NASA November 10, 1969 MEMORANDUM FOR Mr. Willis Shapley Associate Deputy Administrator National Aeronautics and Space Administration The White House has requested Assistant Secretary of Commerce for Science and Technology, Myron Tribus, to chair an interdepartmental study of Alaska's telecommunications problems. This will be a short-term effort over the next few months to assist the officials of that State with policy-level decisions regarding the opportunities and costs for telecommunications in Alaska. NASA's participation in this study is particularly important because of its unique familiarity with certain aspects of this problem. Dr. Tribus has already been in preliminary contact with people from your agency regarding availability of staff and budget resources for this interdepartmental effort. Should the issue come to your attention, I would like to emphasize that the White House regards this as an important study and hopes that you will be able to contribute resources, primarily in the form of staff participation, not to exceed \$100,000. Clay T. Whitehead Staff Assistant cc: Mr. Flanigan Mr. Whitehead Central Files CTWhitehead:ed

MEMORANDUM THE WHITE HOUSE WASHINGTON October 6, 1969 TOM WHITEHEAD TO: PETER FLANZGAN FROM: After reviewing all the attached memoranda, will you please draft a statement that the President might use, picking Option 2 but providing his flexibility along the lines suggested in my memorandum of October 4. Enclosures

2384

3:45 Bobbie Greene in Cole's office was checking to see if a draft statement had been prepared (page 2 of Mr. Flanigan's memo to the Staff Secy.).

Not year

Oct. 27, 1969

TO:

EVA

FROM:

BOBISIE GREENE

As per our conversation.

MIMORANDUM

THE WHITE HOUSE

WASHINGTON

October 6, 1969

TO: THE STAFF SECRETARY

FROM: PETER FLANIGAN ON O

RE: Log 1491

For your information, I am attaching hereto as
Exhibit A a letter from Dr. Paine to the President recommending
that he support Option 2. As Exhibit B, I am attaching a copy
of a letter from Mr. Mayo to me which was sent to me with a
copy of his letter to the President. Both these expand on
problems set forth in Director Mayo's memorandum to the President
of September 25.

I agree with Director Mayo that it would be a mistake for the President to adopt now a fixed set of actions which would have serious budgetary implications over the next year. However, I do not believe that the President can delay until the budget review to respond to the Space Task Group Lepter to him. I believe there is a middle ground which can meet the political requirements of an affirmative response from the President and at the same time meet the fiscal requirements so persuasively stated by Bob Mayo. In this middle ground the President should say that after a review of the Space Task Group's report, he believes that we should plan on a Mars landing in the mid-1980s. (This is essentially Option 2. However, by limiting it to the Mars landing, he does not approve all the other items of Option 2.) The President's statement should go on to say that obviously a program extending over the next 17 years cannot be fixed as of this time; that in moving toward this goal we must recognize that in certain years actions might be taken which temporarily delay certain activities, whereas in other times when budgetary conditions permit we can increase our effort and hopefully advance the date of the Mars landing.

T believe a program developed along these lines will result in retaining the needed fiscal flexibility, yet keeping for the President the enthusiasm generated by the current space program. At the time the President releases this memorandum, he can also direct NASA to prepare a 1971 budget at the "below 4.0B" level referred to in Mayo's memorandum to me of September 25.

I have asked my staff to draft the essential elements that would be used in a statement by the President along the lines suggested above.

Enclosures

THE WHITE HOUSE

ACTION MEMORANDUM

WASHINGTON

LOG NO .:

Date: September 30, 1969

Time:

10:48 A.M.

FOR ACTION: J. Ehrlichman

H. Kissinger

cc (for information): R. Mayo

L. DuBridge

B. Harlow

. P. Flanigan

FROM THE STAFF SECRETARY

DUE: Date:

Monday, October 6, 1969

Time:

2:00 P.M.

SUBJECT:

Dr. Mayo memorandum on Space Task Group Report

ACTION REQUESTED:

For Necessary Action

X For Your Recommendations

Prepare Agenda and Brief

___ Draft Reply

- For Your Comments

--- Draft Remarks

REMARKS:

Please review Dfr. Mayo's memorandum and submit your recommendations to the Staff Secretary



NATIONAL AND SPACE ADMINISTRATION WASHINGTON, D.C. 20546

OFFICE OF THE ADMINISTRATOR

September 19, 1969

The President
The White House
Washington, D. C. 20500

Dear Mr. President:

This letter provides my recommendations for further actions you may wish to take on the report of the Space Task Group.

The report and your initial reaction to it are receiving positive and widespread public support. Representative editorials are enclosed. Particularly noteworthy are the favorable comments of the New York Times and Washington Post, papers which are often critical. This favorable environment suggests the desirability of an appropriate follow-up.

In considering which of the STG Report's three options you may wish to select, other problems currently facing the nation must obviously be taken into account. Option 1, the most vigorous of the proposed programs, clearly offers this nation the greatest opportunities and greatest challenge in the long run. However, it is the most expensive in the near term when resources are most constrained. Option 3, which defers for at least 20 years the challenge of a manned mission to Mars, lacks vigor and fails to seize fully the opportunities available.

My recommendation, therefore, is that you select Option 2, a balanced and challenging program which includes as major objectives the earth-orbiting space station, space shuttle and nuclear stage in the 1970's, leading to a manned mission to Mars in the 1980's. As the nation progresses toward meeting its other needs during the next few years, I would hope that we may be able to reexamine this and move closer to Option 1.

In the near future I believe it would be advantageous for you to make a public statement of your view of the nation's future in space. As I mentioned at our meeting last week, the dedication of the new Lunar Science Institute at Houston might afford an appropriate occasion. We could arrange the dedication for any date convenient to you in the next month.

I would be happy to discuss these matters further with you at any time.

Sincerely yours,

T. O. Paine Administrator

Enclosures

The news media reaction to the Space Task Group report has been good. The story broke in two parts. The first followed the briefing for you at the White House and the press reported that both a "crash" program and a "going-out-of-business" program had been rejected by the President. The immediate reaction was favorable. The second wave of reaction, which is still current, followed the press briefing by the Vice President this week.

Today's Washington Post took a reasoned approach and is typical of the kind of reaction we are hearing from individual members of the press and what we can anticipate from editorial comment in the near future. It is interesting that there has been no "selection" by the news media of a favorite option—all seem to be judged as reasonable and rational.

The Post said, "Acceptance by the President of the basic recommendation would eliminate talk of abandoning manned space flight, which would be a foolish course of action, or of proceeding toward Mars in a crash effort to get there as quickly as possible.

"It is difficult for anyone to reach any other conclusion except those who blindly opposed manned space travel or those who, equally blindly, favor giving it the nation's top priority."

The Evening Star said the decision not to engage in a crash program is a "sensible, realistic view."

The New York Times said, "If the President made a commitment to a manned landing on Mars, as his press secretary suggested, it was of a very different character

from the commitment with regard to the moon that President Kennedy made in 1961. Mr. Nixon indulged in no dramatics; he did not appear before Congress; and he set no inflexible timetable to be achieved at almost any cost..... The extreme options Mr. Nixon is said to have rejected were always unreal. There was never any prospect that this country would abandon manned space flight entirely, or, conversely, that the United States would give a manned flight to Mars first priority over its many pressing domestic problems."

A Spaceman's Sense of Balance

The report of President Nixon's Task Group on Space and, indeed, even the speeches to Congress of the three men who rode in Apollo 11 have brought some rationality back to the discussion of whither the space program. That report recommends that the President commit the nation to a "long-range goal of manned planetary exploration" aimed at a landing on Mar's in the early 1980s, the mid-1980s, or the 1990s. Acceptance by the President of the basic recommendation would eliminate talk of abandoning manned space flight, which would be a foolish course of action, or of proceeding toward Mars in a crash effort to get there as quickly as possible.

It is difficult for anyone to reach any other conclusion except those who blindly opposed manned space travel or those who, equally blindly, favor giving it the nation's top priority. Space exploration ought to proceed in an orderly way, maximizing at every step the advance of knowledge and the utilization of it here on earth. In fact, it is not at all clear that the President should set a "goal" of a Mars landing in any particular year.

What is important is for the nation to push ahead on the immediate recommendations of the Task Group—exploring the moon, developing the tools that are needed for systematic exploitation of our space travel capability, and extracting from the space program more benefits for those of us who are earthbound. This means that NASA would continue its moon flights, perhaps reaching the day in the 1970s when semi-permanent colonies would be established on the moon's surface. At the same time, it would push development of a nuclear rocket engine, which would make long-range space travel more feasible, a space vehicle that could be landed on earth and used over and over again, which would reduce the costs of each mission sharp-

of the sand that I have been a

ly, and a space station to hold a dozen or so menthat could be flown in orbit around the earth or the moon or, when the time comes, Mars.

This kind of program would keep NASA operating for a while on about the budget it now has. It would have the advantage of allowing the agency to keep together the remarkable team of scientists and engineers it has created by giving them new and interesting problems to solve. At the same time, it would encourage those in NASA who want to tailor the space program to produce more information directly useful in the solution of earthly problems—surveys of natural resources, weather prediction and control, and so on.

Although parts of the speeches the three astronauts of Apollo 11 delivered to Congress Tuesday were open pleas for money for future space flights, they were carefully balanced by the recognition each man gave to the needs of domestic programs for the funds that might otherwise be spent in space. The words of Neil Armstrong, the first man to walk on the moon, are worth repeating because they catch the spirit of the delicate balance that must be made between the dreams for adventure and the practical realities of life:

Several weeks ago, I enjoyed the warmth of reflection on the true meaning of the spirit of Apollo. I stood in the highlands of this nation, near the continental divide, introducing to my sons the wonders of nature and pleasures of looking for deer and elk. In their enthusiasm for the view, they frequently stumbled on the rocky trails, but when they looked only to their footing, they did not see the elk.

To those of you have advocated looking high we owe our sincere gratitude, for you have granted us the opportunity to see some of the grandest views of the Creator. To those of you who have been our honest critics, we also thank, for you have reminded us that we dare not forget to watch the trail.

With Sunday Morning Edition

Published by THE EVENING STAR NEWSPAPER CO., Washington, D. C.

.CROSBY N. SOYD, Chairman of the Board

JOHN H. KAUFFMANN, President

NEWBOLD NOYES, Editor

A-10

THURSDAY, SEPTEMBER 18, 1969

Slow Trip to Mars

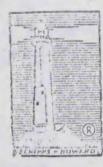
Although President Nixon supports an American commitment to land a man on Mars, he has made clear through Press Secretary Ziegler that the undertaking will not involve a high-speed, extra-costly crash program that would ignore "budgetary considerations."

This is a sensible, realistic view. It is in keeping, in fact, with the balanced space program that has been recommended by a special panel of advisers in the report just accepted and endorsed by Mr. Nixon. The panel, headed by Vice President Agnew, includes NASA Administrator Thomas O. Paine, Air Force Secretary Robert C. Seamans and White House Science Adviser Lee E. du Bridge - all well-qualified to offer sound counsel on the subject.

These and other distinguished members of the study group have given the President three options as to the timing of a landing on Mars-in 1983, no sooner than 1986, or around the year 2000. With the President's concurrence, the panel has rejected two alternatives as extreme. One would have the country go all-outmore or less in the manner of the Apollo moon landing — to put an American on . Mars in the shortest possible time, regardless of cost. The other, on completion of the Apollo program, would put an end to all manned space projects.

he makes his decision on the timetable for Mars, Mr. Nixon will be governed by what its effects may be not only on other space ventures, but also on downto-earth human requirements and the amount of money available to meet them. Meanwhile, he has indicated that he fully agrees with the panel's recommendation that the space program, wholly apart from the Apollo landings still to come, should be pressed forward with vigor through the 1970s. The program would include unmanned probes of the Martian surface and a "grand tour" of the environs of the outer planets. Also, strenuous efforts would be made to develop a re-usable shuttle vehicle that would be capable of remaining in orbit, with large crews, for months at a time.

One of the important aspects of such a program is that it would provide for projects numerous enough and significant enough to insure against a grave weakening or withering away of the great and vital complex of scientists, technicians, administrators and technological plants now engaged in space work. It is work full of immense actual and potential value. And it will lead, among other things, to the day when man will almost certainly set foot on Mars and go on from there to explore What seems predictable is that when deeper and deeper in the firmament.



A SCRIPPS HOWARD NEWSPAPER "Give light and the perpie will find their own way."

Richard Hollander. Editor

Ray F. Mack. Business Manager

THURSDAY, SEPTEMBER 18, 1969

DI. 7-7777

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A cool trip to Mars

THE special space Task Group headed by Vice President Spiro T. Agnew has soundly advised the President to adopt a slow-but-sure approach to a manned landing on Mars.

Their report, submitted yesterday, proposes landing a man on Mars no sooner than the early 1980's, perhaps not before 1986 and possibly not until the 1990's.

Mr. Agnew says he favors the 1986 target date as a reasonable compromise that would muster "broad scientific and political support."

This would mean a National Aeronautics and Space Administration (NASA) budget of around \$4 billion for each of the next three fiscal years, rising gradually to a peak of \$8 billion in the 1980's.

Thus, the nation would ease into its Mars commitment instead of adopting the expensive race-ahead tactics of the \$24 billion Apollo moon program.

But even a cool trip to Mars will cost plenty - and the space scientists hope to get the most for their money.

For instance, the Task Group members - Mr. Agnew, Thomas O. Paine of NASA, Air Force Secretary Robert C. Seamans and Lee A. DuBridge, the President's science adviser - proposed reusable space ships instead of present craft, which shed their multi-milliondollar parts like throw-away beer cans.

And they offered their alternative timetables so that the pace of the Mars project could be tailored to the availability of funds.

In short, the President's advisers are saying it would be a mistake to get out of space - but a mistake to plunge ahead regardless of cost.

They recognize the Mars mission must take its place alongside the other national needs - some of them very pressing indeed.

The economic spin-off benefits of space technology, the challenge of new worlds beyond our own and the potential military significance of space ventures amply justify the kind of Mars program the Task Group proposes.

Slow Boat to Mars

The Apollo 11 astronauts were low-pressure advocates of the space program in their Congressional appearance yesterday. No one listening to them could doubt that they would like to see Americans walk on Mars as soon as possible. But they made it plain that they knew there are many problems on earth that cannot be ignored. The result was a modest pleafor a continuing space program having an appreciable but hardly an overriding priority.

That same reasonable spirit seems to have animated President Nixon's reaction to the report of a study group on space exploration. If the President made a commitment to a manned landing on Mars, as his press secretary suggested, it was of a very different character from the commitment with regard to the moon that President Kennedy made in 1961. Mr. Nixon indulged in no dramatics; he did not appear before Congress; and he set no inflexible timetable to be achieved at almost any cost. About all he seems to have done is to indicate that it would be a good idea to land Americans on Mars well within the next half century and to promise that he'd try to help the project along within the limits of available resources.

The extreme options Mr. Nixon is said to have rejected were always unreal. There was never any prospect that this country would abandon manned space flight entirely, or, conversely, that the United States would give a manned flight to Mars first priority over its many pressing domestic problems.

The intermediate path that will be followed in the years ahead will depend upon the most varied factors from the progress made in curing the ills of the cities to the new challenges in space that the Russians and others are likely to pose. The space age is here to stay, but the precise contours of how far and how fast this nation will go in the decades ahead will have to be determined on a pragmatic basis, almost year by year and Administration by Administration.

Mars Can Wait

The Space Task Group's recommendation against making an early, hard-and-fast decision on scheduling a manned expedition to Mars was sensibly made and has been sensibly accepted. The project is much too ambitious and will be much too costly to be fitted headlong to a timetable. Mr. Nixon has approved a "balanced" space program which contemplates the possibility of a Marlian landing perhaps in the mid or late 1980's, perhaps before the end of the century, perhaps not until sometime after the year 2000.

So far, as can be seen now the "balance" is the strongest point of the endeavor to formulate plans for the future space exploration. The task group proposes that in the next decade the United States un-

dertake instrumental tours and probes of the planets (including Mars of course), further manned study of the moon, development of a reusable space shuttle which could serve as a large space laboratory and of a nuclear-powered rocket. Much of this would be essential to an attempt to put men on Mars in any case, and all of it promises to advance knowledge of the solar system.

As for Mars, the eagerness to reach it has to be tempered by a very sober, prudent consideration of all the pressing needs of the country and the earth. It is not something to which we can, or should, commit ourselves and the future in a fit of adventurous and extremely expensive impatience. Fortunately, it seems that scientists and Washington are now wisely agreed on that.

THE CHRISTIAN SCIENCE MONITOR Wednesday, September 17, 1969

Pace for space

President Nixon's task force on space offers useful guidance for the American space program over the next decade. A manned orbiting station, a space shuttle, a nuclear-powered rocket, unmanned probes, and satellites for communication, meteorology, and navigation—these set the tone and pace for the postmoon phase.

The United States needs a vigorous space drive. This is a vast, productive, challenging frontier. There must be, of course, a thoughtful sharing of funds with the more urgent and immediate programs here on earth. A proposed \$4 billion budget for each of 10 years may be overly ambitious. But even the eventual manned landing on Mars should not be jettisoned.

An orbiting space station would be a

gate-opener for further explorations, besides affording essential experience in space living. The space shuttle would, economically, get men to the orbiting station, bring intelligence data back to earth, launch unmanned vehicles. The nuclear rocket would power, someday, the great ship for Mars.

The essential aerospace companies need a continuity if they are to maintain their talent assemblages and financial stability. Someday, the American space program may become a worldwide project, including the Soviets. But as of now it is up to President Nixon to assure that the United States carries on adequately with its well-begun space odyssey.

EXECUTIVE CE OF THE PRESIDENT BU OF THE BUDGET WAS ANGTON, D.C. 20503 SEP 2 5 1009 MEMORANDUM FOR MR. FLANIGAN Subject: Space Task Group Report

This is in response to your September 22 request for my comments on Tom Paine's recommendation to the President that Option II of the Space Task Group report be selected as the announced space program for the future.

My views are set forth in a separate memorandum to the President (copy attached).

Our preliminary analysis of the funding levels set forth in the Space Task Group report leads us to believe that they are underestimated (in addition to the fact that 1969 dollars are used). If this is in fact the case, then if the President chooses Option II he will be faced with even greater annual budget increases for NASA than forecast in the report.

We have attempted to modify the program content of Option II, maintaining the goal of a manned Mars expedition in 1986. By reducing the Lunar Exploration program to two flights a year, by eliminating the manned activities not directly related to the Mars mission (i.e., Space Bases and Lunar Surface Bases), and by developing the space transportation system and the space station in series rather than in parallel, we estimate that the 1971-1973 annual budgets for NASA can be kept below \$4.0 B. By 1980, however, a budget approaching \$7.0 B can be anticipated.

These estimates are below those shown for Option II in the Space Task Group report and admittedly are not precise. However, it is my belief that in order for this Administration to make a credible start to meet the goals and objectives set forth in any of the options, we cannot go much below these funding levels. That is why I am against endorsement of any option until after the 1971 budget review process.

The Bureau of the Budget needs the opportunity to conduct a full scale analysis and review of the documentation supporting the estimates in the report.

Should the President feel that announcement of a decision is required now, I would recommend that he specifically avoid endorsing any option defined in the report. These options were composed of illustrative programs and gross estimates of ultimate costs. If he endorses the manned Mars goal, I would hope that the timing would be left at "sometime in this century" until much more review of the requirements for meeting that goal can be completed. We are prepared to supply you with a list of the programmatic and fiscal constraints which should be communicated to NASA along with the final decision made by the President.

Robert P. Mayo

Director

Attachment

MASA

THE WHITE HOUSE

WASHINGTON

October 1, 1969

FOR

Peter Flanigan

FROM

Tom Whitehead

I understand from Will you wanted a memorandum on the NASA personnel and organization question as soon as possible.

As you know, Will and I have been working with OST, Harry Flemming's shop, and Darrell Trent to encourage Dr. Paine to bring some Administration-oriented executives into the senior NASA staff. Our efforts in this regard are, it appears, being actively resisted by Paine and others in NASA. This memo is to summarize the situation for you and to suggest a possible course of action.

By way of background, George Bell has been working with NASA for some months in his efforts to fill the key vacancies at NASA. The response from NASA has been negligible, as may be seen from the attached memos from Paine, dated May 5, 1969 and August 26, 1969. To date, only the General Counsel position has been filled as a result of our efforts.

On September 18, 1969, Will met with Willis Shapley, the Associate Deputy Administrator (for Administration) to find out what the current status was. He learned at that meeting that Paine is now personally reorganizing the top echelons of the NASA staff. Shapley stated that Paine is approaching this problem by identifying the key people he wants on his senior staff and then organizing around their individual capabilities. Thus, Shapley could not provide a proposed organization chart or a current definition of the new jobs in NASA. Shapley said that he would send us material describing the types of individuals they would presumably need in the agency. We have not received anything to date. The result of this approach could well be that Paine will fill all the key jobs from within the organization before the White House is even aware of the details of the reorganization. You are, of course, aware of his selection of George Low to be his deputy. Our candidate for this job, Dr. Gordon MacDonald, is being considered for a position two levels below the deputy level.

WEK/nck

Copies to: Dr. Whitehead

Mr. Trent

Mr. Kriegsman

We have also checked with OST and BOB staffs to find out whether they are aware of the reorganization. Neither group has any specific knowledge, outside of rumors that is, of any major reorganization.

We believe it essential that we bring new talent into NASA in the top positions, that we have the opportunity to assess any organizational changes before they are firmly set, and that some of the new senior people should be strongly oriented with the Administration rather than with the NASA bureaucracy. However, Paine is clearly entitled to some time to sort his thoughts out internally, before involving us. (Of course, he has had several months already.)

I suggest that I call Willis Shapley in; inform him of our interest and concern; and ask that Paine get in touch as soon as possible (say within two weeks) to discuss the whole personnel-organization issue. I believe this is preferable to calling Paine in abruptly.

Clay T. Whitehead Staff Assistant Not the second

OFFICE OF THE ADMINISTRATOR

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Into To:

WASHINGTON, D.C. 20546

AUG 26 1969

8/24/69

Honorable Harry S. Flemming Special Assistant to the President The White House Washington, D. C. 20500

Dear Mr. Flemming:

At the suggestion of George Bell, here is a summary of the status of senior NASA positions discussed in my letter to you of May 5, 1969.

Presidential Appointment:

Deputy Administrator -- I am still searching for the rare combination of a top-flight university scientist in a space-related field willing to come to Washington for several years whose views would be politically acceptable. No candidate satisfactory on all counts has yet been suggested. The two men closest to filling the bill who might accept if asked are Dr. Gordon C. F. MacDonald, now Vice Chancellor of the University of California at Santa Barbara, and Dr. Leo Goldberg, Director of the Harvard College Observatory. Either would be acceptable to Dr. DuBridge. Comments on the suitability of these men from your point of view would be welcomed.

Schedule C Appointments:

- 1. General Counsel -- As you know, we are waiting final word from you before proceeding to bring Mr. Spencer M. Beresford on board the first week in September. At that time Paul Dembling, the present General Counsel, is transferring to the position of Deputy Associate Administrator.
- 2. Associate Administrator for Advanced Research and Technology -No outstanding and available candidate from outside NASA has been found
 or suggested equal to those within NASA who have distinguished themselves
 in connection with the Apollo program (such as Dr. Robert Gilruth) so we
 plan to fill this position by promotion from within. Before making a
 final selection, I am working on a number of organizational changes aimed
 at providing a better focus for our work in aeronautics and tying our work
 in space technology closer to the major future projects recommended in the
 forthcoming report of the Space Task Group.

