On Changes to the Explorer Program: Letter Report

Committee on Space Astronomy and Astrophysics, Space Science Board, Commission on Physical Sciences, Mathematics, and Resources, National Research Council

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NATIONAL RESEARCH COUNCIL
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January 13, 1987

Dr. Burton I. Edelson
Associate Administrator
Office of Space Science and Applications
National Aeronautics and Space Administration
Washington, D.C. 20546

Dear Burt:

At the October meeting of the Space Science Board's Committee on Space Astronomy and Astrophysics, Dr. C. Pellerin reviewed the present status and future prospects of the Explorer program for the committee. As you know, the Explorer program has been one of the most productive components of NASA's space research effort. Astronomy and astrophysics Explorers have been particularly successful: with pioneer surveys of the universe by satellites such as Uhuru and IRAS, and with rich, detailed studies of specific wavebands by missions such as IUE. Future missions such as COBE, EUVE, and XTE promise similar scientific rewards.

The CSAA is concerned about the recent addition of substantial charges to the Explorer budget as a result of the Challenger accident. At the time when the CSAA report, "The Explorer Program for Astronomy and Astrophysics," (NAP, 1986), was completed (a few months ago), the Explorer budget was committed for about 4 years. This led to the recommendation for a substantial augmentation of the Explorer budget line. Now, because an additional 2 to 3 years of funds will be committed due to the costs expected to result from attempts to recover from the Challenger disaster, seven years must pass before resources will become available for new opportunities. This budget picture cripples progress in the innovative Explorer program and indicates that more than 15 years are now required to complete an Explorer mission.

The response of the space science community to the recent Dear Colleague Letter (DCL) for Explorers demonstrates the deep interest in the program. In order to overcome the present crisis, we feel that the Explorer budget be augmented promptly. Without this augmentation, NASA is faced with two choices in dealing with the responses to the DCL: select new candidate missions and thereby extend the already long queue, or return them and seriously demoralize the community. Neither of these options is satisfactory. Substantial augmentation of the Explorer budget would make evaluation of the responses to the DCL worth undertaking, shorten or eliminate the queue, and provide the frequent flight opportunities needed for a vigorous

Explorer program. The committee recognizes that you must weigh your decisions in the context of overall program priorities and budgets.

In addition, it seems timely now to initiate development of a reusable Explorer platform. The CSAA Explorer report suggested the use of refurbishable spacecraft as one way to control costs and increase flight opportunities. EUVE and XTE seem particularly well-suited to this scheme: a reusable platform will allow these missions to be completed in a cost effective and timely manner.

The long-term health of the Explorer program is vital to all space science. Planning should begin now to design a program containing a mixture of Shuttle-launched and exchanged platforms, and ELV's to achieve the frequency of flight opportunities so sorely needed to revitalize the Explorer program.

Sincerely,

Blair

Blair Savage, Chairman
Committee on Space
Astronomy and Astrophysics