI Institution responsible for the investigation, which is subject to annual funding authorization by the Headquarters discipline office and competitive peer review every three years.

The NASA Balloon Program arranges for flights of approved payloads, consistent with its policies, resources, and in competition with other flight requests. The Balloon Program support contractor responsible for flying the payload requires an appropriate official of the PI institution to sign a binding waiver of liability before the payload is flown. The Balloon Program is not staffed to seek liability waivers or get customs clearances for hardware that the PI may be getting from foreign participants.

In summary, the Wallops Flight Facility (WFF) Balloon Program Office (BPO) is responsible for the balloon flight support system and balloon flight operations through its support contractor, currently New Mexico State University Physical Science Laboratory, which operates the Columbia National Scientific Balloon Facility (CSBF). The PI institution for each payload is responsible for providing the tested instrument, the instrument integration for flight, and a binding waiver of liability prior to its launch. Instrument integration of the tested scientific instrument with the tested flight support system is a joint activity of the PI team, WFF, and CSBF personnel. Following a “Hang-Test” at the launch site, CSFB conducts the launch, flight operations, and post-flight recovery of the instrument and flight support hardware under contract to the WFF/BPO.

Balloon Program Policy for Assessment of Fees

Policy for Assessment of Fees

- Long held policy of the Balloon Program is to recover costs in support of Non-SMD/NASA missions, other US Agencies, and foreign users, as approved by NASA in the following way:

Non-SMD and other US Agencies as NASA approved missions

- Pro-rata share for full remote campaign cost, plus:
- User specific expendables (Balloon, helium, special gases), contract travel (no labor), equipment usage, and applicable range fees.

Foreign Missions as NASA approved missions

- Pro-rata share for full remote campaign cost, plus:
- User specific expendables (Balloon, helium, special gases), contract travel, equipment usage, and direct costs/applicable range fees; and
- Pro-rata share (based upon approved FY flight program manifest) of FY Flight Program, including: Labor (Program Office and Contract), campaigns, facilities, sustaining engineering for support systems, and safety.