Non-Schedule C Career Excepted Positions:

- 1. Associate Administrator for Organization and Management -- The scope and title of this position may also change in the forthcoming reorganization. As Mr. Bell has been advised, I am considering Dr. Harold Asher of General Electric for this position. Mr. Fred H. Mansbridge was recommended by Senator Mundt, Senator Curtis, and others, but he lacks adequate experience and qualifications to be the top administrative officer of such a large and complex organization. As indicated below, we have also been considering him for the vacancy in the Office of Legislative Affairs.
- 2. Assistant Administrator for Industry Affairs -- I have narrowed down the field for this position to two candidates:
- -- The leading man is Mr. Daniel J. Harnett, presently Director of Contracts, Pricing, and Programs of the Northrop Corporation in California. He has had the level of experience we are looking for, and his experience with the Logistics Management Institute gives him a sound background in Government-industry relationships from both the Government and industry points of view. He is a political independent who has the endorsement of Senator Murphy and Governor Reagan.
- -- The other candidate is Mr. Howard P. Mason, now Vice-President, Western Region, of Aerojet General Corporation. He has a good record of industry experience relevant to NASA's operations and did an outstanding industry-Government relations job as Head of Aerojet's Washington Operations Office for several years. We first interviewed him sometime ago on the basis of an industry recommendation; his name was subsequently referred to us by your office. We understand that Congressmen Alphonzo Bell and Glenard Lipscomb endorse him, and that he is a registered Republican.

I expect to be able to advise you of the selection later this week.

3. Assistant Administrator for Technology Utilization -- The scope and nature of this position may also be altered as a result of reorganization. We had hoped to find a suitable person for this job among the candidates for the industry affairs position, but these--including the top two contenders discussed above--do not seem to have the depth of substantive understanding of technology and the dissemination of technical information needed to provide leadership in the technology utilization field. If I can find, within or outside NASA, a technical man with these qualifications and a good understanding of how technology can help in major national problems, I may decide to place him in charge of a broader new office dealing with economic and social applications, within which an individual with an industry-oriented background could serve effectively as Director of Technology Utilization.

One of the candidates for the position of Assistant Administrator for Technology Utilization was Dr. Charles C. Mack, presently with Philco-Ford, who was referred to us by your office. When interviewed, he first felt that the Technology Utilization position was not what he was interested in and that he preferred to be considered for the job of Associate Administrator for Advanced Research and Technology. When subsequently advised that his experience would not qualify him for that position, he shifted his interest back to Technology Utilization. He has some qualifications and experience as a technical man, but lacks the breadth and leadership qualities to work with industry and public groups in advancing the application of the broad range of technology emerging from the space program. His industry references indicate that he is not very good at supervising large groups of people. We have concluded, therefore, that he is not the man for the Technology Utilization job and will advise him of this shortly.

4. Deputy Assistant Administrator for Legislative Affairs -- We understand that Mr. John MacKenzie, whom your office suggested for a job in this area sometime ago but whose name was subsequently withdrawn, is now once again interested in this position. We have tried to arrange an interview, without success so far, but understand that he will be in touch with us again when he returns to the city. We understand that your office would like us to consider MacKenzie ahead of others suggested for this post, including Fred H. Mansbridge. As indicated in my May 5 letter, my plan is to fill the position with a man well enough qualified to move up into the top legislative affairs spot in a year or so after he has developed a good understanding of NASA programs and problems. Based on the interview with Mr. Mansbridge sometime ago, we do not believe that he has this promise. If we can find another spot in the organization where Mr. Mansbridge can make a contribution, we will invite him to come for another interview.

My understanding is that the formal clearance procedures outlined in your memorandum of May 22, 1969, do not apply to the Non-Schedule C Career Excepted positions listed above. I will, however, advise your office in advance of all appointments I propose to make to get your reaction.

For all senior NASA positions where candidates have not finally been selected, I will, of course, continue to welcome your suggestions of qualified candidates.

Sincerely yours,

Contraction of the contraction o

T. O. Paine Administrator

AURONAUTIOS AND SPACE ADMINISTRATION Honorable Harry S. Flemming

Special Assistant to the President The White House

Dear Mr. Flenming:

This is in reply to your letter of April 7, 1969.

The non-career appointive positions in the National Aeronautics and Space Administration are the two Presidential appointees (Administrator and Deputy Administrator) and seven Schedule C positions which are filled by appointment by the Administrator. The extremely demanding nature of NASA's missions and their world-wide public visibility make. it imperative that the positions be filled by this nation's ablest people in this field. Information on these positions is enclosed in the form of Attachment A to your letter.

Washington, D.C. 20040

Info To:

Destroy:

5/6/69

The status of actions in process and my current intentions on senior NASA positions to be filled or where a change is under consideration are set forth below. In this summary I have also included certain "career excepted" positions not listed on Attachment A, i.e., positions included in the 425 NASA positions which are excepted from Civil Service Commission jurisdiction by statute but are considered and treated as career positions.

For all of these positions I am, of course, considering all available qualified candidates whom you suggest as well as the most competent people we can locate in the U.S., including candidates from within NASA. President Nimon's Administration needs people in these top positions with nationally-recognized competence in aerospace science, technology, industry, or management, with appropriate advanced degrees or equivalent professional experience. I am sure you agree that as a highly-specialized research agency operating in complex and difficult new areas NASA could not do the job it must do for the Administration and the country if it comprenised the quality of its leadership. The problem is to locate, attract and hold these people, who are obviously in great demand.

There are now a total of five actual or prospective top level vacancies for which I wish to consider the best candidates who may be suggested:

- 1. Deputy Administrator
- 2. Associate Administrator for Advanced Research and Technology (Schedule C)
- 3. Assistant Administrator for Industry Affairs (career excepted)
- 4. Assistant Administrator for Technology Utilization (career excepted)
- Associate Administrator for Organization and Management (career excepted)

In addition, as your office has suggested, we are considering the possibility of replacing or reassigning the career incumbents in the positions of:

- 6. General Counsel (Schedule C)
- 7. Assistant Administrator for Legislative Affairs (career excepted)

With respect to the positions of Deputy Administrator, Associate Administrator for Advanced Research and Technology, and Assistant Administrator for Industry Affairs, we have contacted many people, including the top leaders in the aerospace industry, urging them to help the Administration locate the best possible man for each job.

I know that you will continue to assist me in every way you can to help me find the right men for these jobs. These are the qualifications that we need for each position:

1. The <u>Deputy Administrator</u> should be a man to whom both the Administration and I can look with confidence to guide the affairs of the agency as an alter ego to me when necessary as specified by statute. In addition, he will have important day-to-day technical executive responsibilities. He should be an internationally-recognized leader in acrospace science, technology or industry, whose appointment by the President will be acclaimed by the press and by the carospace community.

At this time I am considering or attempting to interest the following principal possibilities:

Countland Perkins
Leo Goldberg
H. Guyford Stever
Harvey Brooks
Colin Pittendrigh
Luis Alvarez
Norman Ramsey
Lyman Spitzer
Jesse Greenstein

Princeton
Harvard
Carnegie-Mellon
Harvard
Princeton
Berkeley
Harvard
Princeton
Palomar-Mt. Wilson

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Mr. Frank B. Jewett, formerly President of Vitro Corporation, was suggested by your office as a possibility, but I believe that he may be more suitable for the Industry Affairs or Technology Utilization positions. I have written him to see whether he is interested; if so, I will ask him to come for an interview.

2. The Associate Administrator for Advanced Research and Technology is one of the most important and challenging jobs of technical leadership and management in Government. The future of United States preeminence in aeronautics and space may well depend on the capabilities of the man who next fills this job. The caliber needed is exemplified by the previous incumbent, Mr. James Beggs, a former Westinghouse executive, whom President Nixon, as you know, appointed Under Secretary of Transportation.

At this time, I am considering or attempting to interest the following principal possibilities:

Wan W. Bearinger
Welko Casich
Wayland Griffith
I. Grant Hedrick
Donald A. Hicks
Vincent W. Howard
Roy Jackson
Robert G. Loewy
Ronald Smalt

Stanford
Honeywell
Northrop
Lockheed
Grumman
Northrop
Northrop
Northrop
University of Rochester
Lockheed

Affairs has normally been filled by an individual at the level of Vice President of a major aerospace corporation who has agreed to serve in the Government for several years. The last three incumbents were prominent Vice Presidents of Lockheed, Aerojet, and IBM. We need a man of similar caliber now for this job. As you know, the incumbent, Mr. Philip N. Whittaker, has been appointed by President Nixon to be Assistant Secretary of the Air Force for Installations and Logistics. Our Industry Affairs man, in addition to supervising our procurement, industrial relations, and related activities, is the senior NASA official concerned with proper functioning of our relations with industry, through which we accomplish about 90 per cent of our work.

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Prospects now under consideration include:

Spencer M. Beresford Daniel J. Harnett Frank B. Jewett, Jr. Allen Kauffman A. A. Landesco, Jr. William Patterson Lawyer
Northrop
Vitro
Litton
RCA
General Electric

I have included Mr. Spencer M. Beresford on this list, even though he does not have an industry background, because of his general qualifications and experience which might enable him to establish the necessary relationships with industry.

4. Assistant Administrator for Technology Utilization - The incumbent, Dr. Richard L. Lesher, is a professional economist who is leaving in May to accept private employment. Under his leadership NASA's technology utilization program has carried out pioneering innovations in the transfer of new technology from Government programs into the mainstream of the U. S. economy. This position also supervises our extensive scientific and technical publication and dissemination activities. We need here a person with the requisite understanding of the use of new technology in industry, a flair for innovation, and an understanding of computerized document systems. Several of the individuals we are considering for Industry Affairs are also the principal current possibilities for this position.

The position of Associate Administrator for Organization and Management has been filled since its creation about two years ago by Mr. Harold B. Finger, who has now, as you know, been appointed by President Nixon to be Assistant Secretary of HUD for Research and Development. For this job we need an individual of outstanding management ability, with an understanding of the special problems of managing major aerospace programs and with relevant accomplishments in Government administration, preferably in DOD or NASA. An understanding of NASA's programs and organization and their relation to universities and industry are very important. These factors, taken together, point in the direction of filling the position from within NASA, but if we can bring in a top-notch man from the outside with personal experience in NASA or DOD, we could follow that course. A man with strong aerospace management experience like Dr. Harold Asher of General Electric exemplifiles the type of person we are seeking here, and is the only outside candidate now under consideration.

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For General Counsel I am considering, at the request of your office, Spencer M. Beresford, whom I am also considering for Assistant Administrator for Industry Affairs as indicated above. His qualifications for General Counsel post are good, although not better than those of the incumbent, Mr. Paul G. Dembling. Mr. Dembling, a political Independent, is a long-time career civil servant with over 20 years service in NACA and NASA. Among many other things, he served with distinction on the Eisenhower Administration Task Force that drafted the bill that became the Aeronautics and Space Act of 1958, and played an important role in the work of the U.S. delegations to the UN Legal Subcommittee out of which emerged the treaties on the peaceful uses of outer space and the return of astronauts. He holds the MASA Distinguished Service Medal and is widely recognized in aerospace and legal circles for his competence. For these reasons I am reluctant to displace him unless this is clearly a matter of major and long-term importance to the Administration. If my final decision is to replace him, I would shift him to another senior position in NASA. The Deputy General Counsel in NASA is a career position filled by our top legal expert on NASA procurement and contracting. It is extermely important that we have an experienced man here to give legal oversight to our procurement and contracting. For this reason I am not now considering a change in this position.

The position of Assistant Administrator for Legislative Affairs in NASA is not a Schedule C position. It is now filled by Mr. Robert F. Allmutt, a career civil servant from our Langley Research Center, with training in both engineering and law. In this job we need a man who not only can be relied on to represent the agency and the viewpoint of the President in dealing with Congress, but who also understands the NASA technical program and has the facility for explaining complex technical matters. to members of Congress and their expert committee staffs. The incumbent's legal and technical background is extremely helpful in working with our top technical officials in the preparation and presentation of MASA's Congressional testimony. His engineering and legal degrees also made possible his past service with distinction as NASA's Chief Patent Counsel. Although he is registered as a Democrat, he was appointed to the Legislative Affairs position as a career advancement and is serving in this office on a non-partisan basis, as both the Republicans and Democrats he deals with in Congress have pointed out to me with some force.

As I have indicated to your staff, I do want to have the best possible man in this position, and will gladly consider and interview any candidates you may propose. As you know, Mr. John McKenzie's name was withdrawn. We have had a few applicants through Congressional channels, but none have come close to meeting the minimum qualifications. I understand that your office will be referring additional candidates, and if we can find a good man who could become qualified to handle our complex technical program through experience, we could start him in as Deputy. He could then learn while following through the rest of the legislative cycle the NASA FX 1970 authorization and appropriation bills, our major—legislative problems this year.

Since Mr. Allnutt has been recommended to me by the ranking Republican members of our House and Senate Space Committees with which MASA's Office of Legislative Affairs is primarily concerned, I do not propose to take any immediate action on this job other than to continue to consider the candidates you refer to me. I will be seeing soon Mr. Peter Millspaugh whom your office has suggested for the Deputy position, but my present thinking is to hold the Deputy job for possible use as outlined above.

I appreciate very much and share whole-heartedly the desire of the President to have the best possible appointments made as soon as possible to our unfilled positions, and am devoting all the time possible to this matter. I appreciate very much the assistance you are giving me.

Sincerely yours,

T. O. Paine

Administrator

Attachment

NASA Key Positions

Presidential Appointments:

Administrator Deputy Administrator T. O. Paine

Other Executive Salary Positions (Appointed by Administrator):

Associate Administrator
Associate Deputy Administrator
Deputy Associate Administrator
General Counsel
Associate Administrator for Manned
Space Flight
Associate Administrator for Space
Science and Applications
Associate Administrator for Advanced
Research and Technology

*H. E. Newell

*W. H. Shapley

ince the

*P. Dembling

*G. E. Mueller

*J. E. Naugle

Vaccout

Other Key Positions (Appointed by Administrator):

Asst. Administrator for Public Affairs

*J. E. Schee
*R. Allnutt

Tod. Aftens & weest

P Syr With School of William Allnutt

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Other Positions Open Soon:

Associate Administrator for Organization and Management - Towner formerly frager NASA Historian

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NAME OF ASPOINTEE	AGENCY: National	Acronautics and FOLITICAL AFFILIATION	VOTING STATE	TYPE, OF TRAMEMORPH	TNEEDELON .
Thomas O. Paine	Administrator	Democrat	California	Presidential/Senate	Appointed.
Vacant	Deputy Administrator	34 PF		Presidential/Senate	Scaking highly qualitied individual.
Nomer E. Newell	Associate Administrator	Republican	-D. C.	NASA Administrator/ Schedule C	Decision made to retain incumbent.
Willis H. Shapley	Associate Deputy Adminis- trator	Democrat	D. C.	NASA Administrator/ Schedule C	Decision made to retain incumbent.
Vacant	Deputy Associate Adminis- trator		30 MP	NASA Administrator/ Schedule C	Keep vacent pendineed in possible future reorganiza
					or use for quality person pending finance.
Paul G. Dembling	General Counsel	Independent	Maryland	NASA Administrator/' Schedule C	S. M. Beresford (retain incumbent
George E. Mueller	Associate Administrator for Manned Space Flight	Republican	D. C.	MASA Administrator/ Schedule C	Decision made to retain insumbent
John E. Naugle	Associate Administrator for Space Science and Applications	Democrat	Maryland	NASA Administrator/ Schedule C	Decision made to regain incumbent
Vacant	Associate Administrator for Advanced Research and Technology			NASA Administrator/ Schedule C	Seeking highly q fied individual.

September 22, 1969

MEMORANDUM TO ROBERT P. MAYO

Attached is a report to the President from Tom Paine recommending that the President choose Option 2. Since this option provides the President the flexibility of moving the stipulated date for the Mars landing in either direction and since it is a balance between an indefinite deferment of the Mars trip and an immediate decision, I support the Paine recommendation. May I have your comments to include with a memorandum to the President along with Tom Paine's memo.

Peter M. Flanigan

cc: with copy of Paine's letter (Sept. 19, 1969(to the Pres. with attachments to Tom Whitehead

A



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION WASHINGTON, D.C. 20546

OFFICE OF THE ADMINISTRATOR

September 19, 1969

The President
The White House
Washington, D. C. 20500

Dear Mr. President:

This letter provides my recommendations for further actions you may wish to take on the report of the Space Task Group.

The report and your initial reaction to it are receiving positive and widespread public support. Representative editorials are enclosed. Particularly noteworthy are the favorable comments of the New York Times and Washington Post, papers which are often critical. This favorable environment suggests the desirability of an appropriate follow-up.

In considering which of the STG Report's three options you may wish to select, other problems currently facing the nation must obviously be taken into account. Option 1, the most vigorous of the proposed programs, clearly offers this nation the greatest opportunities and greatest challenge in the long run. However, it is the most expensive in the near term when resources are most constrained. Option 3, which defers for at least 20 years the challenge of a manned mission to Mars, lacks vigor and fails to seize fully the opportunities available.

My recommendation, therefore, is that you select Option 2, a balanced and challenging program which includes as major objectives the earth-orbiting space station, space shuttle and nuclear stage in the 1970's, leading to a manned mission to Mars in the 1980's. As the nation progresses toward meeting its other needs during the next few years, I would hope that we may be able to reexamine this and move closer to Option 1.

In the near future I believe it would be advantageous for you to make a public statement of your view of the nation's future in space. As I mentioned at our meeting last week, the dedication of the new Lunar Science Institute at Houston might afford an appropriate occasion. We could arrange the dedication for any date convenient to you in the next month.

I would be happy to discuss these matters further with you at any time.

Sincerely yours,

T. O. Paine Administrator The news media reaction to the Space Task Group report has been good. The larry broke in two parts. The first followed the briefing for you at the White House and the press reported that both a "crash" program and a "going-out-of-business" program had been rejected by the President. The immediate reaction was favorable. The second wave of reaction, which is still current, followed the press briefing by the Vice President this week.

Today' Washington Post took a reasoned approach and is typical of the kind of reaction we are hearing from individual members of the press and what we can anticipate from editorial comment in the near future. It is interesting that there has been no "selection" the news media of a lavorite option—all seem to be judged as reasonable and rational.

The Post said reptance by the President of the basic recommend. It eliminate talk of abandoning manned space flight, which would be a foolish course of action, or of proceeding toward Mars in a crash effort to get there as quickly as possible.

"It is difficult for anyone to reach any other conclusion except those who blindly opposed manned space travel or those who, equally blindly, favor giving it the nation's top priority."

The Evening Star said the decision not to engage in a crash program is a sensible, realistic view.

The New York Times said, "If the President made a commitment to a manned landing on Mars, as his press secretary suggested, it was of a very different character

from the commitment with regard to the moon that President Kennedy made in 1961. Mr. Nixon indulged in no dramatics; did not appear before Congress; and he set no inflexible timetable to be achieved at almost any cost......

The extreme options Mr. Lixon is said to have rejected were always unreal. There was never any prospect that this country would abandon manned space flight entirely, or, conversely, that the United States would give a manned flight to Mars first priority over its many pressing domestic problems."

A Spaceman's Sense of Balance

The report of President Nixon's Task Group on Space and, indeed, even the speeches to Congress of the three men who rode in Apollo 11 have brought some rationality back to the discussion of whither the space program. That report recommends that the President commit the nation to a "long-range goal of manned planetary exploration" aimed at a landing on Mars in the early 1980s, the mid-1980s, or the 1990s. Acceptance by the President of the basic recommendation would eliminate talk of abandoning manned space flight, which would be a foolish course of action, or of proceeding toward Mars in a crash effort to get there as quickly as possible.

It is difficult for anyone to reach any other conclusion except those who blindly opposed manned space travel or those who, equally blindly, favor giving it the nation's top priority. Space exploration ought to proceed in an orderly way, maximizing at every step the advance of knowledge and the utilization of it here on earth. In fact, it is not at all clear that the President should set a "goal" of a Mars landing in any particular year.

What is important is for the nation to push ahead on the immediate recommendations of the Task Group—exploring the moon, developing the tools that are needed for systematic exploitation of our space travel capability, and extracting from the space program more benefits for those of us who are earthbound. This means that NASA would continue its moon flights, perhaps reaching the day in the 1970s when semi-permanent colonies would be established on the moon's surface. At the same time, it would push development of a nuclear rocket engine, which would make long-range space travel more feasible, a space vehicle that could be landed on earth and used over and over again, which would reduce the costs of each mission sharp-

ly, and a space station to hold a dozen or so men that could be flown in orbit around the earth or the moon or, when the time comes, Mars.

This kind of program would keep NASA operating for a while on about the budget it now has. It would have the advantage of allowing the agency to keep together the remarkable team of scientists and engineers it has created by giving them new and interesting problems to solve. At the same time, it would encourage those in NASA who want to tailor the space program to produce more information directly useful in the solution of earthly problems—surveys of natural resources, weather prediction and control, and so on.

Although parts of the speeches the three astronauts of Apollo 11 delivered to Congress Tuesday were open pleas for money for future space flights, they were carefully balanced by the recognition each man gave to the needs of domestic programs for the funds that might otherwise be spent in space. The words of Neil Armstrong, the first man to walk on the moon, are worth repeating because they eatch the spirit of the delicate balance that must be made between the dreams for adventure and the practical realities of life:

Several weeks ago, I enjoyed the warmth of reflection on the true meaning of the spirit of Apollo. I stood in the highlands of this nation, near the continental divide, introducing to my sons the wonders of nature and pleasures of looking for deer and elk. In their enthusiasm for the view, they frequently stumbled on the rocky trails, but when they looked only to their footing, they did not see the elk.

To those of you have advocated looking high we owe our sincere gratitude, for you have granted us the opportunity to see some of the grandest views of the Creator. To those of you who have been our honest critics, we also thank, for you have reminded us that we dare not forget to watch the trail.

The Zvening Star

With Sunday Morning Edition

Published by THE EVENING STAR NEWSPAPER CO., Washington, D. C.

, CROSBY N. BOYD, Chairman of the Board

JOHN H. KAUFFMANN, President

NEWBOLD NOYES, Editor

A-10 **

THURSDAY, SEPTEMBER 18, 1969

Slow Trip to Mars

Although President Nixon supports an American commitment to land a man on Mars, he has made clear through Press Secretary Ziegler that the undertaking will not involve a high-speed, extra-costly crash program that would ignore "budgetary considerations."

This is a sensible, realistic view. It is in keeping, in fact, with the balanced space program that has been recommended by a special panel of advisers in the report just accepted and endorsed by Mr. Nixon. The panel, headed by Vice President Agnew, includes NASA Administrator Thomas O. Paine, Air Force Secretary Robert C. Seamans and White House Science Adviser Lee E. du Bridge—all well-qualified to offer sound counsel on the subject.

These and other distinguished members of the study group have given the President three options as to the timing of a landing on Mars—in 1983, no sooner than 1986, or around the year 2000. With the President's concurrence, the panel has rejected two alternatives as extreme. One would have the country go all-out—more or less in the manner of the Apollo moon landing—to put an American on Mars in the shortest possible time, regardless of cost. The other, on completion of the Apollo program, would put an end to all manned space projects.

What seems predictable is that when

he makes his decision on the timetable for Mars, Mr. Nixon will be governed by what its effects may be not only on other space ventures, but also on downto-earth human requirements and the amount of money available to meet them. Meanwhile, he has indicated that he fully agrees with the panel's recommendation that the space program, wholly apart from the Apollo landings still to come, should be pressed forward with vigor through the 1970s. The program would include unmanned probes of the Martian surface and a "grand tour" of the environs of the outer planets. Also, strenuous efforts would be made to develop a re-usable shuttle vehicle that would be capable of remaining in orbit, with large crews, for months at a time.

One of the important aspects of such a program is that it would provide for projects numerous enough and significant enough to insure against a grave weakening or withering away of the great and vital complex of scientists, technicians, administrators and technological plants now engaged in space work. It is work full of immense actual and potential value. And it will lead, among other things, to the day when man will almost certainly set foot on Mars and go on from there to explore deeper and deeper in the firmament.



