

CONCERNS/RECOMMENDATIONS OF THE NASA SOUNDING ROCKET WORKING GROUP
JULY 13, 1989

The following points summarize points of discussion and conclusions of the working group regarding issues raised at the July 12-13 meeting:

1. NASA Budget for the Sounding Rocket Program

The Working Group reviewed the history of funding and manpower devoted to the program over the last two decades and voiced its deep concern over current and planned NASA support. In real terms, the level of funding is running at less than one-half of its 1970 level, although other anticipated flight opportunities for rocket-sized payloads, on Spartan and Spacelab, have not materialized. From the point of view of manpower, the program is also significantly reduced (about one-half for civil service alone) from its past strength, although newer payloads with greater sophistication in fact require more support than in early years. The rocket program is the major research tool for a large community of users in space sciences and is, in fact, the only way of carrying out research in the middle and upper atmosphere, at altitudes between 50 and 100 miles. The group adopted the following statement:

"This Working Group wishes to express its extreme distress that the 5 year funding projection for the NASA Sounding Rocket Program shows no real increase. We find this situation to be the single most destructive aspect of the environment for the sounding rocket program - far exceeding the effect of any technical, administrative, or procedural shortcomings. We urge reconsideration of this position in light of the high benefit-to-cost ratio of the program, the guaranteed access to space for the space science community, the irreplaceable student and technician training opportunity in spaceflight hardware development, the future need to support the upcoming NASA orbital missions, including the Great Observatories Program, SOHO, Solar A, UARS, CRESS, ISTP, and EOS, and the history of personnel and resource cutbacks that the program has suffered in the last two decades."

2. Performance of Attitude Control Systems

The Working Group appreciated the candor of the discussion of recent ACS and boost guidance performance by the WFF technical staff. It supports recent WFF actions, such as staffing changes to provide backup support for these systems and relief of ACS engineers from project management responsibilities, that are intended to strengthen technical capability in the ASC area. The Working Group urges WFF to make all personnel, both from the project and the experimenters' teams, aware of the need for conscientious attention to all engineering details and procedures of these complex systems during field operations.

3. Integration Procedures at WFF

Integration of payloads prior to flight was discussed in considerable detail and the Working Group generally agrees with the level of testing that is required at WFF. The group remains unconvinced that the current integration procedures at WFF make maximum and effective use of both experimenter and WFF manpower. Improvements in the efficiency of carrying out a payload integration can lead to a capability to handle more payloads at WFF and to travel cost savings in experimenters' budgets. We therefore ask WFF to review how the efficiency of integration might be improved, recognizing that the responsibility for doing so lies equally with the experimenter and with NASA. Possible steps to be considered might include better verifications of interfaces (connector selection, signal levels, etc) and more complete subsystem verifications before start of integration, i.e., before the experimenter actually arrives at WFF. We urge that an activity schedule be negotiated between Mission Chief and PI at the beginning of integration and that these individuals work closely together to maintain this schedule.

The Working Group further believes that, for some classes of payloads (particularly in Astronomy), a fully tested experiment section should be able to interface to a fully tested support section for final payload tests, particularly if the experiment has flown before and any subsequent mods have been separately qualified. How could this be accomplished? For what types of payloads might this be feasible and what tests would still be required of the fully assembled payload?

In the same vein, the working group asks that WFF address the option that payloads previously flown out of WSMR be permitted to go directly to WSMR for integration on subsequent missions.

4. Liaison of WFF with DOD at White Sands Missile Range

The Working Group would like to understand better the chains of command and the lines of communication that exist between NASA, the Navy and the Army at White Sands Missile Range. It believes that improved relations and communications could lead to greater effectiveness of the scientific rocket program there. The group requests WFF to clarify the present arrangements at a future meeting.

5. Use of WFF Technical Facilities in Support of Experiment Payloads

The Working Group queried the WFF technical staff regarding the availability of WFF resources for the fabrication of experiment payloads. It urges that all experimenters (not only those new to the system) be made aware of whatever facilities and capabilities WFF has to offer experimenters for this purpose.

6. Replenishment of Current Inventories of Rocket Motors

The Working Group took heed of the concerns expressed by Larry Early that the current rate of using Black Brant motors will severely reduce the current inventory and may put the program in jeopardy if the manufacturer encounters production problems in the future. We support WFF efforts to replenish this inventory and to seek opportunities to accomplish the same science objectives using other, more available (and cheaper) rocket motors.

7. Consensus Regarding this Meeting

The Working Group expresses its appreciation to the Wallops Flight Facility technical staff for its responsiveness both in preparing detailed technical information for the group as well as to questions asked by the group. We felt that the meeting was constructive and provided a useful forum for the exchange of information and concerns regarding the sounding rocket program.