

Office Memorandum • UNITED STATES GOVERNMENT

TO : G. B. Kistiakowsky

DATE: November 14, 1959

FROM : Jesse L. Mitchell

SUBJECT: NASA 1961 Estimates and BOB Staff Proposal to BOB Director

DISCUSSION

1. In a nutshell (not considering the as yet unresolved details of ABMA-NASA), the situation is as follows:

1960 NASA Program	1961 NASA Request	1961 BOB Staff Recommended
500.575	783.300	554.900

The difference of about 228 million between the NASA request and BOB staff recommended represents a reduction of about \$113 million in the amount requested for scientific applications and supporting research, 86 million reduction in vehicle and general technical development, 22 million in follow-on man in space, and 6 million in supporting operations.

At this level of overall thinking -

Doesn't the 10% increase recommended by BOB represent too small a rate of growth for the 2nd full year of a major National effort?

Isn't the almost 60% increase requested by NASA closer to a reasonable initial rate of growth?

Is not 1961, considering the technological developments in hand, ~~was~~ the time to greatly increase our efforts to exploit these developments for scientific applications?

2. In a little more detail -- BOB applied essentially the following assumptions in arriving at the recommended level of funding.
- Project Mercury as planned but defer follow-on "Man in Space" beyond 1961.
 - Only one high thrust booster development, and that the \$140 million to be shifted from defense will be adequate to cover this development.



- c. Work on complete vehicle system based on high thrust booster to be carried at a "non rush" basis.
- d. More important to maintain strong program in general technical development and supporting research than specific hardware development, scientific applications or other applications of space vehicles.



The above assumptions led to the following recommendations:

	1960 Program	1961 Request	1961 Recommended
1. Scientific Applications	97.720	162.200	85.000
2. Meteorology & Communications	10.850	23.200	23.000
3. Manned Space Flight	100.516	124.966	102.000
4. Advanced Vehicle Development	70.620	138.300	68.400
5. General Technical Development	41.059	74.150	58.500
6. Supporting Research	109.232	163.247	127.000
7. Supporting Operations	70.578	97.237	91.000

With regard to these assumptions and their effect -- Certainly Project Mercury should be given complete support. The question might well be raised - in view of the possible payoff for this major first -- Why not push it more urgently? -- There may be some indications that we could and should try for "earliest capability." Follow-on "man in space" (satellite type) might best be done as part of a coordinated effort with any Dynasoar program that might finally get approved and might well be delayed until "Mercury" is "in the bag," so as not to dilute that effort.

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There is general agreement on supporting only ^{one} big booster development incorporating Nova into Saturn. BOB feels that the budgetary pressure indicated by the big ~~cut~~^{cut} in advanced vehicle development (essentially cut out Nova engine development) will help force an early decision as to the exact course to be followed. -- This may be so, but it would certainly seem short sighted to cancel the development on the 1.5 million single chamber and a strong recommendation should be made for continuing this development.

The last assumption (item d. above) has led to the most drastic recommendations -- In effect over a 10% reduction (from 1960 level) in our scientific effort in space. A strong recommendation should be made to support the NASA level of request which calls for about a 70% increase.

SUMMARY

The details of the ABMA and the big booster question will have a large influence on NASA's 1961 budget. We should therefore support every effort to see that these questions are settled as quickly as possible but in an orderly manner.

With regard to general guidelines, we should support the Director of NASA in efforts to establish a strong National Space Program. We, of course, do not have enough information to support all the details of the NASA program, but we should take a strong positive position with regard to at least the following items, i.e., actively support:

1. The development of the 1.5 million pound single chamber engine.
2. The development of liquid hydrogen technology including the Centaur engine and the proposed 150 K engine.
3. At least the NASA requests for applications of our developed technology to the scientific exploration of outer space.
4. Project Mercury for the earliest technically feasible man in space.
5. At least the NASA level of funding on research grants and contracts and some increase over 1960 in the supporting research.

If we are unable to strongly support more than these minimal requirements, the budgetary implications are that a level of funding of not less than 700 million will be required. This represents an increase of only 40% in the prosecution of an important new national effort.