The Washing ows

A SCRIPPS HOWARD NEWSPAPER "Give light and the perote will find their own way."

Richard Hollander,

Ray F. Mack. Business Monager

THURSDAY, SEPTEMBER 18, 1969

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ir. Metropoliton Washington: By carrier, 37c per week; \$1.60 per month. By mail: 3 months, \$5.25

A cool trip to Mars

THE special space Task Group headed by Vice President Spiro T. Agnew has soundly advised the President to adopt a slow-but-sure approach to a manned landing on Mars.

Their report, submitted yesterday, proposes landing a man on Mars no sooner than the early 1980's, perhaps not before 1986 and possibly not u til the life 's.

Mr. Agnew says he favors the 1986 target ate as a reasonable compromise that would muster "broad scientific and political support."

This would mean a National Aeronautics and Space Administration (NASA) budget of around \$4 billion for each of the next three fiscal years, rising gradually to a peak of \$8 billion in the 1980's.

Thus, the nation would ease into its Mars commitment instead of adopting the expensive race-ahead tactics of the \$24 billion Apollo moon program.

But even a cool trip to Mars will cost plenty — and the space scientists hope to get the most for their money.

For instance, the Task Group members — Mr. Agnew, Thomas O. Paine of NASA, Air Force Secretary Robert C. Scamans and Lee A. DuBridge, the President's science adviser — proposed reusable space ships instead of present craft, which shed their multi-milliondollar parts like throw-away beer cans.

And they offered their alternative timetables so that the pace of the Mars project could be tailored to the availability of funds.

In short, the President's advisers are saying it would be a mistake to get out of space — but a mistake to plunge ahead regardless of cost.

They recognize the Mars mission must take its place alongside the other national needs — some of them very pressing indeed.

The e c o n o m i c spin-off benefits of space technology, the challenge of new worlds beyond our own and the potential military significance of space ventures amply justify the kind of Mars program the Task Group proposes.

Slow Boat to Mars

The Apollo 11 astronauts were low-pressure advocates of the space program in their Congressional appearance yesterday. No one listening to them could doubt that they would like to see Americans walk on Mars as soon as possible. But they made it plain that they knew there are many problems on earth that cannot be ignored. The result was a modest plea for a continuing space program having an appreciable but hardly an overriding priority.

That same reasonable spirit seems to have animated President Nixon's reaction to the report of a study group on space exploration. If the President made a commitment to a manned landing on Mars, as his press secretary suggested, it was of a very different character from the commitment with regard to the moon that President Kennedy made in 1961. Mr. Nixon indulged in no dramatics; he did not appear before Congress; and he set no inflexible timetable to be achieved at almost any cost. About all he seems to have done is to indicate that it would be a good idea to land Americans on Mars well within the next half century and to promise that he'd try to help the project along within the limits of available resources.

The extreme options Mr. Nixon is said to have rejected were always unreal. There was never any prospect that this country would abandon manned space flight entirely, or, conversely, that the United States would give a manned flight to Mars first priority over its many pressing domestic problems.

The intermediate path that will be followed in the years ahead will depend upon the most varied factors from the progress made in curing the ills of the cities to the new challenges in space that the Russians and others are likely to pose. The space age is here to stay, but the precise contours of how far and how fast this nation will go in the decades ahead will have to be determined on a pragmatic basis, almost year by year and Administration by Administration.

Mars Can Wait

The Space Task Group's recommendation against making an early, hard-and-fast decision on scheduling a manned expedition to Mars was sensibly made and has been sensibly accepted. The project is much too ambitious and will be much too costly to be fitted headlong to a timetable. Mr. Nixon has approved a "balanced" space program which contemplates the possibility of a Martian landing perhaps in the mid or late 1980's, perhaps before the end of the century, perhaps not until sometime after the year 2000.

So far as can be seen now the "balance" is the strongest point of the endeavor to formulate plans for the future space exploration. The task group proposes that in the next decade the United States un-

dertake instrumental tours and probes of the planets (including Mars of course), further manned study of the moon, development of a reusable space shuttle which could serve as a large space laboratory and of a nuclear-powered rocket. Much of this would be essential to an attempt to put men on Mars in any case, and all of it promises to advance knowledge of the solar system.

As for Mars, the eagerness to reach it has to be tempered by a very sober, prudent consideration of all the pressing needs of the country and the earth. It is not something to which we can, or should, commit ourselves and the future in a fit of adventurous and extremely expensive impatience. Fortunately, it seems that scientists and Washington are now wisely agreed on that.

THE CHRISTIAN SCIENCE MONITOR Wednesday, September 17, 1969

Pace for space

President Nixon's task force on space offers useful guidance for the American space program over the next decade. A manned orbiting station, a space shuttle, a nuclear-powered rocket, unmanned probes, and satellites for communication, meteorology, and navigation—these set the tone and pace for the postmoon phase.

The United States needs a vigorous space drive. This is a vast, productive, challenging frontier. There must be, of course, a thoughtful sharing of funds with the more urgent and immediate programs nere on earth. A proposed \$4 billion budget for each of 10 years may be overly ambitious. But even the eventual manned landing on Mars should not be jettisoned.

An orbiting space station would be a

gate-opener for further explorations, besides affording essential experience in space living. The space shuttle would, economically, get men to the orbiting station, bring intelligence data back to earth, launch unmanned vehicles. The nuclear rocket would power, someday, the great ship for Mars.

The essential aerospace companies need a continuity if they are to maintain their talent assemblages and financial stability. Someday, the American space program may become a worldwide project, including the Soviets. But as of now it is up to President Nixon to assure that the United States carries on adequately with its well-begun space odyssey.

THE WHITE HOUSE WASHINGTON

Date Sept. 19, 1969

To: Tom Whitehead

FROM: Peter Flanigan (Jon Rose)

FYI X

Draft reply____

Please Handle

File

Other remarks

Tom White TH. ITE HOUSE WASHINGTON August 11, 1969 Alex Butterfield To: C. William O'Neill (ext From: NASA Testimony In Executive Session August 5 before the Committee on Aeronautical and Space Sciences, Dr. Paine headed a detailed NASA presentation of the alternatives for future planetary and manned flight programs. Dr. von Braun dealt with a manned expedition to Mars in the 1980's as a focus for a space program in the 1970's. The presentation was not a proposed program, but showed what is technically feasible for the US and USSR. For a manned trip to Mars in 1981, only

NASA Testimony In Executive Session August 5 before the Committee on Aeronautical and Space Sciences, Dr. Paine headed a detailed NASA presentation of the alternatives for future planetary and manned flight programs. Dr. von Braun dealt with a manned expedition to Mars in the 1980's as a focus for a space program in the 1970's. The presentation was not a proposed program, but showed what is technically feasible for the US and USSR. For a manned trip to Mars in 1981, only the space station/mission module and the space shuttle, which are common to any future manned flight program, would have to be started in FY 1971. The Committee was interested in the presentation and in the new concept of low cost through commonality and reusability of equipment. Dr. Paine believes that the leaders and most of the Senate Space Committee members will respond positively to a Presidential request for a strong space program with clear goals. At Sen. Smith's suggestion, the transcript of this hearing will be published.

cc: Ken Cole

OFFICE OF THE WHITE HOUSE PRESS SECRETARY

THE WHITE HOUSE

PRESS CONFERENCE OF

THE VICE PRESIDENT,

DR. ROBERT C. SEAMANS, SECRETARY OF THE AIR FORCE,
DR. THOMAS O. PAINE, ADMINISTRATOR,
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION,
DR. LEE A. DUBRIDGE,

SCIENCE ADVISER TO THE PRESIDENT,

LIEUTENANT COLONEL BILL ANDERS, EXECUTIVE SECRETARY OF THE NATIONAL SPACE COUNCIL. THE ROOSEVELT ROOM

AT 3:20 P.M. EDT

MR. WARREN: The Vice President is here this afternoon to discuss the Space Task Group report to the President and with him he has Dr. Lee DuBridge, Dr. Thomas Paine of NASA, and Secretary of the Air Force Seamans.

Also here today is a gentleman I am sure you all remember, Lieutenant Colonel Bill Anders, who is retired from the Air Force and who is now Executive Secretary of the National Space Council, of which the Vice President is the head.

I will turn this over now to the Vice President.

THE VICE PRESIDENT: Ladies and Gentlemen:

If I can just review the beginning, the origin of this Space Task Group for you for a minute.

On February 13, the President appointed a group to develop a recommendation for the United States' space program to take in the post-Apollo period. He requested us not only to prepare a coordinated program, but to look specifically at the budgetary considerations.

The principles of the Space Task Group have already been introduced and in addition to them, of course, we had, as observers working with us and cooperating with us in our explorations, Secretary Johnson of State, Dr. Glenn Seaborg, Chairman of the Atomic Energy Commission, and Robert Mayo, the Director of the Budget.

We had quite a few far-reaching meetings in developing these recommendations which have now been distributed you, and I want to point out that there are additional copies of these available if you do need them.

The results of our explorations into a subject which is quite difficult to cope with because of the diversity of opinion and because of the inherent problems

- 2 of visualizing what is actually going to take place several decades from now, monetheless did develop a unanimity of opinion within a certain spectrum among us. As the report indicates, as far as NASA is concerned, we came up with a recommended three programs, each having different budgetary levels and each having as a goal -- and I emphasize the word "goal," and not a commitment -- a manned landing on Mars before the end of the century. We rejected a crash program of the magnitude that would turn loose every bit of our technological ability toward achieving this manned landing as quickly as possible, regardless of the budgetary limitations, for the obvious reason that there are competing priorities in a difficult time of inflation that makes it impossible for us to move in this direction. We also rejected foregoing the substantial benefits that have come out of the APOLLO program, the benefits of National prestige, so aptly and cogently drawn by the APOLLO 11 astronauts in their appearance before the Joint Session of Congress yesterday. We presented, rather, a balanced program, not unduly focusing in its developmental stages upon the manned space program, but spreading our abilities over space missions such as navigation, meteorology, communications, the space science program, the enhancement of National security and increased international cooperation and participation and the development of new capabilities. We came up with the options with which you have been provided. I can't say what my principal colleagues on the group would like to suggest as their individual choices as far as these options are concerned. I think you also have in your possession a letter from me to the President indicating that my personal preference is Option II, which allows a clear acceptance of the Mars

I think you also have in your possession a letter from me to the President indicating that my personal preference is Option II, which allows a clear acceptance of the Mars landing goal sometime around 1986, but nonetheless, as Bill Anders pointed out to me today, leaves us free to be flexible by evaluating the results of precursor flights by unmanned vehicles, testing the desirability of the time frame in which we should really make the final designation of a Mars landing date.

Option I would permit a landing on Mars in the early 1980's and would require a maximum annual expenditure of \$9 billion in 1980.

Option II, the one I personally recommended, would include the launch of a manned Mars mission in 1986, about three years later than Option I. The maximum annual expenditure for this option would be about \$8 billion, occurring in the early 1980's.

- 3 -Option III includes initial development of a space station and reuseable space shuttles, which are also included, incidentally, in Options I and II, but defers a decision on a manned landing on Mars while maintaining the option of accomplishing this goal after 1980, but before the close of the century. Now, the Task Group, as I said, rejected these two outside limits, the idea of a crash program, and the other, the idea of foregoing any future manned flights after the phase out of APOLLO. The Task Group also considered and reported to the President on defense aspects of the Nation's space program. It recommended continuing coordination between the Department of Defense and NASA, particularly in the development of the new space transportation capability. The Task Group recommended broadening the applications program, which I have already indicated, such as air and ocean travel control, navigation system, environmental monitoring and forecasting, earth resources, surveys and communications. We recommended increased utilization of the National Aeronautics and Space Council, the council which Bill Anders now heads, as Executive Secretary, not only in coordinating interagency space interest, but in conducting a continuing re-assessment of the space program. That, briefly, is a summation of the non-technical parts of our report. I do want to say, before I turn the meeting over to Dr. DuBridge, who will comment on the scientific aspects of the report, that this has been one of the most stimulating and profitable groups that I have ever had the pleasure of working with. I want particularly to commend the agencies represented by the principals, particularly Dr. Russell Drew, who is with us today, and who made the presentation of the final result of our studies to the President the day before yesterday. Dr. DuBridge, would you like to add something? DR. DU BRIDGE: Thank you, Mr. Vice President. This is Russell Drew right here, and I want to commend him, too. The staff work on this report was coordinated through my office and Dr. Drew was my chief aide in this respect. He did a marvelous job inhelping to bring all the ideas together, sorting them out and bringing unanimity in the Task Group and in the staff people who were concerned with this report. I know that some of the more spectacular features of this report will be the matters that have to do with the large budget expenditures, the important space transportation system, the important space stations, and particularly, the Mars landing. MORE

- 4 -I would want to say, however, that in all three options there are, from the scientific community's point of view, very heavy emphasis on important aspects of proceeding with science and applications of this program. All three options contain heavy emphasis on earth applications, satellites, for studying the geology, the geography, the atmosphere of the oceans of the earth and bringing space technology directly and immediately to the benefit of the people on earth. All three programs also consist and include heavy emphasis on scientific programs, to extend our scientific knowledge of the earth itself, of the moon, through additional lunar expeditions, interplanetary space and additional scientific information about the moon and the planets. They include the grand tour of the outer planets at some time in the late '70's when these grand tours become possible because of the peculiar lineup of the planets which occurs in the late '70's and which will not occur again for another 100 or 150 years. This will be a most important scientific enterprise which is included in all of these options. Therefore, I think the important part of these reports having to do with the scientific community, will be the earth applications and the scientific programs which are mixed up, however, with both the manned and the unmanned programs because the manned programs, earth satellite programs, and the manned landing on Mars will all also have important scientific components. That is why we call it a balance program. It aims at applications and scientific objectives and exploration objectives by using both manned and unmanned technologies. Finally, there is heavy emphasis in the report on international collaboration. I am leaving tomorrow morning with a group of colleagues to travel in several countries in Europe in which we will discuss general matters of scientific collaboration with these countries, including questions of how we can best collaborate in the space field. I think that is all I need to say, and we will now, all of us, be ready to try to answer your questions. Dr. DuBridge, do you have any recommendation on the options yourself? DR. DU BRIDGE: I am not putting in any special personal recommendation, because I think the choice between the three is possibly a matter of budgetary consideration, and I think that should be left to the President. Dr. DuBridge, you have said recently that there is no possibility or a very great unlikelihood of life on Mars, so how do you rationalize the sending of men there to look for life? DR. DU BRIDGE: Well, there are many other things that men will look for besides life. Nobody ever expected to find life on the moon, either, and yet what the astronauts discovered there and the analysis of the materials that they brought back, which are undergoing a very exciting analysis and interpretation, has revealed a great wealth of information MOPE

- 5 -

about the nature of the moon. Whether or not there is life on Mars, seeing Mars close up and bringing back samples of the Martian surface will be a great event in scientific history.

Q When does the President have to make his decision to be able to get one of these options into motion?

DR. DU BRIDGE: The only option that requires a very early decision on the Mars project is Option I, in which the decision would have to be made quite soon to get going with that. It would require the decision on Mars by 1974 if Option I were to be undertaken. It could be a little bit later on Option II and, of course, still later on Option III.

Q Mr. Vice President, may we ask you how big a factor was it in reaching your decision on which of these options to go with was what the Soviet's capabilities are on making it in the future, and if the President adopts your option, what are the chances of the Soviet Union staging a manned landing on Mars first?

THE VICE PRESIDENT: To answer the first part of your question, almost no consideration, because as we developed these options, all three of them are flexible enough to allow modifications to take place and accelerations to take place in the budgetary end of things, the funding of the programs to move them up should it be indicated by some future development on the part of the capability on the part of the Soviets or some other nation that might make us wish to, as we did in the pre-Apollo days, undertake a more vigorous and more expensive approach to the whole question.

The flexibility is built in to these options and doesn't require us to react at the present time to anything that is happening outside our own space program.

I might add here that in Table 2 of the booklet that has been distributed, you will see for fiscal year 1970 the funding levels are \$3.9 million for each of the three options. In 1971, it moves to \$4.250 billion for 1971 on Option 1, but only \$3.950 million for II and III. From that point on, II and III maintain a constant level together, all the way up to 1978, which is the first place that Option II takes off and starts to go up.

Q If we may, Mr. Vice President, what are the chances that the Russians will beat us in terms of a man on Mars?

THE VICE PRESIDENT: I think Dr. Paine would probably know more about the developments of the Soviet scientific capability than I would. We have not seen very much in the way of information advanced through the media from the Soviet Union on any space activity.

We understand that they are still interested in this area. They are not, by any means, leaving the field to the United States, but maybe Dr. Paine would like to comment on that.

- 6 -DR. PAINE: That is a good statement. Mr. Vice President, were it not for the budget considerations, would you have favored Option I? THE VICE PRESIDENT: No, I don't believe so, because I personally believe that although we need this long-range goal, that is, as the APOLLO program named as a simple objective the conquest of the moon to the feet of man, while we need this goal we should wait until we can establish through our precursor flights of unmanner satellites how valuable it is for us to go to Mars at any particular moment. When we have such difficult budgetary competition taking place between the domestic problems of the country and the need, to get on with this type of thing, we want to know exactly what the benefits are going to be as far as we can and we need these precursor flights to give us some idea of the potential benefit of the flight. Dr. Paine, under your cheanest budget, would you be able to hold together your space industrial complex, your machine, or would it fall apart at the low rate of spending on the third option? DP. PAINE: No. All three of these options will hold together the team and indeed will give them a major challenge. As the Vice President explained, the principal difference between the options is budgetary, how long you string out the programs in the future. Dr. Paine, which option do you opt for? DR. PAINE: I have not yet made my recommendation to the President, and I am considering this very carefully. I think that the program itself in any one of the three options is the thing that so far we have out together with a great deal of care. All three of these programs are programs that we in the Task Force and the observers unanimously endorsed. The question of which you select has to get you into the question of Mational priorities, and together with many other people, I share the view that we are not moving ahead in many other areas as rapidly as we should be. We are faced with problems of inflation. When I make my recommendation to the President, it will be on the basis of taking these things into consideration, also. You told the Senate Space Committee last month that a manned expedition landing on Mars in 1932 would not, in your estimation, be a crash program. Have you changed your mind since then? DR. PAINE: It would not be a crash program, but it would certainly be a flat-out program that would demand that we were successful in everything that we undertook and it would require substantial expenditures. You will notice that all of our "ars programs are predicated on the availability of nuclear propulsion, which will make this expedition a far more economical and practical thing to do. It does, however, require that we come up with MORE

a successful answer to the problems we face in this area. We are making very good progress in nuclear propulsion. We are very pleased and we, therefore, felt that the Mars expendition should follow and take advantage of nuclear propulsion which would not only make this an expedition that would have far more capability, but at the end of the expedition, as our testimony shows before the Senate Committee, we would still have the space ships in earth orbit ready to be refueled and resupplied and set forth again. So the Mars expedition in the 1980's, of the type that we are talking about, is a very different proposition from the one-shot expendable SATURN mission of the 1960's. Dr. DuBridge, when you were talking about the timing of a Presidential decision, were you talking in terms of months or what, when you said soon? DR. DU BRIDGE: I thought the question was how soon would the President have to make his decision in regard to the Mars landing. The answer which Dr. Paine gave was in Option I in 1974, and the other options at corresponding later periods. I hope the President's choice among these three general options will be made rather soon. He has not given us any indication of how soon, but I have ever expectation that it will only be a few weeks before the President indicates his preference among these three ontions. Will the Task Force stay organized to advise the President further? DR. DU PRIDGF: We will stand by to answer any questions which he might like to raise, but we consider that our task has been completed now. Dr. Seamans, what would the DCD use the space shuttle for? It has been recommended that it jointly enter into studies with NASA. What would vou use it for? DR. SEAMANS: The DOD is very interested in the possibility of the space transportation system, as with the recoverable booster and snace craft into orbit, not for a manned program, but because there are a large number of unmanned payloads that the Department of Defense is putting into orbit, and if a reliable, recoverable space transportation system could be developed, we believe that the cost of our program in the future could be materially reduced. Dr. Paine, do you envision a space craft that could land men and take men to Mars at that time would also be useful for fly-bys to Juniter and perhaps other planets? DR. PAINE: The same type of space craft that would take men out to Mars and back would have a number of other applications. It certainly would be excellent for Venus expeditions. It would be a very good low-cost way to shuttle men back and forth to the moon. MOPE

MORE

-9-Does this mean you can wait until 1974 before you would have to commit yourselves to a Mars decision? DR. PAINE: Yes. We would not start developing Mars systems equipment until the 1974 period. When would you have to commit to the Mars landing? DR. PAINE: 1974. That is the specific part. It is 1974 for Option I. For Option II? DR. PAINE: For Option II you could go as late as 1977 -- 1976 would probably be a better date. Is there any shut-off date, Dr. Paine, in the production of a SATURN V? Are you just going to go on making those? DR. PAINE: At the present time we are keeping the team together to produce the SATURN V's. We are producing components for them. We have not yet reached a decision as to what the terminal number will be or the rate at which we will proceed in the future. We still have the teams together, the production lines in place. It is still three a year? DR. PAINE: Yes. Dr. Seamans, do you have a personal preference as to which option should be chosen here? DR. SEAMANS: I might point out that there are two sets of options. There is a set of options for the Department of Defense which we have not been discussing. This will have to be decided on a case-by-case basis rather than really between options as we go ahead. As far as the NASA program is concerned, I felt very strongly from the start that from the present vantage point of our space program, having achieved the lunar landing and other achievements, that we should exploit this capability to the maximum extent for scientific purposes and for the service of mankind here on earth. I am very happy with all three options because they all show an increase in this exploitation area above the present level that we now have in the NASA program. So, I would say between the options it becomes a question of the budget, However, of the various items, the big budget items on which the decision will hinge, I personally would like to see an early experimental program to determine whether the space transportation system is really in the cards or not because this could have impact, as I have already said, on the DOD effort. Dr. Paine, what is the development cost of the space shuttle and space station? Do you have any estimate? MORE

-10-DR. PAINE: I don't have those numbers with me. We are preparing the backup material which will be available this Friday, that MASA submitted to the Space Task Group which has a breakdown of all these programs. DR. DU BRIDGE: The annual costs are shown on the chart on Page 25. It shows the component which the shuttle will occupy during the first few years of its development and also the component which would be attributable to the space station alone during those years. You can add up the areas of those curves and get the total numbers. Dr. DuBridge, why are you handing us three options? Why aren't you just telling the President that we looked at all of these things, the pros and cons, and here is what we have looked at and we would like you to go with one of the options. Why are you telling us about three options? DR. DU BRIDGE: I think it would have been inconsiderate for us to say to the President, here is one program and it is the only one you have to chose from. There are many other things that the President must consider as he considers the space program, such as our fight against inflation, the problems of welfare, the many other problems which face the nation. Only in the President's office can all of these considerations and priority problems be brought together so that a decision can be made bringing in all aspects of our national welfare and national prosperity. Therefore, I think it would have been a little, let us say, inconsiderate, for us not to have given the President several options, all of which have components which we believe are valuable and important and which we believe capitalize on the great technological advances and scientific advances that we have seen in the last ten or twelve years and which give us the means of moving ahead, but leaving it to him to chose the pace at which this motion shall occur and in making this determination in consideration of all other national priority problems. I am not saying why are you giving him three choices. I am saying, why are you telling us about it. Isn't that a little on the political side? DR. DU BRIDGE: We are telling you exactly what we told the President. The President felt that it would be desirable for us to present to the public exactly the report that we presented to him. So this is precisely the report that we gave to the president with the attachments. There is a classified attachment from DOD given to the President which is not distributed to the press. So we are simply coming clean with you and telling you exactly what we told the President. That was his desire. Dr. Paine, when are you going to make your recommendation to the President? DR. PAINE: I will probably be making my recommendations in about a week. MORE

. . . -11-I have not had a chance to look at this except only very briefly, but I saw in Option II and III that you had a lunar surface base station for 1983. Would you say on what level that would be and how many people would be there? DR. PAINE: This is predicated, again, on the success of our space station module which will give us the capability of keeping six to twelve men safe in orbit in space for substantial periods of time. We propose that toward the end of the 1970's, if we have a successful nuclear propulsion capability, to move one of these space station modules out and put it in orbit around the moon which will be our first lunar base, but not our first lunar surface base. Then, several years later, when we have selected the area of the moon that we think would be the most advantageous to have men living on the surface, we would take one of these very similar modules and, using a space tug capability, ease this down on to a soft landing on the surface. Dr. Paine, there has been some discussion in the press and elsewhere, up on the Hill, about the relative lack of emphasis on the applications program, the scientific satellite, the weather satellite and communications and so forth. This report and others indicate that there should be increased emphasis on these. Can you give us some indication or percentage figures, perhaps, of increased activity on the part of NASA in these two areas? DR. PAINE: Again, this is covered in our more detailed breakdown that we will have available for you Friday. The general area that we are putting the most emphasis behind is this new area of earth resources. This is an area that holds great promise. At the same time, there is a great deal of work to do before this promise can be proved and the true economic benefits in the many different areas which it will influence can be established. There are opportunities for substantial returns in the field of surveillance of agriculture, forestry, pasture lands, fisheries, a great deal in the management of water, and all of these things, minerals. These are things which we will be looking at and trying to find out where the maximum payoff is, where we can make the best investment that will give us an earth resources program. Do you mean you are going to do a complete rethinking of the whole applications area? DR. PAINE: It is not a rethinking. This is just moving ahead in the thinking that we already have underway. Dr. DuBridge, is the word "program" in this booklet synonymous with the word "option" in this booklet? MR. DREW: If you are talking about the NASA booklet, yes. DR. DU BRIDGE: Yes, we have used the two interchangeably. MORE

-12-Dr. Paine, you said before Congress, you or Dr. Miller, that these space shuttles would be able to land and take off virtually from any airport. Does this mean that Cape Kennedy is obsolete? DR. PAINE: Not at all. I think that that was perhaps a somewhat oversimplification. When these things take off they are going to generate noises that I assure you the National Airport would not welcome. THE PRESS: Thank you. (AT 3:50 P.M. EDT) END

AMERICA'S NEXT DECADES IN SPACE

A REPORT FOR THE SPACE TASK GROUP



THE POST—APOLLO SPACE PROGRAM: DIRECTIONS FOR THE FUTURE

SPACE TASK GROUP REPORT TO THE PRESIDENT

SEPTEMBER 1969

Justo On Jugars

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Sept. 12, 1969

To: Dr. Klasinger

From: Tom Whitehead

At the request of Peter Flanigan -preliminary draft.

