

Sounding Rocket Working Group

National Aeronautics and Space Administration

Meeting of December 13, 2012

Findings

1. Support for the Schedule Adherence Policy Concept

Summary

The Sounding Rocket Working Group (SRWG) supports the concept of the Schedule Adherence Policy that has been introduced by the NASA Sounding Rocket Program Office (SRPO) to help keep projects on schedule. The SRWG looks forward to providing comments on the details of such a policy. In a general sense, we strongly support scheduling the MIC soon after the onset of a new program and having the Principal Investigator (P.I.) help establish a schedule in conjunction with the NSROC mission manager. The SRWG believes that clear lines of responsibility between the experimenter, NSROC, the SRPO, and NASA HQ, are essential to maintain this schedule.

Background

The SRWG supports the concept of a “Schedule Adherence Policy,” introduced by the SRPO, and the establishment of checkpoints throughout the project, as a means of keeping projects on schedule. The formalization of consequences for schedule delays is likely to reduce the risk of multiple, concurrent schedule slips that can be detrimental to the program and will mitigate the need for overtime and cost overruns. The SRWG looks forward to providing comments on the details of such a policy. A few initial comments are provided here.

Scheduling the MIC soon after the onset of the program is advantageous for all concerned. However, detailed schedules may be difficult to produce with high fidelity this early in a project, especially if the mission is a new or significantly modified payload. The SRWG is concerned about the level of schedule detail which might be required early in a mission and the timeframe for producing this schedule. New payload missions, compared to re-flights and payloads with significant flight heritage, will have different fidelity in their schedule at the time of the MIC.

The SRWG strongly believes that the P.I. and the mission manager should jointly evaluate the schedule to identify areas of higher risk and should implement the appropriate level of schedule margin. Frequent and open communication is needed

between the P.I. and the mission manager to maintain the schedule. Decisions to move milestones should be discussed and agreed upon well in advance.

In a larger sense, the SRWG believes that clear lines of responsibility for schedule delays is essential, and we would like to see more transparency on how the responsibility is attributed between the experimenters, NSROC, the SRPO, and, for funding/program issues, NASA Headquarters.

2. Strong Support for the Development of the Peregrine Motor

Summary

The SRWG is highly supportive of development efforts related to the new Peregrine motor. Such a vehicle would provide an alternative to the existing Black Brant and would provide platform diversification. We also support continued use of the Oriole rocket and request statistical information on the performance of this vehicle.

Background

The SRWG is highly supportive of development efforts related to the Peregrine motor. We commend the SRPO for taking the initiative to develop this rocket. In view of ongoing problems with the Brant and associated single-point failure vulnerability, alternative motor development is necessary to safeguard the program, prevent additional backlog, and to maintain a healthy competitive environment. It is also consistent with the recent Heliophysics NRC Decadal Survey recommendation for platform diversification.

We are also pleased that the Oriole rocket is being flown more frequently, as this vehicle also provides an important alternative. With respect to the Oriole, the SRWG requests statistical information regarding flight performance to help us better evaluate how this vehicle can help fulfill the varied scientific needs of the community.

3. Astrophysical Flights at Poker Flat Research Range with Recovery

Summary

The Sounding Rocket Working Group whole-heartedly endorses the use of the Poker Flat Research Range for launches of astrophysical payloads and their subsequent recovery. We urge the Sounding Rocket Program Office to continue to pursue all avenues to facilitate such launches and recovery operations. For such missions that can achieve their science objectives at high latitudes, these launches present an alternative to the White Sands Missile Range that is highly advantageous for cost and schedule reasons.

Background

The Sounding Rocket Working Group applauds the use of the Poker Flat Research Range in Alaska as a launch site for astrophysical payloads. Efforts for the complete recovery of all payloads that correctly deploy the parachute are producing good results. The only remaining concern is the survivability of the payload on the ground during a several-day stay in the downrange wilderness in what might be arctic winter conditions.

The additional flexibility of an alternate, low cost range for payloads that can accommodate a high latitude launch will ease the difficulty of maintaining the desired rapid flight schedule. The Sounding Rocket Working Group whole-heartedly encourages the Sounding Rocket Program Office to facilitate such launch/recovery operations and to allow PIs to select the Poker Flat Research Range in exchange for timely launch opportunities.

4. Communication between P.I. teams and NSROC

Summary

The SRWG underscores the importance of good communication practices between the P.I. teams and NSROC. We also urge SRPO and NSROC to authorize mission managers to make decisions within the experimenter-mission team group, and underscore the science team's need to be more actively involved in mission design decisions, including countdown and timeline choices.

Background

We applaud the NSROC response to the SRWG Finding from July, 2012 on communications between the PI team and NSROC. Setting a standard of expectation for payload team – experimenter team communications is important, while it is recognized that the level and frequency of these communications will vary from mission to mission and from month to month. A well-informed PI and an authoritative mission manager who are both up-to-date on each other's schedule and able to make decisions locally are critical to the success of improving our scheduling, and are historically important to successful missions.

In discussing recent examples of experimenter-mission communications, we find that current tendencies are leaning away from this historical model. We urge that mission managers be authorized to make decisions within the experimenter-mission team group, and that the science team be actively involved in mission design decisions, including countdown and timeline choices.

We hope that this communication model will encourage a return to this level of autonomy for mission managers.

NASA Sounding Rocket Working Group

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