U.S. Gov't

Congress of the United States

House of Representatives

Washington, D.C. 20515

February 15, 1965

Honorable James Webb
Administrator
National Aeronautics and Space Administration
Washington 25, D. C.

Dear Mr. Webb:

As you are aware, several months ago, I raised certain questions with NASA regarding the adequacy of the guidance and control system presently scheduled for the APOLLO and Lunar Excursion vehicles. It was my understanding at the time that the MIT system had insufficient flexibility, capability and reliability to best accomplish this mission.

Considerable time has now elapsed since I initially expressed my concern. As best I can determine, little progress has been made in solving these problems. The latest information I have indicates that while some work has been done to improve the system, it is still inadequate and a replacement system, or at least a capable backup system, should be developed. It is also my understanding that the system is heavy and expensive.

I believe it would be most helpful if you would answer several questions listed below which have been bothering me for some time.

1. What is the expected APOLLO and LEM configuration of the MIT Inertial Guidance System (i.e., number of platforms and computers)?

2. There has always been apprehension about the MIT guidance system achieving the required reliability to insure a safe mission. Is there now documented test-proven data to show that it will meet the needs of APOLLO/LEM?

3. In regard to the previous question, is there a back-up guidance function of sufficient breadth and proven development that can allow the APOLLO/LEM mission to attain success (not merely escape) in the event of catastrophic failure of the MIT guidance? If not, what plans exist to provide such a comprehensive back-up system?

4. The APOLLO/LEM program calls for many years of operational activities. Does the guidance equipment being developed for it allow for extreme flexibility in programming, memory and mission functions that are bound to occur, but not foreseen at this time?

5. What does the system weigh in its APOLLO and LEM configurations, and how does this compare with other available systems?

6. What will the system cost in its production quantities, and how much is being spend for its development?

7. Is a backup system still contemplated for either APOLLO or LEM?

8. How does the present system compare with the original procurement specifications to MIT and the industrial support contractors?

I would greatly appreciate an early reply to this letter. As you and I both know, the future of the United States' manned space activities rests with this program. If we fail in this program, the Russians will very likely assume a tremendous lead in manned space activities and gain irretrievable prestige throughout the world. It is our duty as public servants to assure success in these programs every way we know how.

I would also like to take this opportunity to assure you of my continued interest in NASA programs. I will be most happy to work with you in any way I can to aid and improve them.

Sincerely yours,

Joseph E. Karth

JEK:sd