Space Task Group
Report
(Preliminary)

Space land

September 12, 1969

To: Bryce Harlow

From: Tom Whitehead

At the request of Peter Flanigan -preliminary draft.

> Space Task Group Report (preliminary)

Space Task! Eva, Rob Odle (Mr. Klein's Ofc) called Friday afternoon. He would like to know ASAP (I told him that wouldn't be before Tuesday morning) if the Task Force Report on Space Goals presented to the President on I September will be made public at the same time. Mr. Odle requested that your office find out and provide him with this info. I told Mr. Odle I would have you call him back. Apparently, reporters are involved, and he (Mr. Odle) needs the info so that he can properly respond to their queries. Carole Rob Odle - 2760 9/2/69 - Per Kriegsman's instructions, advised Mr. Odle's office that we had nothing to do with this report.

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SPACE TASK GROUP REPORT

THE POST-APOLLO SPACE PROGRAM: DIRECTIONS FOR THE FUTURE

SEPTEMBER 8, 1969

Copies have been sent to:

Harlow Kissinger Flanigan Dick another Central Files material

0S F& 164 August 23, 1969 MERCHANEUM FOR THE PRESIDENT Herewith the reconsted report by Dr. Paine on increased international participation in space programs. I have sent a copy to Dr. Kissinger who shares responsibility for this program, including foreign participation in financing of the progrem. Peter M. Flanigra Englosure bcc: Dr. Kissinger H. R. Haldeman

August 23, 1969

MEMORALDUM FOR THE PRESTORIES

Herewith the requested report by Dr. Faine on increased international participation in space programs. I have cent a copy to Dr. Missinger who shares responsibility for this program, including foreign participation in financing of the program.

Peter M. Flanigan

Enclosure

bcc: Dr. Kissinger H. R. Haldeman



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION WASHINGTON, D.C. 20546

OFFICE OF THE ADMINISTRATOR

August 22, 1969

The President
The White House
Washington, D. C.

Dear Mr. President:

This is a brief status report on our current efforts and immediate plans to find new ways to increase international participation in space programs in the favorable atmosphere generated by Apollo 11.

1. On August 11 I met with Professor Hermann Bondi, Director-General of the ten-nation European Space Research Organization (ESRO), briefed him fully on U.S. post-Apollo thinking, and urged him to begin serious consideration of new approaches to achieve more substantial European participation in the manned and unmanned exploration and utilization of major space systems in the 1970's and 1980's. European thinking with respect to space activity has been relatively restricted heretofore; ESRO's current annual budget is slightly over \$50 million and the European Launch Development Organization budget is slightly over \$90 million. In addition, individual national efforts total some \$160 million, for a total European space effort of something in excess of \$300 million.

Professor Bondi agreed that a series of presentations should be made by top NASA personnel to senior space officials in Europe within the next few months to raise their sights to more advanced projects of greater mutual value.

2. To initiate these presentations and to conduct more direct and private discussions with officials in the best position to respond positively, I plan a short visit to Europe, probably sometime in October. I plan to brief senior (government) officials of the European Space Conference on future U.S. programs and the concrete opportunities they will offer for rewarding participation. I will also talk with Ministers of Science in the three

principal countries but especially with Minister Stoltenberg in West Germany, which is probably in the best position to consider substantial new participation. While we cannot achieve immediate commitments of a major character from these first discussions, we do hope to gain early agreement to an arrangement which could involve the Europeans ever more closely with us and place the benefits of participation constantly in their view. To this end, I plan to propose to the leading European space agencies that they associate their top space experts with us in phased program studies which we will be undertaking for important post-Apollo missions. The knowledge and interest which we jointly develop should then open the door to more substantial participation in specific projects which flow out of these studies, and which would be suitable for European involvement. We would intend also to direct European attention to the opportunities which would then develop to associate their own astronauts with us in future programs in the context of substantive joint contributions to space exploration and application. This could generate greater public interest and support abroad for participation with the United States in this venture.

- 3. Professor Bondi's mission to the U.S. was to obtain information needed to decide whether the European Launch Development Organization should continue the costly development of an already-outmoded medium launch vehicle, duplicating those we have had for years, or should halt this work and rely on reimbursable launch services from NASA. Europeans have heretofore feared that the U.S. would not provide launchings for regional communications satellites, which has motivated them toward small independent efforts rather than major joint ventures along the lines we will be proposing. A forthcoming response to Dr. Bondi has now been obtained from the Department of State and will, we hope, remove a long-standing negative element in the environment and facilitate our discussions looking to more significant cooperation. If Europe should now decide to abandon its trouble-plagued and obsolescent launch vehicle program in favor of purchasing U.S. launchings, European funds would be freed for more constructive cooperative purposes, a modest additional dollar market created for our vehicles and launch services.
- 4. Among other promising near-term prospects for significant cooperation with Europe are a prototype North Atlantic Air Traffic Control and Navigation Satellite Program, and a Synchronous Meteorological Satellite Program. NASA would develop the former in partnership with ESRO to meet requirements defined by the Department

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3 of Transportation (FAA) and its European counterparts. The latter would be developed with the French Space Commission as a contribution to the Global Atmospheric Research Program. We are pursuing both these prospects energetically. 5. We have recently significantly extended our data exchange arrangements with ESRO to the point where they now constitute, we believe, the most extensive and sophisticated international data system in existence. ESRO uses NASA computer software systems and formats to collect the European technical literature and feed it into their own and into NASA's computer banks making possible a totally integrated space publication and search system. ESRO has also introduced the NASA Recon (Remote Control) System to Europe. An international on-line computerized aerospace information network is thus enabling researchers at a number of scattered locations in Europe and in the U.S. to retrieve from the NASA-ESRO data bank in "real-time," scientific and technical information for immediate use. This is the first international system of its kind and is being studied both in Europe and in this country as a model for similar systems. 6. NASA welcomes and will participate enthusiastically in the review called for by Dr. Kissinger to consider U.S. policies on space and other technology exports. This is a timely opportunity to clear away unnecessary restrictions which could seriously obstruct the increased international activity which you have called for. 7. With regard to potential cooperation with the Soviet Union, I have recently written top Soviet space authorities offering to discuss carrying Soviet scientists' experiments on future NASA planetary probes. I am now inviting Soviet scientists to attend a preparatory briefing next month for scientists from many other countries on our Viking Mars mission with a view to discussing possible participation in that mission and the achievement of some measure of coordination between U.S. and Soviet planetary programs. Whether the Apollo 11 success will moderate past Soviet negativism in this area is not yet clear. 8. Japan, Australia, and Canada are the principal remaining areas whose potential for greater participation will be carefully explored. I believe NASA has contributed to a reasonable formulation of the new agreement with Japan to facilitate that country's purchase of certain space technology here, and we will play a role in providing for the implementation of that agreement. Under your recent directive, we will provide Canada launch services for her planned communications satellite system; this action has clearly

improved relationships in this area, and we are already discussing with Canadian officials their active interest in possible participation in our advanced earth resources technology and satellite series. I discussed yesterday with our new Ambassador to Australia the great services that have been rendered through Australian operation of our large tracking and data acquisition complex there and our strong interest in further participation. I expect to visit these three countries at the earliest opportunity after the European talks in order to develop new opportunities for greater international cooperation in those quarters.

I will, of course, report to you the results of my forthcoming visit to Europe immediately upon my return.

Respectfully yours,

Trains.

T. O. Paine

Administrator

August 21, 1969

MEMORANDUM FOR:

Mr. James Keogh The White House

I thought you might be interested in the enclosed analysis which we have done of the impact of the U.S. space program on domestic and foreign opinion.

Henry Loomis Acting Director

Enclosure

Copies to:

The Vice President

Mr. Elliot Richardson, State

Mr. Thomas Paine, NASA

Mr. Albert Toner, White House

/S COPY

INFACT OF THE U.S. SPACE PROGRAM ON DOMESTIC AND FORTION OPINION

SUCARY

- 1. Americans are greatly impressed and exhibitated by Apollo XI, "Which they rejert as proof of our excellence and of our supremacy in space. There is concern now, as there has been over the years, about the cost of the space program, especially in the light of our domestic problems and the cost of solving them. The nervousness about flowiet space supremacy has disappeared, as Americans have long felt that the U.S. is chosed in the "space race", and there is no more self-flagellation on this score. There is no disposition to abandon space exploration; the argument is rather one of tempo and scope.
 - 2. Foreigners have overcome the period of doubt occasioned by Sputnik and by what they consider to be the subsequent American floundaring in space. Their doubt, while it lasted, called into question American scientific and military ascendancy. This began to change in our favor in the mid-sixties. Apollo XI has brought unstinted praise and acknowledgement that America is now the leader in space. Two striking reactions of foreigners are:
 - (1) Apollo XI is an achievement of all mankind, and
 - (2) it should serve to bring mankind closer together.
 - 3. From the standpoint of impact, the only thing comparable to Apollo XI was Sputnik. Sputnik achieved its impact in good part because it was so unexpected. Apollo XI schieved its impact because it was planted and brought to pass completely in the open, and because the build-up was so lengthy. Further exploration of, and travel in, space wall-probably not have comparable impact, unless life is discovered on other planets, or unless there is a manned landing on a planet.

MPACE OF U.S. SPACE PROGRAM ON DOMESTIC OPINION

In the electric excitement of the unparalleled success of Apollo XI, there is a feeling among the American people of deep satisfaction, of quatified pride, and exhibitation. This extraordinary feet occupied the attention of Americans for days, and will no doubt be the center of attention for some time to come as the three astronauts travel throughout the country and throughout the world. Unquestionably the fact that Apollo XI was a manual space flight, that two of the man actually walked on the moon, while a third astronaut orbited the moon, and the whole fabulous enterprise was televised to a breathless would from beginning to end -- in itself a marvel -- gave a dimension to this success which surpasses anything, however well done, the U.S. has heretofore accomplished in space.

Yet even persons who have unstinted praise for the success of Apollo NI and who agree with the expenditure of money in this way lament what they perceive to be a failure to devote just as much energy, imagination, intelligence, and perseverance to such issues as housing, education, racial equality, urban renewal, job opportunities, job training, combatting pollution and the like.

Historical Clenco

Public opinion in the United States has consistently shared with popular opinion elsewhere an enthusiasm for space research, and a fescination with space exploration as an instrument for extending human knowledge and potential. The generally high level of popular U.S. interest in science and technology, especially among the young and the better-caucated, has served to heighten and sustain this interest. In the initial days of the U.S. space program, however, public attitudes toward space were to a considerable degree colored and stimulated by concern with space as an aspect of U.S. foreign relationships. Although judy with a community deviate head in space did not prodominate in a space U.S. opinion, interestional problem, power, and leader-unit in science and technology, were seen as sharply challenged and as clearly overshadowed in the eyes of many foreigners.

As the conviction grew that the U.S. had reclaimed a lead in space, however, and as the danger of a Soviet militery challenge appeared to reacte, popular attitudes toward space activities were less concerned with directly competitive aspects, and with need to repair damage to U.S. proptice or leadership in science and technology. The focus appeared to

shift: popular interest in space reflected a more sophisticated concern with its direct results and benefits, and discussion of space programs increasingly reflected the context of domestic concerns, and the broad U.S. debate over national goals, priorities, and problems.

concern about, and a questioning of, such vast outlays of money for space programs when urgent and growing problems of the country remain unsolved. Those who have opposed spending "so much" money for the space program have maintained that the money would be more productively spent in the solution of domestic problems. (Some under-developed countries have expressed a similar point of view; they are persuaded that the U.S. could more fruitfully and advantageously give the money to them for development.)

For example, very shortly after the Apollo XI success, a Gallup Poll release of August 6, 1959 revealed that the public generally was lukewarm to the idea of setting aside money to achieve a manned landing on the planet Mars. The core of the public opposition to setting aside money for this purpose was rooted in the belief that money earnerhed for a Mars landing would be better spent on domestic problems. Negroes opposed the Mars landing by a ratio of three to one. The 53% who opposed the idea consisted largely of older and less well-educated persons; the 39% who favored the idea consisted in good part of younger and better-educated persons.

The Gallup Poll of August 6 does not of course represent the irrevocable decision of the American people. It is, however, illustrative of the latest in a long series of similar polls on the space program. No matter how much variation there may be in the degree of public support and enthusiasm for a space program, and there has been a considerable fluctuation over the years, some trends are constant: younger people, and those better-educated people tend to support the program; older persons, and those less well-educated people tend to be lukewarm about it; minorities, lately, more frequently express opposition; there is a clear and articulate expression of concern about the priority of earthbound, national problems.

Other segments of popular opinion hold that we need to keep ahead of the Russians, scientifically, technologically, and militarily; it is fitting for the leading nation of the world to accept the challenge of space; the space program corresponds to the innate curiosity of man; we have come so far, we cannot suddenly stop and draw back; if we are to maintain our leadership in the world, we must embrace the opportunity space presents.

Gosta: Uniowillar

the American public's wined declings about the space program expect in two Gallup surveys in 1961 (see tables 1 and 2). In June 1961, 635.47 of those sampled considered it to be at least fairly important that the United States be sheed of the Soviet Union in space exploration. One month carlier, however, 58% did not want to spend the optimated \$40 billion to send a man to the moon.

The threat of Sussian space supremacy apparently wanted as the sixtles progressed. By February 1967 (see vable 6), only 33% considered it important to seek a man to the moon before the Soviets, while 60% thought it was not that important.

The American public consistently viewed the great cost of the space program with displayor (see tables 1, 3, 5, 7). This continued even as the American space offert became none successful. In June 1965, Gulley reported that only 10p of the public mished to increase the funds being spent on space employetion while 42p fevered begging them the same and 33 tranted the amount decreased. By January 1969, only 14p fevered increasing the money for space exploration, while 41p wished to keep it the same and 40p wanted to cut the amount.

A series of polls conducted by Iouis Harris and Associates between October 1965 and June 1969 produce generally the same results. In -- January of this year year -- marister public opposed the space project aim, of landing a man on the moon by 49 to 39 per cent.

By early July 1959, however, the public favored putting a man on the moon, 51 to 41 per cent, probably in anticipation of the Apollo XI moonshot. This was consistent with opinion in other parts of the world there enthusiasm for the project increased as the time for lift-off grow macrer.

There seems little question in the minds of most Americans that the Univer States is comfortably cheed of the Soviet Union in the so-called space was; this has been the case for some time, and it may be one of the reasons that Americans see less need to agitate for huge sums devoted to this cause. To this pust be added the widely felt uncasiness about the "swollan" rederal budget, which, in the eyes of many, has grown unchecked. Since the space program deals with a subject really foreign slobesty fascinating to most people, it is peculiarly valuerable to notice.

included that MAGA's budger is only a fraction of one per cont of the gross rational product appart to impress people less at a time of tadjut restraints and reordering of priorities. Sophisticated persons may agree when advocates of space activities assert that they generate tournategical advances to help solve problems. Broad public opinion,

even when favorable, revely shows awareness of space gains in such concrete and specific terms.

Further, the question of support for the space program occurs at a time when there is sensthing thin to dismay, certainly a high degree of warry, about inflation, high tames, and the spinoliting cost of living. Such every-day anxieties are obstacles to sh unquestioning support of a space program.

Abbitudes of Scientists

Andd the post Apollo XI glow, there is other evidence of some disenchantment. American scientists do not unanimously praise the space program; some of them think that science has been short-charged and they charge that the pursuit of basic polentific knowledge, which they consider to offer the fundamental justification for the space program, has up to now been a handmeriden on space flights. Some scientists have been vocal in opposition to the proposition that the next inextican gold in space 'should be the landing of a man on Mars. An advisory committee of the Notional Academy of Sciences stated in 1968: "While at some time in the future it may be in the national interest to undertake, a manned quogram to the planets, we do not believe non is essential for scientific planetary investigation at this stage." Others simply express the view that the U.S. should now make the space program more accessible to its scientists, who ought from now on to have the authority to decide what the next missions are. Some insist that space employedion by instrumanus is fer cheaper them, and at least as productive as, manued Landings on the moon or anywhere also. Recent resignations of prominent figures in the space program because of the alleged secondary role of science have been prominently reported.

The Present

The U.S. public appears, then, to be engaged in a debate, in which the being weighed the gains from a sustained space program on the one hand, and, on the other, the central domestic processpecions of the country. The question of money looms large in each case. Precisely what chape a future space program should have has achieved no consensus at this mement, but there is little disposition to urge that space exploration should be abandoned. There does appear to be argument on the question of scape and tours. There seems to be recognition that the ties, both as a ampre-power, and as leader in space, cannot simply rest, so to specif, on its Talmonthy pid now that the wonder of Apollo XI

has come to pass. There is admowledgment that Apollo XI is the beginning of something, in which the U.S. must been the load (the notion of the gace between ourselves and the Soviets is never for below the surface of senseitousness). Space is seen by many as a necessary element of notional leadership which can become a powerful force for international friendship and cooperation. The space program appears to give our society a "forward look", and to be an index of national vision, confidence, aspiration and ambition. It is felt by many that Apollo XI is the beginning of an ago, not the end of a program.

Toble 1.

It has been estimated that is would cost the United States 40 billion abeliars -- or an everage of about \$225 per person -- to send dian to the moon. Would you like to see this amount spent for this purpose or not?

1961	Yes	No .	No coinion
20-39	43%	1.7%	99 / · · 100%
40-59	30	61	
60-	21	70	
Richention? Ordine 8 Migh School Dech/College \	20%	69%	11% 1. 100%
	35	56	9
	47	山	9
Rece: White Non-white	33%	58¢	. 8% . 100%
	25	59	16
No. of cases (3449)	32 ^d	58%	5% 1. 100%

Education: Up to and including the last grade or level attained. "Grade or includes elementary school graduates and dropouts, "Migh School" includes secondary school graduates and dropouts, and "Tech/College" stands for all those continuing their education past high school.

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18 1 6 20 00

They important do you think it is for the United States to be cheed of Passis in ages employation -- very important, fairly important, or not too important?

June 1961	/ Nemb	Peirly	Not too	No opinion
20-39 40-59 60-	54% 50 49 \	25%	20% 24 30	27 · 100/
Education: Grade 8 Migh School Sech/College	55% 52 45	13\$ 24 27	23% 22 27	9% 100ई 2 1
Race: White Non-white	50% 63	22%	24% 17	155 1005 9
Total Sample To. of cases (234)	3) 525	21%	22%	5% ·· 200%

Do you think there is anything for which the government thould is spending more money than it is at present: What?

Do you think there is anything for which the government should be spending less money than it is at present? What?

1	(maril 1963	(More Money)	(Less Monoy)
	No. of eases	(45)E	(535)
	Ane: 20-39 40-59 50- No enswer	73% 18 9	1,9% 40 38 3 100%
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- Company	Roos: White Non-white	93% 7% 1.00%	914% 6% 100%

a gwo percent of total (3461). Sixteen percent of total (3461).

Months you like to see the amount of money being spent on wass exploration inducated, decreased, or kept about the same as now?

District T	No. of Contraction	Inorocaed	Democrat.	Scare .	Ho connion
104	20-39 40-59	22%	200	165 ·	5% 100%
	60-	. 20	39	37	14
Men	action:				
	Grade 8 Migh School Tech/College	125 19 17	11:44 31 25	30% 44 54	135 1005
					4 4
Reserve	Non-white	165	33% 34	33	7% 100%
	Sample of cases (3537	76%	33%	1:25	8% 100%

Again to the same of

In your opinion, do you think it is important or not important to try to send a mon to the moon before Ausoia does?

Polovunav 1967	10	1	s not		No one	nion	
20-39 40-59 50-	484 28 18		1479 66 73	*.	.5% 7 20	.: 100%	
Ednesofon: Grade 8 High School Each/College	22% 36 38	‡	68% 57 57	•	90	icog	5
Race: Minite Non-Thitte	33% 33		60% 61		75 6	1009	1.0
Notal Sample	35%	,	60%		7%	1009	12

The U.S. is now spending many billions of dollars on space research. Do you thank we should increase these funds, keep them the same, or reduce these funds?

Johnson 1969 . Inc	mosae		En . Ilo	ordrion
20-29 30-39 50-	195 17 9	335 33 52	1445 445 35	45 100%
Rêwestdon: Chrale School Righ School College	9% 15 19	56% 37 28	20% 177 20%	6% 200% 4 2
Politics: Democrat Republican Endependent	14%	43% 36 40	38% 747 38%	5% 100% 14 -3-
Mo. of cases (1516)	14%	40%	43.5	5% 100%

IMPACT OF U.S. SPACE PRODUME OF THEFERM OFFICEN

The Tamact of Southailt

U.S. space efforts began under the heavy shadow of a startling Soviet triumph, a treumatic beginning that still influences both U.S. and foreign views of space and its significance. The successful launching of a fewlet carth satellite initiated a desatic revision of the image of the USBA, and a simultaneous popular reassessment of the relative positions of the U.S. and the USBA in scientific and technological capabilities, and in all the components of national power.

