NATIONAL RESEARCH COUNCIL
COMMISSION ON PHYSICAL SCIENCES, MATHEMATICS, AND RESOURCES
2101 Constitution Avenue Washington, D.C. 20418

SPACE SCIENCE BOARD

OFFICE LOCATION:
JOSEPH HENRY BUILDING
21ST STREET AND
PENNSYLVANIA AVENUE, N.W.

June 11, 1986

Dr. James C. Fletcher,
Administrator
National Aeronautics and Space Administration
Washington, D.C. 20546

Dear Jim:

Over the past two years, the SSB has developed several major advisory positions which bear on current space program issues. In view of the fact that we have been unable to get together, I think it would be useful to bring these positions to your attention and to review their salient points.

On September 9, 1983, the Space Science Board sent to NASA two position papers dealing with the space station. Copies of these two papers are enclosed. One of these, entitled "Space Science Board Assessment of the Scientific Value of a Space Station", addressed the issue of the space science need for a space station. It found no need for a space station to support missions addressing high priority science issues for the subsequent two decades. The second paper was entitled "Space Science in a Space Station Era". It set forth conditions that would have to be met to insure the health of the nation's space science program if the United States decided to commit itself to the deployment of a space station. The final paragraph of that paper contains the following statements:

> "Thus, a manned space station could eventually provide significant opportunities for a number of disciplines in space science provided there is a commensurate increase in the total level of space science activity. Realization of those opportunities would depend on the extent to which the capability to carry our space science research is kept viable, important experimental and theoretical activity is continued, and new endeavors are initiated while the space station is being developed."

On May 12 of this year the Board sent you another position paper discussing the need for primary reliance to be placed on expendable launch vehicles to launch scientific missions of the future. The proper mix of shuttle and ELV launches remains to be decided, but the option of four orbiters and no ELV's is not such

a mix. This is of the essence in the Board's assessment.

A space program in which acquisition of a replacement orbiter and progress in developing the space station results in a severe reduction of the level of support for space science is one that clearly would not respond to the advice we have given you in these three papers. As we have said in our statement of May 12, reliance on the shuttle alone to launch spacecraft is a failed policy. To the extent that the nation remains committed to space science, we would urge you not to undertake this solution to our problems.

Should you wish to discuss these issues before our scheduled meeting next month, I will be happy to do so at your convenience.

Yours sincerely,

Thomas M. Donahue
Chairman, Space Science Board