Prior to Sputnik I, the U.S. was generally judged preeminent in scientific and technical development. The firm conviction of U.S. pre-ominence was reinforced by bread evereness of U.S. productivity and its manifestation in two world wars, and by U.S. leadership in the development of the leaveness of of

On the other hand, it was generally held that the USSR was backward in science and technology, clumsy in the organization of its resources, and poor in the sophisticated industrial skills of the advanced Western nations. The Soviet achievement of nuclear capabilities, assertively proclaimed by Soviet propagands, brought no fundamental recaping of the general estimate of Soviet scientific and technical levels.

Sputnik I and its aftermeth produced both a reasconament of the gap letween the U.S. and the USSR in scientific and technological competence, and a new image of the USSR as a world poper. The USSR was seen as not only holding a commanding lead in space; it was viewed as able to offer a credible challenge to the U.S. in any field where it chose to compete.

A number of factors intensified the impact of Sputnik:

- 1. Its unexpectedness saguified its effect.
- 2. The dramatic aspects of space cohievements and their innate appeal to the imagination, insured coverage in oll communications media. Pers of Sputnik penetrated to audioness normally images tible or indifferent:

- 3. The disproportion assumed to have emisted between the U.S. and the USBR that it to emergence the re-adjustment; along with surprise went over-correction.
- 14. The offect of Sputnik was remidly reinforced by sub- ' sequent Soviet successes and what was seen as U.S. failure to match them.
- 5. Parkays even more influential than direct Soviet propagands was the response of the U.S., to the Soviet launchings. Noth emong the general public and officials, expressions of shock, dismay, and widespread consorn served to underline Soviet claims about the significance of Sputnik. The clamor of domestic debate in the U.S. reverberated through the world press, and was assiduously cited by the USSR.

Soviet general claims were given greatly enhanced credibility; any skepticism about the emmounced Soviet possessions of an intercontinental ballistic mission largely vanished. The Soviets were viewed as possessing a capacity in rocketry that called the millitary balance of power into quastion, and a strong tendency developed in popular opinion to equate space performance with military strength.

Up-Hill: The U.S. Space Progrem to the Mid-Sixties

The views held about the relative U.S. and Soviet positions in the space race have shown themselves to be in some ways highly volatile, in others extremely stubborn. One conviction was almost transvering: that a space race was on, that both the U.S. and the USSR viewed their programs as competitive.

The U.S. program, coming from far behind, had only one ally: the generally high esteem in which the U.S. was held, and a tendency for peoples in most creas to see a greater correspondence of their interests with those of the U.S. then with those of the Soviet Union, despite some deterioration in this view. U.S. allies, particularly, were eager to see U.S. progress in space, and inclined to show audious irritation at U.S. slowness, failures, or apparent hesitancy.

There slowly emerged a kind of see-sew pattern, with popular vertiets tending to be strongly influenced by the latest or most spectacular fleet. The USOR clearly held a commonding load in the space race. But opinion a confine size and durability of its load began to show increasing thusbactions as the U.S. space program got undersay.

Ogenhose permitted a high degree of personal identification with Assulant space explanation, and fortered a sense of vicarious permitted.

the state of the second second

These values the USCR was never able to match, and the Soviet space program has never been able to escape the chadens of secrety, concentrate, and antionalistic possessiveness. As the space race continued -- and continues -- U.S. spanness has continued to bear fruit.

Well through the middle of the mining, expectation of a combining see-saw pettern continued to predominate in world opinion. The till of that see-saw become increasingly less inclined to dayou the USA, and ups and downs less marked, as somethication about space became more wide-spaced, and at U.S. feets appeared more clearly comparable or superior to Soviet achievaments. Verdicts on "who's sheet" in world made there more qualified, leads were increasingly considered temporary. Necessary affected by the latest spectacular. But increasingly, the USDR end the U.S. were seen as roughly mack-mack.

And somewhere in the period proceeding the Apollo lounches of 1969, there appears gradually to have emerged an impression that the U.S. had drawn cheed in manned space flight, had matched the USSR in booster power and reliability of guidance.

Applie XI

The successful voyage of Apollo XI appears to have been an event surpassing Sputnik I in the degree of global interest and excitement it inspired. A landing on the moon, freighted with all the symbolism of an ancient human dream, inevitably had more innote human and immediate psychological teams than the more abstract triumph of launching on earth satellite, and the first venture of man's machines into space. Its impact was multiplied by the resources of an electronic and communications revolution that had advanced significantly since 1957. The direct and immediate perthelpation of millions upon millions as eye and ear withseases immeasurably magnified wonder, suspense, and jubilation. To many, the ability to watch man on the moon was a marvel second only to the moon landing itself.

The impact of Sputnik was beightened by shock and surprise; the impact of Apollo XI. by a stelly building-up of interest in the world madic, by mounting tension and a visible drama. Sputnik's importance was magnified by novely and ignorance; Apollo XI was viewed by a world muliance comparatively sophisticated, prepared, and importance. Further exploration of, and travel in, space will probably not have comparable impact, unless hime is discovered on other planets, or unless there is a magnification on a planet.

Manation.

The responses of foreign endiences to the U.S. meen landing were unprocedented in their scope, in their intensity, and in their engressions
of direct involvement in the achievement. The U.S. was clearly in the
hold in the space race.

Applicate for the astonishing precision, dering and shill of the exploit, and recognition of the enterendinary and complex scientific and technical mastery that the U.S. had demonstrated, were unparallelical superlatives were the order of the day. But the most similing aspect of reaction was not the rendering of a "victory" to the U.S. in space competition:

- 1. The most striking theme was the general tendency of foreigners to claim the feet as an achievement of all mankind. The deed seemed too important to beer a national label, as it were, and again and again comment stressed that this was a victory for all humanity, an accomplishment that glorified the species a day more important in human than in simply national history. U.S. openness, and the electronic revolution that permitted a world audience simultaneously to share the human drama, had so heightened the participatory involvement inherent in the mature of the moon landing that in a sense its impact as a U.S. achievement was for the time at least transcended by its appeal as "a giant step for mankind."
- 2. A second striking response was the broadly expressed assertion that "a new era" had arrived -- that some great divide had been crossed, that somehow man faced a new world, with a new sense of his potentialities and the humane strength of his resources. Just how that new era would differ from the old ten revely chalorated. But it is a unlikely that the great outpouring of elequence and authorities, of wonder and pride, hope and astonishment, cannot be dismissed as simply the professional rhetoric of journalism and politics.
- 3. Concern appeared often to be less with the fiture of space them what have remin pouly demonstrated regulality would be used on earth. Asong the problems discussed, peace and the ending of human division stood electly first, coupled with expressions of hope that space would not intensify rivalry and oring an extension of the arms

16.8

read into now oreas. Calls for economiction emeny the nections, chiefly between the U.S. and the USDR, in they. Turther exploration and exploitation of space were firequent; there economy however, distinct typicals about its likelihood. Poverby, hanger, and discuss were other whence grobless completionally memotioned.

4. Along with the decrying of wears and division went on expressed sense of solidarity of the human community -- a sense apparently heightened by excre-ness that the whole of marking was showing the emotions and exhibit of a single expendence. Again; the amprecedented expression of human unity social to have a reality beyond the conventional cliches of editorialists. Perhaps this eignals an emerging new dimension in the imtermational political process, comparely to the expenience of unity that might be expected to emerge from such global disasters as a world evidence, a mateor collision, or a nuclear accident.

The New Inc.

That the "new era" and new perspectives will bring in terms of political perceptions and precedention in the opinion and attitudes of the world public it is for too soon to assess. How durable the current high esteem of U.S. scientific and technical leadership will prove to be cannot be judged, nor the extent to which it will generate increased confidence in U.S. foreign policies and leadership. (Available foreign reaction to U.S. space successes does not so far indicate an increase in confidence in the ability of the U.S. to provide leadership in foreign pursies.) Then will depend on events in the immediate future, notably such matters as:

- 1. The U.S. demastic debate on the cost and benefits of space exploration.
- of science and technology.
 - 3. The Soviet respond in space activity.

The distincting breaks and of includences the militariale in formation comments

1. A. increased correspond of what is seen as a disparity between U.S. oblinty to master the enormous complexities of space employation, and its capacity to solve the demostic problems that beset it.

- 2. An increased everchess of, and concern with, the costs in energy and resources devoted to space programs, and rising world as well as demestic debate over the values involved, with have-not nations especially under-scoring a demand for a reallocation of such resources.
- 3. A steeper rise in general public preoccupation with science and technology, and a rise in levels of sophistication about these matters.
- 4. In both developed and underdeveloped countries, a rise in interest in both U.S. science and scientific education.
- 5. Increased calls for international cooperation in space and perhaps in other large concerns, both to reduce costs, to blunt the dangers of continuing rivalries, and to permit maximum participation by other nations.
- 6. An increased sense that the U.S. and the USSR are "super-powers," enjoying a difference in magnitude of capability that is a difference in kind. The che botween the super-powers and all other nations seems emphasized by the magnitude of the Apollo XI achievament, and there is visible in comment from Europe especially a note of regret at the technological gap that could readily be tinged with resentment. On the other hand, comment on occasion attributed Europe's exclusion from a role in space ventures and what they denoted to the division among the nations of Europe; movements toward European cooperation may find the atmosphere increasingly receptive. A heightened sense of the great and unique power of the super-powers may intensify public opinion pressures upon them to act in what other nations see as the general interest; expectations are likely to be increasingly demanding.
- 7. The general telief that neither the U.S. nor the USSR is likely to seek its ends by the use of force against the other.
- 8. There is every expectation that the U.S. will go on to greater things in space.

NASO July 17, 1969 MEMORANDUM FOR MR. FLANIGAN Attached is a memorandum for Lee DuBridge requesting that we be briefed on the status of the space task group study. I think it is important that we begin to get ourselves road into this. Clay T. Whitehead Staff Assistant Attachment cc: Mr. Whitehead Central Files CTWhitehead:ed

NASA July 17, 1969 MEMORANDUM FOR DR. LEE A. DuBRIDGE Since I no doubt will be involved in the discussions about our future space program after the report of the space task group is sent to the President on September 1st, I think I should begin to familiarize myself with the issues in that area and the approach taken by the task group. Would you, as Staff Director of this space task group, please prepare an Interim report brieflug for myself and Tom Whitehead so that we can familiarise ourselves with the approach being taken and the issues that are being defined. It would be helpful to have this briefing in the next week or two. Peter M. Flanigan Assistant to the President cc: Mr. Flanigan Mr. Whitehead Central Files CTWhitehead:ed

OFFICE OF SCIENCE AND TECHNOLOGY WASHINGTON, D.C.

April 7, 1969

Mr. Whitehead:

For your information.

Red

Russell C. Drew

From the Desk of Dr. Russell C. Drew

March 14, 1969 1155

REPORT OF SPACE TASK GROUP STAFF DIRECTOR'S COMMITTEE ON NASA'S REQUEST FOR AMENDMENTS TO THE NASA FY 1970 BUDGET

In accordance with the STG decision on March 7, the Staff Director's Committee has reviewed NASA's request for amendments to the NASA FY 70 budget pertaining to immediate problems and opportunities in the area of manned space flight, and the suggestion that a Presidential statement be made announcing action on these items. The documents relating to this subject are:

- (1) Letter from the Acting Administrator of NASA, dated February 24, 1969, to the Director, Bureau of the Budget setting forth NASA's request.
- (2) Letter from the Acting Administrator of NASA to the President, dated February 26, 1969, giving the basis for his recommendations to the Director, Bureau of the Budget in the area of manned space flight.
- (3) Supplementary material supplied by NASA to the Staff Director's Committee in meetings of March 11 and 12, 1969.

NASA's request can be considered in five parts:

- (1) Augmented Lunar Exploration Capability. For scientific and improved operational equipment for lunar exploration following the first few lunar landings -- \$79 million. (Note: Launch vehicles and spacecraft may be available for nine manned lunar missions following the first landing attempt, but scientific exploration equipment is available for only three of these.)
- (2) Space Station Technology. For detailed planning, design studies and development of critical long-lead-time sub-systems that would be required in a future manned space station -- \$34 million.
- (3) Space Shuttle. For advanced systems development and systems definition of an economical transportation system from earth to orbit and return -- \$32.8 million.
- (4) Saturn V Production. For procurement of long-lead-time components for production of Saturn V vehicles beyond those presently authorized -- \$52.2 million. (Note: These funds would be applied to reversing the phase-out of Saturn V suppliers that is currently under way.)

(5) Presidential Statement. NASA has suggested that the President make a statement announcing affirmative action on the NASA budget request. Such a statement could be delivered at the time he honors the Apollo 9 Astronauts.

The rationale set forth by NASA in support of the four principal elements of their budget request is given in attachments to this report. In addition, the recommended Presidential statement presented by NASA is also attached.

It is important to understand the context in which the Staff Director's Committee has conducted its deliberations and, more importantly, the areas which in view of the limited time available have not been treated fully in reaching committee positions:

- -- A national commitment to continued lunar exploration beyond the first few basic Apollo lunar landings has been assumed by the Committee. Although such a program has been under discussion for several years, no approved and funded plan for follow-on lunar exploration has existed. It should be recognized that a budget amendment to support development of enhanced lunar exploration capability implies a new commitment by this Administration to a follow-on lunar exploration program.
- -- Whether the Nation should continue with a manned flight program after the existing Apollo hardware is expended or discontinue manned flight was not explicitly addressed.

 The assumption apparent in the Committee's conclusions is that there would be a manned flight program of unspecified character and pace throughout the next decade.
- -- Program balance was not considered. In addressing the urgent issues raised by NASA, it was not practical to set these manned flight items into the broader context of the whole space program. No judgments were made of relative priority of the manned space flight items compared with unmanned science, applications, research and aeronautics programs.
- -- Although the Committee had the benefit of participation by a representative of the Bureau of the Budget and discussed many aspects of the funding to support the NASA request, a detailed budget analysis was not performed. In general, sufficient

funding detail was explored to illuminate the issues. The Committee agrees that recommendations on specific dollar amounts specified by NASA should be left to the normal budget review process.

Committee Views. The following positions were developed:

(1) Augmented Lunar Exploration Capability.

There was broad general agreement that manned lunar exploration should continue beyond the first four basic Apollo landing missions and that some funding support be provided for science payloads for these follow-on missions.

It is of great importance that the program be organized in such a way that the probability of scientific return is increased. In this context, considerable doubt was expressed by a majority of the members about the organization and definition of the newly proposed program for lunar exploration and about the need for a continuing launch rate of three Saturn V's per year, since the options available are so strongly tied to the rate at which Saturn V launch vehicles are expended.

For example, at the launch rate projected by NASA, the first mission for which there is presently no science payload (Vehicle 510) could occur as early as the 4th quarter of CY 70. Urgent funding support is required if a science payload is to be available for this launch. At a lower continuing launch rate, however, this mission could be flown almost one year later, lessening the urgency for immediate funding. If Saturn V launches are gapped during the period when the Apollo Applications Program flights are being conducted, additional time would be available for definition and procurement of significant new experiments and equipment, including the possibility of a Lunar Flying Unit.

The Committee supports the NASA contention that reduced launch rates for the Saturn V (below 3 per year) or a gap in Saturn V launches would cause management difficulties and would increase the cost per launch. Several members supported the view that these costs would be acceptable if

the opportunity to perform a truly significant lunar exploration program, including the provision of increased mobility, is enhanced thereby.

It was the concensus of the Committee that high priority be accorded a review of the NASA plan for the follow-on scientific exploration of the moon.

The majority of the Committee believes it is possible to develop a limited extension of capability for early follow-on missions for less than the requested funding, but that specific dollar amounts should be determined as part of the normal budgetary process.

(2) Space Station Technology.

The majority of the Committee members, with the full understanding that the NASA request does not necessarily involve a commitment at this time to develop a space station, nevertheless, did not support the request for additional FY 70 funding to enable more rapid progress toward the launch of a space station in the mid 1970's. This view does not represent an unfavorable judgment on the question of adopting the space station as a major new goal of our space program, but rather results from a desire not to imply prejudgment of the eventual result of the STG review. The case for urgency was unconvincing, and it appears that no important options would be foreclosed by deferring action until the FY '71 budget.

The State Department representative offered the following additional views: that the space station would have higher value for foreign policy objectives than lunar exploration; that given the present state of world opinion our decisions should not be unduly influenced by our appraisal of the Soviet program or Soviet competition; and that commitment to a major new manned program should not be decided before the STG has had an opportunity to complete its review of the entire space program.

(3) Space Shuttle.

Although the concept of an economical transportation system to orbit was of great interest, the majority of the Committee concluded that further study (now underway) would be desirable to clarify both DoD and NASA needs for such a system, including the possibility of a common system for use by both agencies. The on-going programs of technology and study now included in both agencies FY 70 budgets may require limited redirection or augmentation to establish require limited redirection or augmentation to establish an adequate level of concept, technology, and management capability to permit FY 71 initiation of a system development capable of meeting both DoD and NASA needs.

The case for urgency was unconvincing, and it appears that no important options would be foreclosed by deferring action until the FY '71 budget.

(4) Saturn V. Production.

Without having the time to examine in detail the additional costs and time involved in phasing out and restarting manufacture of SV vehicles, general agreement was reached that action should be taken to preserve a continuing production base for this vehicle. (The State Department representative pointed out that from a foreign policy standpoint there was little advantage in an SV production capability per se, and that the specific programs requiring this capability had yet to be defined.)

It was understood that future decisions on the scope and pace of space activity would affect the rate at which these launch of space activity would be produced. The recommendation of the vehicles would be produced. The recommendation of the Committee therefore is that decisions on the production rate be reserved until the STG has had an opportunity to develop a program and can assess vehicle requirements on a long range basis.

(5) Presidential Statement.

The majority of the Committee agreed that a separate Presidential statement (beyond that which may accompany a general budget revision) announcing decisions on the NASA request was not desirable. There were several reasons cited for this position:

- (a) The President has publicly announced his charge to the Space Task Group to formulate goals and programs for the next decade in space. A special announcement of priority investments in programs of very major run-out cost prior to completion of STG activity could pre-empt the impact of the study.
- (b) It is not clear that the USSR will establish a permanent space station in the near future; recent manned orbital flights are consistent with either a manned lunar program using earth-orbit rendezvous, or a space station. Should the USSR establish a space station, not matched by parallel US effort, it will not necessarily constitute a threat to US security. Well publicized plans for AAP and MOL may provide additional public reassurance on this score.
- (c) Program commitment to both manned lunar exploration and to a space station, even with the engineering details and time scales undefined, imply an unknown magnitude of total annual budget level (estimated by NASA to lie in the \$4.5 \$5.5 billion range) to which the President may not wish to be committed in advance of receipt of the Task Group study and exploration of the attitude of Congress. If the commitment is made and these budget increases are not forthcoming, other space options -- such as strengthening unmanned space applications research -- may become foreclosed.

NEED FOR MAINTAINING PRODUCTION OF SATURN V

The Saturn V is by far the largest launch vehicle ever developed and brought to operational status. It is key to the nation's future in space, for no other U.S. booster of equal or greater performance is contemplated for use within the next decade. No funding has been provided for production beyond the fifteen vehicles for Apollo, the last of which will be delivered in 1970. At present, the production base is rapidly dissipating.

The Saturn V is the only vehicle capable of placing over 120 tons into earth orbit, 50 tons to lunar distances, and 20 tons on the lunar surface. With this performance this launch vehicle has the ability to fulfill the requirements for lunar exploration, for space station launches, and for future planetary missions. Thus, a need exists through the 1970's for a substantially larger number of Saturn V's than will be available after the initial Apollo landing. Discontinuing production would relinquish to the Soviets the only capability for orbiting large payloads since they appear to be approaching the demonstration of a launch vehicle in the same class.

Effective utilization of the Saturn V can be maintained only by preserving the industrial capability brought into being at great expense (\$8 billion) over the last nine years. Continuing the present trend will result in expensive shutdown and startup costs. Skills will be lost and have to be retrained, tooling refurbished, and parts requalified. In fact, the restart would take on many aspects of our R&D program. The projected unit cost reductions associated with learning and with streamlining the existing production base would therefore be impossible of achievement under stop-startup conditions. Certainly the longer the gap the more difficult and costly are the startup conditions, and after too long a period (several years), restart is impractical.

Another important factor associated with loss in production capability is the technical support required to complete the flight program associated with the present buy of fifteen vehicles. A substantial cadre of skilled personnel is required at the factory to handle unforeseen technical problems encountered in the flight program. With no future production, this support will undergo steady degradation, but will continue to cost \$165 million annually. This cost is in addition to the \$400 million annually required to keep the Kennedy Space Center

and the Manned Spacecraft Center at the level of flight readiness required for launch and flight control support of the flights of the remaining Saturn V vehicles.

The deleterious effects just discussed can be minimized if immediate action is taken in augmenting the FY 1970 budget request. It is important that the President take such action prior to the flight of the new USSR booster to avoid the appearance of a reaction to their initiative.

of the supplemental funds requested in FY 1970, \$52.2 million is associated with reinstating Saturn V production. In the main, these funds will be applied to the procurement of long lead time items and the reactivation of critical suppliers. This activity involves the SIC, the SII, and the SIVB launch stages, as well as the F-l and J-2 engines, and a portion of the requested funds therefore will also be applied in support of the major stage and engine contractors.

NEED FOR AUGMENTATION OF SPACE STATION EFFORT

The nation requires the technical and political power resident in a flexible and extensive capability in earth orbital manned space flight. From earth orbit the world can be readily assessed and accessed. Earth orbit also affords effective outward viewing from the scientific standpoint and otherwise takes advantage of the unique characters of the space environment, such as weightlessness and unlimited hard vacuum.

The next logical and necessary step in the progress of earth orbital space flight is the establishment of a space station or a centralized and sustained base of operations. Such a station will do more for the general advance of our capability as a space-faring nation than can be achieved in the early phases of lunar exploration. In fact, the capabilities for sustained operations that can be developed in a more economical and safe way through establishment of a space station in earth orbit is directly applicable to the establishment of lunar bases or to manned exploration of the planets in the future.

Under present funding, there exists only a very limited, civilian manned program in earth orbit (Apollo Applications) whose flights take place over a brief eight month period in the early seventies. No support to a flight program beyond 1972 currently exists and, even if aggressive definition of a space station is initiated immediately, the initial flight could not take place until 1975 at the earliest.

We feel that the potential of manned flights in earth orbit is great, and although a complete delineation of the ultimate potential is not possible at the present time, a national risk of yielding initiative for rapid progress in this area to the USSR cannot be warranted.

The utilization of a space station concept opens many arenas for more rapid progress in scientific knowledge, technology advance, and applications of space flight. Typical of these are the possibilities for more extensive international cooperation. The space station will be the first program where non-astronauts can participate directly in space flights. Thus, foreign nationals will not only find it easier to participate as investigators, but can have the opportunity to involve themselves in the actual conduct of their experiments in space. These statements are just as applicable to user elements within our own national structure.

As a result of the studies underway, we are likely to find that the development of a space station is the most attractive option for space progress and benefits in the immediate future and that we should move out as rapidly as possible. Therefore, funding must be made available to hold this option open, but even more important, to establish sound definition and assure a solid base of technology. Without additional funding now in FY 1970, an entire budget year will be lost. To try to make up that lost time would involve undesirable risks and is likely to reflect future cost escalations associated with crash programs.

In the light of these considerations, an additional \$34 million should be added to the FY 1970 budget. These funds would be used to augment the \$6 million presently included to provide for a more solid definition and preliminary design effort; to define experiments and experiment modules in many disciplinary areas, and most importantly, to support advanced systems development in major areas such as life support, electrical power and information management.

NEED FOR CONTINUING LUNAR EXPLORATION

Lunar exploration is of great national importance—in furthering our scientific knowledge, in determining the potential for exploitation of the moon, and in demonstrating our international leadership in exploration of space. Fortunately, we have the basic capability to accomplish this end for our nation at great effort has developed the Apollo system for manned lunar missions.

The moon has particular scientific interest and potential direct benefits because of its close association to the earth. A number of landings are necessary to establish a reasonable base of data for understanding the origin, history, processes, and present state of the moon and its relation to the earth and the solar system. There are numerous distinct provinces and processes on the moon. Based on our present knowledge, ten landings or more are needed for gathering data critical for the major decisions on future uses of the moon.

The flight hardware for accomplishing these missions is completing manufacture, trained operational teams are assembled, and with the success of the Apollo flights to date, the initial landing is expected in the very near future. Following the first flight our plan is to visit at least three additional lunar provinces and then with the remaining six flights to make precision landings at points where significant unique features exist and where important processes are expected. The emphasis in this period will be on scientific return through observation, sample return, and hopefully emplacement of instrumentation on the surface, and hopefully photography and more sophisticated sensing from lunar orbit.

At the same time we must carry out our operations in a way that maximizes safety and effectiveness in an operational sense. A steady, reasonably spaced launch rate is the most economic and efficient use of facilities, hardware, and personnel. Undue spreading or gaps in the sequence will result in major programmatic problems in safety, reliability, costs, and maintaining of trained teams. The above factors lead to the judgment that about three missions per year is a good choice for launch interval.

2

We have a good understanding now of the basic methods and measurements to obtain the needed data. Candidate landing sites have already been selected. Sufficient lead time exists to provide scientific instrumentation, means to significantly improve mobility, and extensions of surface staytime for the last six flights which will significantly improve the quality of the data return. To achieve this improvement, funds that are not presently available must be made available now in FY 1970. We believe that the President should be in a position to announce a worthy continuing program of lunar exploration following the initial Apollo landing. Modest augmentation of funds will enable this condition to exist.

At the present time, scientific equipment exists for just four lunar landings. Studies and developments indicate that necessary and substantial increases in exploration capabilities of the remaining missions can be attained at relatively modest cost. These funds, which require a \$79 million supplement to the FY 1970 budget, are needed for: (a) additional surface science packages, (b) science experiments to be used in lunar orbit, (c) extending the surface staytime, and (d) increasing astronaut mobility.

NEED FOR AUGMENTING EFFORT ON LOW COST SPACE TRANSPORTATION

Past and current manned spacecraft and launch vehicle systems are characterized by high cost of flight hardware and support operations. This condition was not unexpected, for the emphasis in both of these space transportation elements for pioneering flight missions has been on performance and reliability.

To support future space flight operations, there is a strong need to greatly reduce the annual costs of space transportation operations, while sustaining the necessary number of space flights. During this first decade of space operations, our technology base has steadily advanced to the point that new systems can be defined now, which can satisfy the (1) basic need of major reductions in the cost of placing satellites, men, equipment and supplies, into orbit, and (2) major advances in space system versatility. To use space as we use other parts of our environment, it must be accessible, readily and economically. The most significant feature of the new concept is maximum reusability from flight to flight.

This new class of space vehicles, the space shuttle, is a key to national space flight operations in the last half of the 1970's and beyond. As presently conceived, the space shuttle will have the inherent capability for multi-applications. Space operations by other agencies, such as the Department of Defense, could use the shuttle and its support equipment with little modification. To maintain a space station or base for sustained operations in earth orbit, extensive logistic support operations are required. Present systems or modifications thereto will be costly and limited in performance for the task of logistic support of a space station. In addition to low operational costs and large and flexible payload delivery and return capability, the ability to carry non-astronaut personnel to and from orbit under low acceleration loads in a shirtsleeve environment is of fundamental importance to effective use of space for exploration and operations. Internationally, the United States can use the development of a space shuttle to establish world leadership in the field of space transportation. The use of a space shuttle will provide a broad range of experience in space operations -- experience that would be directly applicable to almost anything the United States would want to do in space.

Definition studies have been constrained by a limited budget. In order to assure proper consideration of the alternative concepts exploiting major technology advances, it is necessary to expand our current study effort. Similarly, to assure the availability and delivered performance of advanced subsystems, exploratory development efforts are required now. Delay will result in further loss of skilled personnel from the program, thereby leading to a more expensive program sometime in the future. The application of this rapidly maturing technology to a fundamental need of the national space program will be delayed with a concomitant loss in momentum and personnel.

For these reasons, additional funding is required in FY 1970 in the amount of \$32.8 million. These funds will be utilized to provide a more solid definition and preliminary design effort which will in turn provide a greatly improved basis for selection of the technical approach. The heaviest application of these funds, however, will be for advanced systems development emphasizing long life reusable systems, onboard checkout and other approaches aimed at major reductions in operating costs.

Recommended Presidential Action

The following illustrates the type of action that we have in mind for the President to take if the Task Group approves the proposed FY 1970 Budget Amendment later this month, and shows the relation of this action to the Task Group assignment.

The Presidential statement, perhaps at the time he is honoring the Apollo 9 astronauts, would make these points:

- 1. The successes of Apollo 8 and 9 mean that the Administration must no out its planning and preparations for post-Apollo manned space flight into high gear.
- 2. His Task Group on space policy has given first consideration to the immediate steps necessary to assure America's long-term future in manned space flight.
- 3. Based on the first recommendations received from the Task Group and on their review of the NASA Budget for FY 1970 left by the previous Administration, he has determined that the following actions are necessary:
- a. He is requesting that the Congress add to the FY 1970 Budget provision for resuming production of the Saturn V, the free world's largest launch vehicle. The United States means to continue manned space flights beyond the Apollo program and must therefore take steps in FY 1970 to assure continuity of Saturn V production so that we can have additional large launch vehicles when we need them without the excessive costs of stopping and then restarting production.

- b. We must provide the additional scientific and operational equipment required for continuing manned exploration of the moon after the first few Apollo landings. He is therefore recommending the additional FY 1970 funds required for procurement of equipment needed for an economical program of lunar exploration. The extent and nature of our future manned operations on the moon will be studied further by the Task Group and he will incorporate his final decisions in his FY 1971 Budget recommendations.
- c. We must also now take the first steps to assure that the United States can move on a sound basis into a strong position in earth orbital manned flight in the next decade. He has therefore directed the Administrator of NASA, working with the other members of the Task Group, to develop plans for the establishment by the United States during the middle 1970's of a large semi-permanent space station and a space shuttle logistics support system to convey passengers and supplies to and from the space station at low cost. In the view of the Task Group this is an important future goal in space and the logical next major step in manned space flight. He will submit his recommendations on a specific space station and space shuttle program after receiving further recommendations from the Task Group in September on the detailed characteristics and projected cost of such a project. To permit design work and preliminary development of essential subsystems to proceed in FY 1970, he is recommending to the Congress a FY 1970 Budget Amendment of \$____ The importance of proper planning for this project is great. The

Administrator of NASA informs me that he is establishing within NASA

a special project to conduct this work under 2 direction of
, with ______as Deputy Director.

4. The actions he is taking today will preserve the full range of options for our space program in the next decade. As the Task Group has pointed out, the items covered by the Budget amendments he is submitting to Congress in the field of manned space flight will be necessary for a future balanced program regardless of the specific goals and detailed programs that emerge from their comprehensive recommendations on the future directions and goals of our nation's space program about September 1.

NASA 4/3/09 (dictated by Disk Specer

FISCAL '71 SAVINGS FROM A DECISION TO REDUCE THE NUMBER OF MANNED LUNAR FLIGHTS TO ONE PER YEAR

(Millions of dollars)

Saturn V - ongoing (14 and 15)	About 400 (out of 448.3)
Spacecraft - ongoing	About 400 (out of 424.7)
Saturn V - new (16, 17?)	100-200
Spacecraft - new	0-50
Launch costs	About 50
Centers	0-150
Mission and Payload Design	50-100
Total	1,000 - 1,350

If terminate Saturn V (14 and 15 production), can defer for 4-5 years decision to reopen production lines.

THE WHITE HOUSE

MAR 8 1969

TO: Hofgren -

FROM: KEN COLE

FYI_

COMMENT

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signed - Au sturing back-up

THE WHITE HOUSE
WASHINGTON
March 7, 1969



MEMORANDUM FOR

The Acting Administrator National Aeronautics and Space Administration

Thank you for your thoughtful memorandum of February 26 on problems and opportunities in manned space flight. I recognize the significance of the issues you raise, and agree that they merit serious and careful consideration.

In accordance with my instructions, the Budget Director is engaged in a Government-wide effort to determine where near-term budget reductions can be made in order to provide for future programs within the limits of our overall fiscal policies. He will review your 1970 budget request in that context.

On February 13, I established a task group, of which you are a member, to consider future plans for the space program. I hope that the task group will devote its primary attention to a thorough examination of the major alternatives for the next decade in space, their expected accomplishments, and their costs. The need for early decision on some matters will, of course, be considered by the group in the context of that review.

Thirty Win

EXECUTIVE OFFICE OF THE PRESIDENT

BUREAU OF THE BUDGET

WASHINGTON, D.C. 20503

MAR 3 1969

MEMORANDUM FOR THE PRESIDENT

Subject: Proposed budget amendment for the space program

I have received from Dr. Paine a request for a fiscal year 1970 budget increase of \$200 million as the first increment in augmenting manned space flight activities in 1973 and beyond. These additional 1970 funds would be used for:

- additional Saturn V production;
- augmenting the manned lunar exploration program;
- beginning design and development of a manned space station.

No reductions in other space program areas have been offered as offsets against these increases.

Dr. Paine has also written you directly urging you to approve the 1970 budget amendments and to endorse the establishment of a manned space station as a general objective of our future space program. Such an objective will require firm commitment to annual funding over an 8-10 year period well in excess of current space budget levels.

On February 13, you established an interagency task group to review future space program plans and report to you by September 1, 1969. In his letter to you, Dr. Paine suggests that the time table for policy recommendations on manned space flight be advanced to March 31 with recommendations on the remainder of the program due on September 1. The task group is moving ahead with its review.

Our first look at the agency recommendations that we have received in response to our request for review of the Johnson budget shows many more increases than decreases. In total these requests, if granted, would make precarious if not impossible the attainment of the surplus forecast by the previous Administration, which already depends on the extension of the surtax and the enactment of controversial legislation which may not be attained. And I know that your conviction is that our fiscal policy must be addressed to the attainment of a budget surplus as an essential response to today's inflationary environment and the uncertainties surrounding our commitment in Vietnam.

In this combination of circumstances, I recommend:

- that you make no statements endorsing future space objectives until your interagency task group has made its recommendations and I have had an opportunity to review them and advise you within the total budget context;
- that I postpone my recommendation on the proposed NASA 1970 budget amendment pending consultation with the task group on space, a detailed budget review of the NASA proposal, and completion of my Government-wide budget review to identify program and funding alternatives for your consideration.

If you agree with these recommendations, a memorandum to Dr. Paine is attached for your signature, informing him of this approach.

Robert Mayo

Rebert P. Mayo

Attachment

cc: The Vice President The Science Adviser

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THE WHITE HOUSE

MEMORANDUM FOR

The Acting Administrator, National Aeronautics and Space Administration

Thank you for your thoughtful memorandum of February 26 on problems and opportunities in manned space flight.

I recognize the significance of the issues you raise, and agree that they merit serious and careful consideration.

I established a task group on February 13, of which you are a member, to consider future plans for the space program. I understand that the task group will meet this week to begin deliberating the proposals contained in your memorandum.

In accordance with my instructions, the Budget Director is engaged in a Government-wide effort to determine where near-term budget reductions can be made in order to provide for future programs within the limits of our overall fiscal policies. He must review your 1970 budget request and the task group recommendations in that Government-wide context.

I am asking the task group and the Budget Director to define program and budget alternatives for my consideration along with their recommendations, and will consider the manned space flight issues further when their reports are available to me.

cc: The Vice President
The Secretary of Defense
The Science Adviser
Director of the Budget



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION WASHINGTON, D.C. 20546

February 26, 1969

OFFICE OF THE ADMINISTRATOR

MEMORANDUM FOR THE PRESIDENT

Subject: Problems and Opportunities in Manned Space Flight

This memorandum is the first of several that I am preparing in response to your request of February 17, 1969, that I give you my views on the principal policy problems in space and aeronautics which now face your Administration, point out some of the opportunities for leadership initiatives now open to you, and give you my recommendations on the new directions which your Administration should set for the nation in space and aeronautics. These memoranda will also serve to indicate the alternative approaches NASA is examining in developing plans and proposals for the post-Apollo period as requested in your memorandum of February 13, 1969, and the basis for my recent recommendations to the Director of the Budget on amendments to the NASA FY 1970 Budget. Copies are being sent to the Vice President, the Secretary of Defense, and your Science Adviser as you requested, with additional copies to the Director of the Budget and Mr. Robert Ellsworth.

This memorandum outlines the problems, opportunities, and principal factors to be considered in Manned Space Flight, the area in our space program where NASA and your Administration are faced with the most urgent need for high-level decisions.

1. Introduction -- NASA now has no approved plans or programs for manned space flight programs beyond the first Apollo manned lunar landings and the limited Apollo Applications earth orbital program now approved and underway. Sharply reduced space budgets over the past three years and the failure of the previous Administration to make the required decisions and provide the necessary resources for future programs have built in a period of low accomplishment which will become apparent during your Administration, and have left the program without a clear sense of future direction for the post-Apollo period. Positive and timely action must be taken by your Administration now to prevent the nation's programs in manned space flight from slowing to a halt in 1972.

The Apollo program served the nation well in providing a clear focus for the initial development and demonstration of manned space flight capabilities and technology. What is needed now, however, is a more balanced program for the next decade which will focus not on a single event but on sustained development and use of manned space

flight over a period of years. As discussed below, there are two principal program opportunities: one is a long-term carefully-planned program of manned exploration of the moon, the other is a wide range of activities involved in the progressive development and operation of a permanent manned station in earth orbit. I believe that (a) manned lunar exploration should be continued at an economical rate to the point where a sound decision on the future course the nation should follow with respect to the moon can be made on the basis of knowledge and experience gained from a series of manned missions, and (b) the nation should, in any case, focus our manned space flight program for the next decade on the development and operation of a permanent space station—a National Research Center in earth orbit—accessible at reasonable cost to experts in many disciplines who can conduct investigations and operations in space which cannot be effectively carried out on earth.

2. Status of U.S. Programs and Plans -- If our Apollo flights continue to be successful we will achieve the first manned lunar landing later this year, possibly as early as this summer. We will then carry out three additional landings at different locations on the moon, but the improved equipment required for moving beyond this with a scientifically significant lunar exploration plan is restricted to the study stage. We will have a number of Saturn V boosters and Apollo spacecraft for future lunar missions left over from the Apollo program.

In earth orbit, the next major U.S. milestone in manned space flight is the Saturn I Workshop, which is now scheduled for launch in late 1971. This first step toward a space station will use existing Saturn IB rockets left over from the Apollo Program. Flight operations, including revisit and experimental Apollo telescope operations, will be completed in 1972. The military missions of the Air Force's smaller and more specialized Manned Orbiting Laboratory (MOL) are expected to take place about the same time.

There are no approved plans and no provision in the FY 1970 Budget for continued U.S. development or utilization of manned space flight beyond the Apollo moon flights, the single set of Saturn I Workshop and Apollo telescope missions, and the Air Force MOL program as currently planned. For the future of manned space flight beyond 1972 the present FY 1970 NASA Budget provides only small sums limited to studies of advanced manned lunar exploration and earth orbital space stations.

3. <u>USSR Prospects</u> -- Recent USSR manned space flight activities substantiate previous indications that they are continuing strong programs pointed both at manned operations to the moon and at space

station operations in earth orbit. Beyond this, they talk openly of future manned trips to the planets. While we now expect to land American astronauts on the moon before the Russians get there, the prospects are that during the period of our lunar flights in 1969-1970 the Soviets will, in addition to their manned lunar program, follow up their Soyuz 4-5 success by pushing toward a dominant position in large-scale long-duration space station operations in earth orbit. They will have the required heavy-lift launch capability. A multi-man, multi-purpose USSR space station operating in orbit before the U.S. could match it would give the USSR a strong advantage in space research and operations. Their moving clearly ahead of the U.S. in this field would have a continuing impact on the rest of the world, particularly if the U.S. program did not include a strong program in the earth orbital space station area.

- 4. Opportunity for Leadership -- The fact that the previous Administration deferred to you the setting of the nation's goals in manned space flight creates a problem, but it also gives you a unique opportunity for leadership that will clearly identify your Administration with the establishment of the nation's major goals in manned space flight for the next decade. The impact and positive image of your leadership would be seriously downgraded in the eyes of the nation, the Congress, and the public, in my view, if the U.S. were once again placed in the position of reacting to Soviet initiatives in space. For this reason, I believe that you should consider the advisability of initiating a general directive to define the future goals of manned space flight in the next few months, prior to your final decisions on the plans that will be recommended to you on September 1 by the members of the Task Group you have established. For example, a major thrust this summer by the USSR in the earth orbital space station field is a distinct possibility that would take the edge off your announcement of a similar U.S. objective in the fall. For the reasons given below, I believe that the case that a space station should be a major future U.S. goal is now strong enough to justify at least a general statement on your part that this will be one of our goals, with the understanding (which could be reaffirmed in your statement) that the scope, pace, specific uses, and detailed plans of the space station will be determined on the basis of the planning studies you have requested.
- 5. Basic National Policy -- There is, I believe, almost unanimous agreement on the part of responsible leaders in your Administration, the Congress, industry, the scientific community, and the general public that the U.S. must continue manned space flight activities. The concerns and criticisms that have been expressed do not question the continuation of a manned space flight program but relate principally to

(a) the cost of the program, (b) the value of specific goals, and (c) questions of priorities, within the space program or between the space program and other scientific fields or other national needs. However, virtually no responsible and thoughtful person, to my knowledge, advocates or is prepared to accept the prospect of the United States abandoning manned space flight to the Soviets to develop and exploit as they see fit.

It is very important that all concerned with planning the future of our space program recognize this basic question of national policy. Acceptance of the fact that as a matter of policy the nation must and will continue in manned space flight leads to the following four points which should be considered in our planning:

- a. Studies of our alternatives in future space programs should focus on the pace, objectives, and content of the manned space flight program, not on whether the U.S. should have a manned program. Alternatives which have the effect of not supporting a continuing effective U.S. manned flight program are not acceptable. A balanced total space program must include a significant continuing manned space flight program as one of its key elements.
- b. The U.S. must be prepared to pay the annual cost of an advancing, effective manned space flight program, high though it may seem. An important early objective, however, must be to reduce the cost of manned space flight, without sacrificing safety, reliability, or accomplishment.
- c. An advancing, effective manned space flight program cannot at this stage be limited to repetitive flights of missions already flown but must provide for the continuous evolutionary development of new capabilities, new missions, new experiments, and new applications.
- d. Decisions and selections of future programs must be made on a continuing timely basis several years <u>before</u> current objectives are achieved; otherwise the long lead-times inherent in the space program will force dangerous and expensive breaks in continuity that will undermine the success of the program.
- 5. Effects of Decisions in the Previous Administration -- The failure, during the past three years, to make timely decisions and to take necessary future-oriented actions has placed our manned space flight program in a serious and difficult position for the early 1970's. The

production of both Saturn IB and Saturn V launch vehicles has been terminated. The Saturn V vehicles now on order must either be launched on schedules stretched out to clearly uneconomical rates, rates which may be below the minimum acceptable for reliability and safety, or flown with experimental payloads that repeat previous missions without significant advances. The failure to develop and approve future goals and objectives has forced the program into expensive and unproductive "holding" operations in some areas and made it more difficult to focus sharply on the planning and preliminary development efforts which must precede future programs. The watchwords of budgetary actions for the past several years have been "delay," "stretch-out," "defer," and "hold the options open." The results are that for the next several years the nation will be getting a smaller return on its great investment in manned space flight capability, and that the long-deferred decisions on future goals must be taken now at an earlier time than your Administration would otherwise prefer.

- 6. Recommended Approach -- I believe that your Administration should now speak out boldly about the nation's future in space. Instead of continuing to stretch out and minimize the manned space flight program at the risk of reducing it beyond the point where it can be effective, your Administration should (a) point out the fact that the nation must continue to move forward in manned space flight, (b) while seeking every economy, accept the costs that this entails, and (c) plan, announce, and support a new ten-year space program-including a strong program of manned space flight--of which this nation and the world will be proud. Your Administration's decisions in the next few months will determine the nation's direction and progress in space for many years.
- 7. Study of Future Directions -- The process established in your memorandum of February 13, 1969, provides a useful framework for the development of specific goals and plans for the future of our space program. It will, among other things, enable NASA to communicate to the other agencies involved the thinking and planning that we have had underway for some time, and help assure NASA that its planning is properly coordinated with future aerospace planning in DOD, DOT, and other departments.

However, unless adequate provision is made in the FY 1970 Budget in time for Congressional action in the FY 1970 authorization and appropriation cycle, the implementation of plans decided upon next fall as a result of the Task Group recommendations will have to await the FY 1971 cycle. This would mean the loss of an entire year and the foreclosure of your option to move ahead promptly with a strong manned space flight program if that should be your decision.

For this reason, I believe that it is essential that the FY 1970 Budget be amended now to include the manned space flight funds—specifically deleted by the previous Administration—required to support moving ahead in lunar exploration and space station development. I can appreciate that you may be reluctant to decide now to amend the FY 1970 Budget, thus appearing to prejudge the recommendations to be made in September, but postponement will foreclose what may well be your most attractive option and will perpetuate and aggravate an already unsatisfactory situation.

8. Future Directions and Goals -- As stated above, two major directions have been identified for the manned space flight program in the next decade. One is the further exploration of the moon, with possibly the eventual goal of establishing a U.S. lunar base; the other is the further development of manned flight in earth orbit, with the goal of establishing a permanent manned space station in earth orbit that will be accessible and useful for a wide range of scientific, engineering, and application purposes. An important part of the space station goal is the development of a low cost logistics system for shuttling people and equipment to and from the space station.

These goals have in common the fact that they are not focused on a single dramatic achievement to be accomplished by a certain date, as was the case in the Apollo program. However, they can provide in the second decade of space, as Apollo did in the first, the focus for continuing advances in U.S. space capabilities and technology which will be available to support future defense and civilian requirements and to sustain our long-term national technical and economic vitality.

Lunar Exploration -- In lunar exploration, our immediate problem is to assure that we have adequate scientific and operational equipment to allow us to follow up the first few lunar landings with an effective initial program of exploration that will permit sound judgments on the potential value of more advanced future missions and the eventual establishment of a lunar base. If, as we now expect, we have early success in achieving the first manned landing on the moon, we will have Apollo hardware -- launch vehicles and spacecraft -- for as many as nine additional lunar missions, but we lack scientific and improved operational equipment for more than three of these. In order to proceed with these missions at an economical rate, we are preparing a budget amendment that will permit prompt initiation of procurement of additional scientific and operational equipment early in FY 1970. Your approval of this budget amendment now will not constitute a commitment to lunar exploration beyond that possible with the Saturn-Apollo hardware procured for the Apollo program. Decisions on an advanced program of lunar exploration requiring major redesign of the Apollo Lunar Module, the development of shelters and vehicles for use

on the lunar surface, and the question of the ultimate goal of establishing a lunar base can and should be made in your review of the plans and proposals to be submitted next September.

- Space Station -- With respect to future manned earth orbital flight, the immediate problem is to assure that sufficient funds are available in FY 1970 to permit detailed planning and design studies to proceed, and to develop critical long lead-time subsystems that will be required in any future manned space flight program. Funds for these purposes were specifically excluded from the present FY 1970 Budget, except for a small amount for studies, and we are therefore preparing an appropriate amendment to the FY 1970 Budget. This budget amendment can be approved now without a commitment on your part to a permanent space station as a major national goal. However, as stated in paragraph 4 above, we believe that it is in the national interest for you to endorse this as a general U.S. objective at this time. One possibility would be for you to give NASA and the Task Group a specific instruction at the time you approve the budget amendment that their recommendations to you in September should include proposals on the optimum program for establishing and utilizing a permanent U.S. space station.
- 11. Space Station Concept -- The space station discussed here should become a central point for many activities in space, and would be designed to carry on these activities in an effective and economic manner. It would be located in the most advantageous position to conduct investigations and operations in the space environment, many important aspects of which cannot be duplicated in an earth-based environment. The best place to study space is in space. We have in mind a system consisting of general and special-purpose modules with a low-cost logistic support system that will permit ready access and return by many users and their equipment and supplies. The space station would not be launched as a single unit, but would evolve over a period of years by adding to a core new modules as they are required and developed. One of the key objectives is to develop the system in cooperation with the Department of Defense so that it can be adaptable for future military research as well as for a variety of non-military scientific, engineering, and other applications purposes.

There are many potential valuable uses of such a space station, and new ones will be found as experts in many fields become familiar with the possibilities and are able to visit and actually use it. However, we believe strongly that the justification for proceeding now with this major project as a national goal does not, and should not be made to depend on the specific contributions that can be foreseen today in particular scientific fields like astronomy or high energy physics, in particular economic applications, such as earth resources

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surveys, or in specific defense needs. Rather, the justification for the space station is that it is clearly the next major evolutionary step in man's experimentation, conquest, and use of space. The development of man's capability to live and work economically and effectively in space for long periods of time is an essential prerequisite not only for operations in earth orbit, but for long stay times on the moon and, in the distant future, manned travel to the planets. It is for these reasons that I believe that space station development should become one of your Administration's principal working goals for the nation over the next decade.

- Saturn V Production -- Under NASA's reduced 1969 operating plan and its present FY 1970 Budget, the production of Saturn V, the nation's largest launch vehicle, has been discontinued. The long-term future of the manned space flight program, as outlined above, will clearly require additional Saturn V launch vehicles, and we are therefore proposing a FY 1970 Budget amendment which will permit production to be resumed, at a very low rate, before "start up" costs become excessive. This amendment will not preclude other future decisions on large launch vehicles that might be made next fall, but it will assure that funds are available to provide the launch vehicles that will be needed. It will also get the U.S. out of what I believe to be a current untenable position of having discontinued production of our largest space booster at a time when the Soviets are expected to unveil a booster of this class or larger. For the reasons stated in paragraph 4 above, I recommend that you now take the initiative and announce this decision before the Russians launch their first booster in this class, so that your announcement will not be viewed as a reaction to the Soviet development.
- 13. Cost -- In planning the space program careful consideration must, of course, be given each year, and especially at the time new major programs are undertaken, to the future budget levels required. Our national budget system wisely and necessarily provides for a review at least annually of both on-going and new programs, but longterm enterprises like major space programs require a policy commitment to follow through with the resources required over a period of many years. For these reasons, it is important that your Administration be prepared to accept the total budget levels required by the programs you determine to be in the national interest. NASA on its part has the obligation continually to search out the least costly ways of carrying out the approved programs and to make every effort to use the possibilities of new technology to reduce future costs. But most important of all, neither NASA nor the Administration should, in the name of economy, underestimate the resources that can realistically be expected to be required. We must meet our commitments.

Our present projections indicate that a balanced total NASA program that includes the recommended strong manned space flight program can be carried out with annual budgets over the next five years which will not rise above the \$4.5 to \$5.5 billion range. More precise projections will depend on the nature of the future lunar exploration and space station programs decided upon and on future decisions in areas other than manned space flight. By the time we submit the planning proposals to you in September we will be able to state with considerable confidence the projected future estimated costs of alternative total programs.

A total annual program level of \$4.5 - \$5.5 billion compares to program and expenditure levels in the \$5.0 - \$6.0 billion range reached in the 1964-1967 period, which in the past two years has been reduced to \$3.9 billion in our FY 1969 operating plan and the present FY 1970 Budget. As we have informed the Director of the Budget, the FY 1970 NASA Budget amendments we are proposing in manned space flight amount to about \$200 million and would bring our total 1970 Budget (including authority carried forward from FY 1969) to slightly under \$4.1 billion. Even with this proposed amendment, however, NASA's outlays (expenditures) in FY 1970 will still decline \$200 million from the \$4.25 estimated for FY 1969.

This memorandum has given you my recommendation on the position your Administration should take with respect to the critical and urgent situation in manned space flight; other NASA problems and opportunities can be treated appropriately in the Task Group framework for your consideration in September. For the reasons stated above, and with the possibility of an initial lunar landing in July, I believe you should not defer initial consideration of the manned space flight problem. I therefore specifically recommend that you ask the members of the Task Group established in your memorandum of February 13, 1969, to meet within the next month and to consider as their first order of business the matters identified in this memorandum as requiring your early decision. They should then present their recommendations to you by the end of March. In anticipation of such a meeting, NASA will prepare and make available to the other members of the Task Group (a) detailed materials on the alternatives available, and (b) suggestions on how the recommended early decisions can be related to an effective process for developing overall space plans and alternatives for your consideration in September. I hope that this proposal will meet with your approval, and would, of course, be happy to discuss this matter further with you at your convenience.

T. O. Paine

Acting Administrator

cc: The Vice President

The Secretary of Defense

The Science Adviser

The Director of the Budget

Mr. Robert Ellsworth

THE WHITE HOUSE

March 6, 1969

MEMORANDUM FOR

THE PRESIDENT

The Budget Director has received from NASA a request for an FY 1970 budget increase of \$200 million as the first increment for augmented manned space flight activities in 1973 and beyond. No reductions in other space program areas have been offered as offsets against these increases.

Dr. Paine has also written you directly (memorandum attached) urging an early Presidential statement making the development of a manned space station one objective of our future space program.

On February 13, you established an interagency task group to report to you by September 1, 1969, on future space program plans.

The attached memorandum to Dr. Paine for your signature reflects the views of my office, the Vice President, the Bureau of the Budget, the Office of Science and Technology, and the National Security Council that the immediate issues raised by the new budget request should be separated from the task group review and handled as a part of the budget process. The task group will consider the need for early decisions as a part of its broader deliberations.

The attached memorandum from the Budget Director discusses the budget aspects in more detail.

Robert Ellsworth

Assistant to the President

Attachments

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OFFICE OF SCIENCE AND TECHNOLOGY WASHINGTON, D.C. 20506

March 6, 1969

MEMORANDUM FOR

Dr. DuBridge

Subject: Background for Space Task Group Meeting with the Vice President

Attached for your consideration is a paper which outlines essential elements of the staffing and organization of the Space Task Group effort.

A suggested agenda for the first meeting of the Space Task Group follows:

Item 1. Paine Memorandum on Problems and Opportunities for Manned Space Flight, February 26, 1969

The agenda for the first meeting should include discussion of the memorandum to the President from Dr. Paine. Specifically, Dr. Paine has suggested that the STG make recommendations to the President by the end of March on the three key issues which he has raised: Funding for follow-on Lunar exploration, for maintaining Saturn V production, and for space station definition. Dr. Paine has formally submitted a request for a FY 1970 budget amendment to the Director of the BoB for these items. The Budget Director in his response to Dr. Paine asked for detailed information supporting this budget request and has deferred action pending receipt of this information and pending an opportunity to consult with the STG on planning for the future space program.

It appears that there are two basic questions which the STG should consider with regard to Dr. Paine's request. First is the need for urgency, i.e., the need for an STG recommendation by the end of March. Second is the substantive question of whether or not the specific actions requested are separable from the development of the long-range space plan. Regarding the question of urgency, we have been told by Mr. Crabill of BoB that unless Congress acts much more rapidly than has been its past practice, a budget amendment could be submitted as late as June or July and still be acted upon in this Session.

From a programmatic standpoint, the arguments in favor of early action appear very weak (see attached memorandum from Dr. Branscomb which discusses the reaction of your Space Panel to Dr. Paine's request).

It is suggested that you discuss the following strategy with the Vice President:

First, that Dr. Paine be asked to discuss his memorandum at the STG meeting and the issues which he would like resolved; that Mr. Mayo comment on the budgetary urgency.

Second, that the STG as a group accept the request that these issues be considered, but agree (a) that the issues cannot be resolved without coming to grips with broader policy questions on the scope and content of the future space program, and (b) the Task Group will give priority attention to these issues and will attempt an early resolution of them but will require additional studies and information before a recommendation to the President can be made.

Item 2. Space Issues

One of the important aspects of the first meeting would be agreement to the preparation of a set of key issues and questions which can provide the basis for staff studies and subsequent STG discussions. We have attached a sample set of such issues. DoD and NASA should be asked to identify those key issues which in their view will determine the objectives, program alternatives, funding levels, and time-phasing of the long-range space program. It is proposed that the STG at its second meeting seek agreement on a set of issues that should be developed in greater depth by NASA and DoD working with STG staff.

Item 3. Special National Intelligence Estimate

It seems essential to the consideration of alternative objectives and their timing to have a Special National Intelligence Estimate (SNIE) on the Soviet space program. The STG could initiate an immediate request to this end supplemented, if necessary, by attention to particular matters raised in the issues papers.

Item 4. Future Meetings

Activity will be structured around/meetings. The staff directors will attend these meetings, as well as other invited participants.

It is suggested that the next meeting of the STG be held about March 17 to achieve agreement on a set of basic issues and on the approach to developing positions on these issues, the relative priority in which they should be addressed, and the need for special studies and working groups to support the STG.

At the third meeting (around April 1), it should be possible to table an outline of the final report along with further discussion of issues and review of supporting studies.

The initial draft of the report to the President (including the identification of matters requiring Presidential decision) should be available to the principals by June 15.

In addition to the above items, you may wish to raise with the Vice President the question of State Department membership and participation in the work of the STG. It will be necessary to give special consideration to the development of the international aspects of the study which, of course, are intimately related to the program options. This would seem to require a special task force study in this area with a staff director from State participating as a member of the staff director's committee. The State Department's response to the request for its comments on the Townes' Task Force report would appear to be a good issue paper for early discussion at a follow-on meeting of the STG.

David Beckler

Russell Drew

Donald Steininger

SPACE TASK GROUP (STG)

Purpose:

To provide the President, by September 1, 1969, a coordinated program and budget proposal for the scope and direction of the space program during the Post-Apollo period.

Membership:

The Space Task Group consists of the following:

Vice President, Chairman

Secretary of Defense

Administrator, National Aeronautics and Space Administration

Science Adviser to the President

As appropriate, participation will be invited from the Secretary of State, the Director, BoB, the Director, CIA, and other interested parties.

Staff Support:

Appropriate staff support will be provided by member agencies. No single unified staff is anticipated. A staff director's committee, chaired by OST, will meet on a regular basis to consult, to coordinate staff studies, and to monitor progress toward Task Group objectives. NASA and DoD would each appoint a senior staff director who will serve as a point of contact and represent NASA and DoD on the staff director's committee. The staff directors should be informed of all STG related efforts within their organizations, and have direct access to his principal on STG matters.

Special Studies:

To provide the basis for selection of alternative programs by the STG, studies will be conducted by the member agencies in those areas determined by the STG to be important to an informed judgment. In those areas which are program oriented, the study objectives will be to define hardware characteristics, estimated development schedule, estimated development and operational costs, the character of the operations or experiments to be conducted and all other information relevant to determining the technological, scientific, economic, or political value of the program and its requirements for funds, facilities, manpower and other resources for the next ten years. The studies will be conducted by the responsible agencies or, where deemed appropriate by the STG, by an interagency working group.

Outside Support:

The President has suggested that the STG "seek advice from scientific, engineering and industrial communities, from the Congress and the public." There are several mechanisms by which this may be accomplished. The STG may consider one or more of the following:

President's Science Advisory Committee -- The President's Science Advisory Committee, particularly the members of its Panel on Space Science and Technology, will be available to comment on the special studies and issues papers developed in the course of the study and to conduct such special inquiries as may be necessary and appropriate.

Other Advisory Committees -- The National Academy of Science through its Space Science Board may be asked to perform specific studies; within the principal agencies individual advisory groups may be utilized, such as the Defense Science Board, STAC, the Lunar and Planetary Missions Board, Astronomy Missions Board and the Research Advisory Committee for NASA.

Individual Associations -- The Aerospace Industries
Association can be encouraged to address specific topics which
would be of value to the Task Force.

Public Participation -- Professional societies, such as the AIAA and the AAS, could be requested to organize and convene special symposia in which the broad topic of the space program for the next decare or specific areas within this topic could be discussed with broad public participation.

The Congress -- The STG principals could arrange a series of luncheon meetings with key Congressional leaders in which the subject of the STG efforts would be discussed and views exchanged on the principal issues. It may also be desirable to arrange staff contact between the STG staff director's committee and appropriate members of the Congressional committee staffs.

THE WHITE HOUSE,

March 6, 1969

MEMORANDUM FOR

THE PRESIDENT

The Budget Director has received from NASA a request for an FY 1970 budget increase of \$200 million as the first increment for augmented manned space flight activities in 1973 and beyond. No reductions in other space program areas have been offered as offsets against these increases.

Dr. Paine has also written you directly (memorandum attached) urging an early Presidential statement making the development of a manned space station one objective of our future space program.

On February 13, you established an interagency task group to report to you by September 1, 1969, on future space program plans.

The attached memorandum to Dr. Paine for your signature reflects the views of my office, the Vice President, the Bureau of the Budget, the Office of Science and Technology, and the National Security Council that the immediate issues raised by the new budget request should be separated from the task group review and handled as a part of the budget process. The task group will consider the need for early decisions as a part of its broader deliberations.

The attached memorandum from the Budget Director discusses the budget aspects in more detail.

Signed

Robert Ellsworth
Assistant to the President

Attachments

cc: Vice President

Dr. DuBridge

Dr. Kissinger

Mr. Mayo

CTWhitehead:ed

THE WHITE HOUSE

MEMORANDUM FOR

The Acting Administrator
National Aeronautics and Space Administration

Thank you for your thoughtful memorandum of February 26 on problems and opportunities in manned space flight. I recognize the significance of the issues you raise, and agree that they merit serious and careful consideration.

In accordance with my instructions, the Budget Director is engaged in a Government-wide effort to determine where near-term budget reductions can be made in order to provide for future programs within the limits of our overall fiscal policies. He will review your 1970 budget request in that context.

On February 13, I established a task group, of which you are a member, to consider future plans for the space program. I hope that the task group will devote its primary attention to a thorough examination of the major alternatives for the next decade in space, their expected accomplishments, and their costs. The need for early decision on some matters will, of course, be considered by the group in the context of that review.



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION WASHINGTON, D.C. 20546

February 26, 1969

OFFICE OF THE ADMINISTRATOR

MEMORANDUM FOR THE PRESIDENT

Subject: Problems and Opportunities in Manned Space Flight

This memorandum is the first of several that I am preparing in response to your request of February 17, 1969, that I give you my views on the principal policy problems in space and aeronautics which now face your Administration, point out some of the opportunities for leadership initiatives now open to you, and give you my recommendations on the new directions which your Administration should set for the nation in space and aeronautics. These memoranda will also serve to indicate the alternative approaches NASA is examining in developing plans and proposals for the post-Apollo period as requested in your memorandum of February 13, 1969, and the basis for my recent recommendations to the Director of the Budget on amendments to the NASA FY 1970 Budget. Copies are being sent to the Vice President, the Secretary of Defense, and your Science Adviser as you requested, with additional copies to the Director of the Budget and Mr. Robert Ellsworth.

This memorandum outlines the problems, opportunities, and principal factors to be considered in Manned Space Flight, the area in our space program where NASA and your Administration are faced with the most urgent need for high-level decisions.

1. Introduction -- NASA now has no approved plans or programs for manned space flight programs beyond the first Apollo manned lunar landings and the limited Apollo Applications earth orbital program now approved and underway. Sharply reduced space budgets over the past three years and the failure of the previous Administration to make the required decisions and provide the necessary resources for future programs have built in a period of low accomplishment which will become apparent during your Administration, and have left the program without a clear sense of future direction for the post-Apollo period. Positive and timely action must be taken by your Administration now to prevent the nation's programs in manned space flight from slowing to a halt in 1972.

The Apollo program served the nation well in providing a clear focus for the initial development and demonstration of manned space flight capabilities and technology. What is needed now, however, is a more balanced program for the next decade which will focus not on a single event but on sustained development and use of manned space

flight over a period of years. As discussed below, there are two principal program opportunities: one is a long-term carefully-planned program of manned exploration of the moon, the other is a wide range of activities involved in the progressive development and operation of a permanent manned station in earth orbit. I believe that (a) manned lunar exploration should be continued at an economical rate to the point where a sound decision on the future course the nation should follow with respect to the moon can be made on the basis of knowledge and experience gained from a series of manned missions, and (b) the nation should, in any case, focus our manned space flight program for the next decade on the development and operation of a permanent space station—a National Research Center in earth orbit—accessible at reasonable cost to experts in many disciplines who can conduct investigations and operations in space which cannot be effectively carried out on earth.

2. Status of U.S. Programs and Plans -- If our Apollo flights continue to be successful we will achieve the first manned lunar landing later this year, possibly as early as this summer. We will then carry out three additional landings at different locations on the moon, but the improved equipment required for moving beyond this with a scientifically significant lunar exploration plan is restricted to the study stage. We will have a number of Saturn V boosters and Apollo spacecraft for future lunar missions left over from the Apollo program.

In earth orbit, the next major U.S. milestone in manned space flight is the Saturn I Workshop, which is now scheduled for launch in late 1971. This first step toward a space station will use existing Saturn IB rockets left over from the Apollo Program. Flight operations, including revisit and experimental Apollo telescope operations, will be completed in 1972. The military missions of the Air Force's smaller and more specialized Manned Orbiting Laboratory (MOL) are expected to take place about the same time.

There are no approved plans and no provision in the FY 1970 Budget for continued U.S. development or utilization of manned space flight beyond the Apollo moon flights, the single set of Saturn I Workshop and Apollo telescope missions, and the Air Force MOL program as currently planned. For the future of manned space flight beyond 1972 the present FY 1970 NASA Budget provides only small sums limited to studies of advanced manned lunar exploration and earth orbital space stations.

3. <u>USSR Prospects</u> -- Recent USSR manned space flight activities substantiate previous indications that they are continuing strong programs pointed both at manned operations to the moon and at space

station operations in earth orbit. Beyond this, they talk openly of future manned trips to the planets. While we now expect to land American astronauts on the moon before the Russians get there, the prospects are that during the period of our lunar flights in 1969-1970 the Soviets will, in addition to their manned lunar program, follow up their Soyuz 4-5 success by pushing toward a dominant position in large-scale long-duration space station operations in earth orbit. They will have the required heavy-lift launch capability. A multi-man, multi-purpose USSR space station operating in orbit before the U.S. could match it would give the USSR a strong advantage in space research and operations. Their moving clearly ahead of the U.S. in this field would have a continuing impact on the rest of the world, particularly if the U.S. program did not include a strong program in the earth orbital space station area.

- 4. Opportunity for Leadership -- The fact that the previous Administration deferred to you the setting of the nation's goals in manned space flight creates a problem, but it also gives you a unique opportunity for leadership that will clearly identify your Administration with the establishment of the nation's major goals in manned space flight for the next decade. The impact and positive image of your leadership would be seriously downgraded in the eyes of the nation, the Congress, and the public, in my view, if the U.S. were once again placed in the position of reacting to Soviet initiatives in space. For this reason, I believe that you should consider the advisability of initiating a general directive to define the future goals of manned space flight in the next few months, prior to your final decisions on the plans that will be recommended to you on September 1 by the members of the Task Group you have established. For example, a major thrust this summer by the USSR in the earth orbital space station field is a distinct possibility that would take the edge off your announcement of a similar U.S. objective in the fall. For the reasons given below, I believe that the case that a space station should be a major future U.S. goal is now strong enough to justify at least a general statement on your part that this will be one of our goals, with the understanding (which could be reaffirmed in your statement) that the scope, pace, specific uses, and detailed plans of the space station will be determined on the basis of the planning studies you have requested.
- 5. <u>Basic National Policy</u> -- There is, I believe, almost unanimous agreement on the part of responsible leaders in your Administration, the Congress, industry, the scientific community, and the general public that the U.S. must continue manned space flight activities. The concerns and criticisms that have been expressed do not question the continuation of a manned space flight program but relate principally to

(a) the cost of the program, (b) the value of specific goals, and (c) questions of priorities, within the space program or between the space program and other scientific fields or other national needs. However, virtually no responsible and thoughtful person, to my knowledge, advocates or is prepared to accept the prospect of the United States abandoning manned space flight to the Soviets to develop and exploit as they see fit. It is very important that all concerned with planning the future of our space program recognize this basic question of national policy. Acceptance of the fact that as a matter of policy the nation must and will continue in manned space flight leads to the following four points which should be considered in our planning: Studies of our alternatives in future space programs should focus on the pace, objectives, and content of the manned space flight program, not on whether the U.S. should have a manned program. Alternatives which have the effect of not supporting a continuing effective U.S. manned flight program are not acceptable. A balanced total space program must include a significant continuing manned space flight program as one of its key elements. The U.S. must be prepared to pay the annual cost of an advancing, effective manned space flight program, high though it may seem. An important early objective, however, must be to reduce the cost of manned space flight, without sacrificing safety, reliability. or accomplishment. c. An advancing, effective manned space flight program cannot at this stage be limited to repetitive flights of missions already flown but must provide for the continuous evolutionary development of new capabilities, new missions, new experiments, and new applications. Decisions and selections of future programs must be made on a continuing timely basis several years before current objectives are achieved; otherwise the long lead-times inherent in the space program will force dangerous and expensive breaks in continuity that will undermine the success of the program. 5. Effects of Decisions in the Previous Administration -- The failure, during the past three years, to make timely decisions and to take necessary future-oriented actions has placed our manned space flight program in a serious and difficult position for the early 1970's. The

production of both Saturn IB and Saturn V launch vehicles has been terminated. The Saturn V vehicles now on order must either be launched on schedules stretched out to clearly uneconomical rates, rates which may be below the minimum acceptable for reliability and safety, or flown with experimental payloads that repeat previous missions without significant advances. The failure to develop and approve future goals and objectives has forced the program into expensive and unproductive "holding" operations in some areas and made it more difficult to focus sharply on the planning and preliminary development efforts which must precede future programs. The watchwords of budgetary actions for the past several years have been "delay," "stretch-out," "defer," and "hold the options open." The results are that for the next several years the nation will be getting a smaller return on its great investment in manned space flight capability, and that the long-deferred decisions on future goals must be taken now at an earlier time than your Administration would otherwise prefer.

- 6. Recommended Approach -- I believe that your Administration should now speak out boldly about the nation's future in space. Instead of continuing to stretch out and minimize the manned space flight program at the risk of reducing it beyond the point where it can be effective, your Administration should (a) point out the fact that the nation must continue to move forward in manned space flight, (b) while seeking every economy, accept the costs that this entails, and (c) plan, announce, and support a new ten-year space program-including a strong program of manned space flight--of which this nation and the world will be proud. Your Administration's decisions in the next few months will determine the nation's direction and progress in space for many years.
- 7. Study of Future Directions -- The process established in your memorandum of February 13, 1969, provides a useful framework for the development of specific goals and plans for the future of our space program. It will, among other things, enable NASA to communicate to the other agencies involved the thinking and planning that we have had underway for some time, and help assure NASA that its planning is properly coordinated with future aerospace planning in DOD, DOT, and other departments.

However, unless adequate provision is made in the FY 1970 Budget in time for Congressional action in the FY 1970 authorization and appropriation cycle, the implementation of plans decided upon next fall as a result of the Task Group recommendations will have to await the FY 1971 cycle. This would mean the loss of an entire year and the foreclosure of your option to move ahead promptly with a strong manned space flight program if that should be your decision.

For this reason, I believe that it is essential that the FY 1970 Budget be amended now to include the manned space flight funds--specifically deleted by the previous Administration--required to support moving ahead in lunar exploration and space station development. I can appreciate that you may be reluctant to decide now to amend the FY 1970 Budget, thus appearing to prejudge the recommendations to be made in September, but postponement will foreclose what may well be your most attractive option and will perpetuate and aggravate an already unsatisfactory situation.

8. Future Directions and Goals -- As stated above, two major directions have been identified for the manned space flight program in the next decade. One is the further exploration of the moon, with possibly the eventual goal of establishing a U.S. lunar base; the other is the further development of manned flight in earth orbit, with the goal of establishing a permanent manned space station in earth orbit that will be accessible and useful for a wide range of scientific, engineering, and application purposes. An important part of the space station goal is the development of a low cost logistics system for shuttling people and equipment to and from the space station.

These goals have in common the fact that they are not focused on a single dramatic achievement to be accomplished by a certain date, as was the case in the Apollo program. However, they can provide in the second decade of space, as Apollo did in the first, the focus for continuing advances in U.S. space capabilities and technology which will be available to support future defense and civilian requirements and to sustain our long-term national technical and economic vitality.

Lunar Exploration -- In lunar exploration, our immediate problem is to assure that we have adequate scientific and operational equipment to allow us to follow up the first few lunar landings with an effective initial program of exploration that will permit sound judgments on the potential value of more advanced future missions and the eventual establishment of a lunar base. If, as we now expect, we have early success in achieving the first manned landing on the moon, we will have Apollo hardware--launch vehicles and spacecraft--for as many as nine additional lunar missions, but we lack scientific and improved operational equipment for more than three of these. In order to proceed with these missions at an economical rate, we are preparing a budget amendment that will permit prompt initiation of procurement of additional scientific and operational equipment early in FY 1970. Your approval of this budget amendment now will not constitute a commitment to lunar exploration beyond that possible with the Saturn-Apollo hardware procured for the Apollo program. Decisions on an advanced program of lunar exploration requiring major redesign of the Apollo Lunar Module, the development of shelters and vehicles for use

on the lunar surface, and the question of the ultimate goal of establishing a lunar base can and should be made in your review of the plans and proposals to be submitted next September.

- 10. Space Station -- With respect to future manned earth orbital flight, the immediate problem is to assure that sufficient funds are available in FY 1970 to permit detailed planning and design studies to proceed, and to develop critical long lead-time subsystems that will be required in any future manned space flight program. Funds for these purposes were specifically excluded from the present FY 1970 Budget, except for a small amount for studies, and we are therefore preparing an appropriate amendment to the FY 1970 Budget. This budget amendment can be approved now without a commitment on your part to a permanent space station as a major national goal. However, as stated in paragraph 4 above, we believe that it is in the national interest for you to endorse this as a general U.S. objective at this time. One possibility would be for you to give NASA and the Task Group a specific instruction at the time you approve the budget amendment that their recommendations to you in September should include proposals on the optimum program for establishing and utilizing a permanent U.S. space station.
- 11. Space Station Concept -- The space station discussed here should become a central point for many activities in space, and would be designed to carry on these activities in an effective and economic manner. It would be located in the most advantageous position to conduct investigations and operations in the space environment, many important aspects of which cannot be duplicated in an earth-based environment. The best place to study space is in space. We have in mind a system consisting of general and special-purpose modules with a low-cost logistic support system that will permit ready access and return by many users and their equipment and supplies. The space station would not be launched as a single unit, but would evolve over a period of years by adding to a core new modules as they are required and developed. One of the key objectives is to develop the system in cooperation with the Department of Defense so that it can be adaptable for future military research as well as for a variety of non-military scientific, engineering, and other applications purposes.

There are many potential valuable uses of such a space station, and new ones will be found as experts in many fields become familiar with the possibilities and are able to visit and actually use it. However, we believe strongly that the justification for proceeding now with this major project as a national goal does not, and should not be made to depend on the specific contributions that can be foreseen today in particular scientific fields like astronomy or high energy physics, in particular economic applications, such as earth resources

surveys, or in specific defense needs. Rather, the justification for the space station is that it is clearly the next major evolutionary step in man's experimentation, conquest, and use of space. The development of man's capability to live and work economically and effectively in space for long periods of time is an essential prerequisite not only for operations in earth orbit, but for long stay times on the moon and, in the distant future, manned travel to the planets. It is for these reasons that I believe that space station development should become one of your Administration's principal working goals for the nation over the next decade.

- 12. Saturn V Production -- Under NASA's reduced 1969 operating plan and its present FY 1970 Budget, the production of Saturn V, the nation's largest launch vehicle, has been discontinued. The long-term future of the manned space flight program, as outlined above, will clearly require additional Saturn V launch vehicles, and we are therefore proposing a FY 1970 Budget amendment which will permit production to be resumed, at a very low rate, before "start up" costs become excessive. This amendment will not preclude other future decisions on large launch vehicles that might be made next fall, but it will assure that funds are available to provide the launch vehicles that will be needed. It will also get the U.S. out of what I believe to be a current untenable position of having discontinued production of our largest space booster at a time when the Soviets are expected to unveil a booster of this class or larger. For the reasons stated in paragraph 4 above, I recommend that you now take the initiative and announce this decision before the Russians launch their first booster in this class, so that your announcement will not be viewed as a reaction to the Soviet development.
- 13. Cost -- In planning the space program careful consideration must, of course, be given each year, and especially at the time new major programs are undertaken, to the future budget levels required. Our national budget system wisely and necessarily provides for a review at least annually of both on-going and new programs, but longterm enterprises like major space programs require a policy commitment to follow through with the resources required over a period of many years. For these reasons, it is important that your Administration be prepared to accept the total budget levels required by the programs you determine to be in the national interest. NASA on its part has the obligation continually to search out the least costly ways of carrying out the approved programs and to make every effort to use the possibilities of new technology to reduce future costs. But most important of all, neither NASA nor the Administration should, in the name of economy, underestimate the resources that can realistically be expected to be required. We must meet our commitments.

Our present projections indicate that a balanced total NASA program that includes the recommended strong manned space flight program can be carried out with annual budgets over the next five years which will not rise above the \$4.5 to \$5.5 billion range. More precise projections will depend on the nature of the future lunar exploration and space station programs decided upon and on future decisions in areas other than manned space flight. By the time we submit the planning proposals to you in September we will be able to state with considerable confidence the projected future estimated costs of alternative total programs.

A total annual program level of \$4.5 - \$5.5 billion compares to program and expenditure levels in the \$5.0 - \$6.0 billion range reached in the 1964-1967 period, which in the past two years has been reduced to \$3.9 billion in our FY 1969 operating plan and the present FY 1970 Budget. As we have informed the Director of the Budget, the FY 1970 NASA Budget amendments we are proposing in manned space flight amount to about \$200 million and would bring our total 1970 Budget (including authority carried forward from FY 1969) to slightly under \$4.1 billion. Even with this proposed amendment, however, NASA's outlays (expenditures) in FY 1970 will still decline \$200 million from the \$4.25 estimated for FY 1969.

This memorandum has given you my recommendation on the position your Administration should take with respect to the critical and urgent situation in manned space flight; other NASA problems and opportunities can be treated appropriately in the Task Group framework for your consideration in September. For the reasons stated above, and with the possibility of an initial lunar landing in July, I believe you should not defer initial consideration of the manned space flight problem. I therefore specifically recommend that you ask the members of the Task Group established in your memorandum of February 13, 1969, to meet within the next month and to consider as their first order of business the matters identified in this memorandum as requiring your early decision. They should then present their recommendations to you by the end of March. In anticipation of such a meeting, NASA will prepare and make available to the other members of the Task Group (a) detailed materials on the alternatives available, and (b) suggestions on how the recommended early decisions can be related to an effective process for developing overall space plans and alternatives for your consideration in September. I hope that this proposal will meet with your approval, and woul, of course, be happy to discuss this matter further with you at your convenience.

T. O. Paine

Acting Administrator

cc: The Vice President

The Secretary of Defense

The Science Adviser

The Director of the Budget

Mr. Robert Ellsworth

T (: NASA February 12, 1969 MEMORANDUM FOR THE PRESIDENT SUBJECT: NASA Activities I have prepared and attached a memorandum for your signature to the Acting Administrator of the National Aeronautics and Space Administration, Dr. Thomas O. Paine, in response to his memorandum to you of February 4, 1969. (Tab A) I have coordinated this response with Mr. Ellsworth's Office. Lee A. DuBridge Lee A. DuBridge Science Adviser cc: Mr. Robert Ellsworth

THE WHITE HOUSE WASHINGTON

Feb. 15, 1169

MEMORANDUM FOR

Honorable Thomas O. Paine
Acting Administrator
National Aeronautics and Space Administration

SUBJECT: NASA Activities

I appreciate your views on the importance of defining at the earliest opportunity the future direction and pace of the nation's space program, as stated in your memorandum of February 4, 1969. I look to the recently convened Task Group, of which you are a member, to advise me on this question. In your memorandum, you also offered to prepare a concise statement of the current status of our space program relative to that of the Soviet Union as well as a summary of your views on major problems and opportunities in space which lie ahead. I would like to have you prepare these statements for me and also make them available to the Task Group principals.

I have asked Dr. DuBridge and Mr. Robert Ellsworth to coordinate contacts and relationships with the National Aeronautics and Space Administration and I understand that they will be discussing matters of mutual interest including the submission of bi-weekly NASA activities reports with you in the near future.

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DRAFT Dr. Drew February 12, 1969

MEMORANDUM FOR

THE PRESIDENT

SUBJECT: NASA Activities

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I have coordinated this response with Mr. Robert Ellsworth.

Lee A. DuBridge Science Adviser

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MEMORANDUM FOR

Honorable Thomas O. Paine Acting Administrator National Aeronautics and Space Administration

SUBJECT: NASA Activities

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION WASHINGTON, D.C. 20546

OFFICE OF THE ADMINISTRATOR

February 4, 1969

MEMORANDUM FOR THE PRESIDENT

Subject: NASA Activities

Attached is the first Bi-weekly NASA Activities Report to your Administration. We propose to continue this report until you express your wishes on the nature and frequency of NASA reports to the White House.

The items reported are for your information only, and require no immediate action on your part. I recommend, however, that you give early personal attention to the question of the future direction and pace of the nation's space program in your Administration. Continuing Soviet progress, world interest in the Apollo 8 lunar flight and the Soyuz 4-5 docking flights, and forthcoming Congressional hearings, emphasize the importance of developing a sound position by your Administration as soon as possible. The future position in space of the United States relative to the USSR is at stake. Furthermore, significant opportunities exist now for new leadership and initiatives. NASA is in a position to provide you, at your convenience, with a concise statement of the current status of our space program. relative to that of the Soviet Union (developed with the CIA), and a summary of the major problems and opportunities in space which lie ahead in your Administration.

T. O. Paine

Acting Administrator

Enclosure a/s

THE WHITE HOUSE WASHINGTON February 13, 1969 MEMORANDUM FOR The Vice President The Secretary of Defense The Acting Administrator, National Aeronautics and Space Administration The Science Adviser It is necessary for me to have in the near future definitive recommendation on the direction which the U. S. space program should take in the post-Apollo period. I, therefore, ask the Secretary of Defense, the Acting Administrator of NASA, and the Science Adviser each to develop proposed plans and to meet together as a task group, with the Vice President in the chair, to prepare for me a coordinated program and budget proposal. In developing your proposed plans, you may wish to seek advice from the scientific, engineering, and industrial communities, from The Congress and the public. You will wish also to consult the Department of State (on international implications and cooperation) and other interested agencies, as appropriate, such as the Departments of Interior, Commerce, and Agriculture; the Atomic Energy Commission, and the National Science Foundation. I am asking the Science Adviser also to serve as staff officer for this task group and as coordinator of the staff studies. I would like to receive the coordinated proposal by September 1, 1969. where the J. a present to the reference of the the a month three buggs, the said an challe, to per a to and bcc: Mr. Robert Mayo, Director, BOB Dr. Arthur Burns Micheller and Add and de control de Mr. Robert Ellsworth regularitation was a respective maker or like at making the co on ofer, and Agrid and the control Energy Contain vanish deleting Four com the agency the fact and the fact the self officer to this take rous and mording

THE WHITE HOUSE

February 10, 1969

MEMORANDUM FOR

THE PRESIDENT

You have asked me to propose a mechanism for developing plans for the U. S. space program for the next decade.

Two operating agencies, NASA and DOD, are responsible for this program, and two advisory bodies, the National Aeronautics and Space Council (NASC) and the Office of Science and Technology (OST), report directly to you.

The heads of the two operating agencies would normally each submit their program plans to you after study by their staffs and after consultation with other interested agencies: State, Interior, Agriculture, Commerce, National Science Foundation, etc. I would, of course, normally provide an independent assessment of the space program in my capacity as Science Adviser.

The problem is: a) to coordinate the staff studies; and b) to seek high-level agreement on the final proposed program and budget.

I suggest you send the attached memorandum to the four principals, asking them to serve on a Task Group under the Chairmanship of the Vice President to evolve recommendations to you on the future scope and direction of the post-Apollo space program. As Science Adviser, I propose to serve as staff officer and will coordinate the staff studies.

There is some urgency in proceeding with this review because of the very long lead time for space projects. Planning for missions in the 1972 to 1975 time period must be done soon, and the FY 1971 budget proposals to support these plans must be submitted to the Executive Branch in the fall of this year.

The submission of recommendations to the President, therefore, is suggested for September 1, 1969. Progress reports will be submitted to you periodically, and we hope you will meet with this group as often as possible.

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Lee A. DuBridge Science Adviser

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Approve Memorandum: Yes No

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Spice Tack Strongs NASA, and to a lesser extent the AEC and the Air Force. are now preparing for full scale development of a "space transportation system." The system, which could be ready as parly as the late 1970's, would consist of a "space shuttle" to transport payloads to and from earth orbit, a nuclear rocket to transport payloads between earth orbit and lunar orbits, and a "space tug" largely to transport payloads between lunar or planetary orbits in the services of those bodies. The R&D cost of this system, as estimated by analysts at RAND and adjusted for inflation, would be on the order of \$20 billion. costs are conservative; technological difficulties or overruns from any other cause could push the cost considerably higher. Consequently, this project could become the largest R&D effort in history.

The agencies will push for a full scale commitment to the "space transportation system" in the FY 72 budget. The decision will clearly be one of major national priorities.

The strongest case that the agencies are likely to make forthis system will be that it will lower the cost of space transportation so dramatically that it will "open up space"

to scientific, industrial, and ultimately tourists uses.

We are skeptical both of the economics of this project and,

more basically, of the entire philosophy of direct Federal

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The more basic question is whether the Federal Government should set about developing a space industry the way that the should set about developing a space industry. Atomic Energy Commission has developed a nuclear industry. Should the Government pay for all of the R&D itself? Should it continue to own and operate all of the launch facilities? Should it directly finance all of the technologically risky activities, plagued as they are by DOD-type overruns? We believe there is a major alternative to this "business as usual" approach. The Federal Government could leave it up to private industry to provide all space transportation services: R&D, procurement of rockets, launch services, and tracking. The Government would pay industry for services performed, but only after payloads had been delivered to their

COULD BE \$1-2 BILLION PER YEAR BY THE END OF
THIS DECADE. SO PRIVATE INDUSTRY HAS THE INCENTIVE

destinations. If need be, the Government would contract

years in advance for the transportation of payloads. In

other words, the Government would pay for space transportation

in the same way that one pays for freight transportation

now.

there is reason to believe that the Aerospace Industry is

reaching the point where, in combination with the financial

community, they can handle this task. This approach to

of

the financing/space transportation would have a number of

advantages. It would avoid \$20 billion of Federal budget

expenditures in the near term. It would probably result

in private industries developing lower costs and economically more

in private industries developing lower costs and economically more

sensible systems. It would set an example for high technology

R&D and procurement that might later be applied to other

Government activities, especially in the defense sector. It

Government activities, especially in the defense sector. It would insure that future decisions to launch space payloads to account of the full costs and did not depend on half hidden subsidies for R&D, procurement, and launch and tracking services as they do under present procedures.

THE PHILOSOPHY

If we accept that this is the way that a "space industry" ULTIMATELY

ought to operate, we should address the question of whether such A

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it is in fact possible at this time. It would be more difficult

Recommendations

We suggest that an interagency study be convened to examine how the Federal Government might procure its future space transportation services. Terms of reference for the study — TO WHICH TREASURY NSC, CEA, AND BOB WOULD GIVE A SYMPARE are attached. An attractive outcome of the following sort:

- 1. The Federal Government would immediately shift to a policy of contracting with the lowest bidder for the transportation of small, unmanned payloads. The Government would not make "progress payments" to industry but would pay only upon successful delivery As appropriate, Federal launch and tracking facilities would be sold or leased to private industry.
- 2. Federal spending on the space transportation system would be held at or below the present level until experience was gained with direct payment for the transportation would of small, unmanned payloads. This probably mean that a decision

TO FEDERAL FUNDING OF A

could be made on whether to commitation space transportation or To RELY ON PRINTELY-PRINTELOPED TECHNOLOGIES system, in about 1973.

- 3. There would be no commitment to new manned space projects until after the scientific results of the first Saturn V workshop are analyzed. This will occur in 1973 to 1974. All of the proposed new manned space projects require long duration stays in space, and the Saturn V workshop will answer the wide-open scientific questions about what it takes for man to survive in such an environment for lengthy times.
- 4. The launch schedule for the remaining Saturn V's would be stretched to prolong United States manned space activities into the late 1970's. This will allow relatively uninterrupted manned space activity if a decision is made in 1973-4 on whether the Federal Government or private industry is to develop the follow-on means of manned space transportation.

Secretary of the Treasury, To: Director of NASA Secretary of Defense President's Science Advisor President's National Security Advisor Chairman of the Council of Economic Advisors Director of the Bureau of the Budget

TAEC?

Subject: THTERMENCY STUDY ON SPACE TRANSPORTATION SERVICES

As a result of more than a decade of major Federal spending for space activity, we now have a large, viable aerospace industry. Decisions are proaching on the future of manned space flight and on the development of major new technologies for low-cost space transportation. decisions give us an opportunity to make full use of the great industry that now exists. I wish to have a strong REPORT by September 1, 1970, on how we may take maximum advantage of the capabilities of our Herospace Industry. THE STVOY SHOWD BE CHAIRED BY THE SELENTREY OF THE TERASVEY CEA? . The study should examine various alternatives in the light of two objectives:

TO minimize the cost of future space payloads, such costs to include @ research, development, and tracking as well as normal launch services and to take full account of the time value of money.

2. To control the risk of fracte cost overruns
SHORTFALLS
or performance under achievements in future space
activity.

In terms of these objectives, I would like you to evaluate of three alternatives for Government procurement /space transportation services and any other alternatives that may commend themselves:

- orbiting or delivery to their destinations of space payloads

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 with the continuous prior research, development, procurement,
 and operations to be the by the aerospace industry and
 the financial community. Federal launch and tracking
 facilities would be sold or leased to private industry as
 appropriate, and contracts for the best private industry as
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 and penalty clauses—would be made in advance as appropriate.
- 2. Application of the above policy to all launches

 PECISIONS ON

 of small, unmanned payloads with expansion of the policy to

 larger and manned payloads and manned payloads on the basis

 PERIODIT Of previous successful experience.
 - 3. Continuation of the present practice of direct Federal funding and operation of space activities.

The study should widen the range of viable Presidential choice to the greatest possible extent. It should not reject options on the basis of "political constraints," although any political complexities should be described in the report. The study should investigate any legislative or financial complexities such as the authority required for long-term contracts, the ability of the private financial markets to handle major risks and investments and to still function competitively, and the arrangements underwhich international cost-sharing on the large space ventures might be carried out under the alternative policies.

Although the study should not recommend a single alternative or a single budgetary program, it should spell out the sequencing of decisions under each alternative and the general budgetary implications. Classified material should be restricted to separable sections so that the study as a whole can be released at the President's discretion.

NCTICE: There should be no premature release of this message to Congress, nor should its contents be paraphrased, alluded to or hinted at in earlier stories. There is a total embargo on this speech until 12:30 p.m., May 25, 1961, which includes any and all references to any material in this message.

Pierre Salinger
Press Secretary to the President

THE WHITE HOUSE

SPECIAL MESSAGE BY THE PRESIDENT ON URGENT NATIONAL NEEDS

TO A JCINT SESSION OF THE CONGRESS -- (As Actually Delivered)

Mr. Speaker, Mr. Vice President, my co-partners in government, Gentlemen -- and Ladies: The Constitution imposes upon me the obligation to "from time to time give to the Congress information of the State on the Union". While this has traditionally been interpreted as an annual affair, this tradition has been broken in extraordinary times.

These are extraordinary times. And we face an extraordinary challenge. Our strength as well as our convictions have imposed upon this nation the role of leader in freedom's cause.

No role in history could be more difficult or more important. We stand for freedom. That is our conviction for ourselves -- that is our only commitment to others. No friend, no neutral and no adversary should think otherwise. We are not against any man -- or any nation -- or any system -- except as it is hostile to freedom. Nor am I here to present a new military doctrine, bearing any one name or aimed at any one area. I am here to promote the freedom doctrine.

I.

The great battleground for the defense and expansion of freedom today is the whole southern half of the globe -- Asia, Latin America, Africa and the Middle East -- the lands of the rising peoples. Their revolution is the greatest in human history. They seek an end to injustice, tyranny, and exploitation. More than an end, they seek a beginning.

And theirs is a revolution which we would support regardless of the Cold War, and regardless of which political or economic route they should cloose to freedom.

For the adversaries of freedom did not create the revolution; nor did they create the conditions which compel it. But they are seeking to ride the crest of its wave -- to capture it for themselves.

Yet their aggression is more often concealed than open. They have fired no missiles; and their troops are seldom seen. They send arms, agitators, aid, technicians and propaganda to every troubled area. But where fighting is required, it is usually done by others -- by guerrillas striking at night, by assassins striking alone -- assassins who have taken the lives of four thousand civil officers in the last twenve months in Vietnam alone -- by subversives and sabcteurs and insurrectionists, who in some cases control whole areas inside of independent nations.

MORE

With these formidable weapons, the adversaries of freedom plan to consolidate their territory -- to exploit, to control, and finally to destroy the hopes of the world's newest nations; and they have ambitions to do it before the end of this decade. It is a contest of will and purpose as well as force and violence -- a battle for minds and souls as well as lives and territory. And in that contest, we cannot stand aside.

We stand, as we have always stood from our earliest beginnings, for the independence and equality of nations. This nation was born of revolution and raised in freedom. And we do not intend to leave an open road for despotism.

There is no single simple policy which meets this challenge. Experience has taught us that no one nation has the power or the wisdom to solve all the problems of the world or manage its revolutionary tides -- that extending our commitments does not always increase our security -- that any initiative carries with it the risk of a temporary defeat -- that nuclear weapons cannot prevent subversion -- that no free peoples can be kept free without will and energy of their own -- and that no two nations or situations are exactly alike.

Yet there is much we can do -- and must do. The proposals I bring before you are numerous and varied. They arise from the host of special opportunities and dangers which have become increasingly clear in recent months. Taken together, I believe that they can mark another step forward in our efforts as a people. I am here to ask the help of this Congress and the nation in approving these necessary measures.

II. Economic and Social Progress at Home

The first and basic task confronting this nation this year was to turn recession into recovery. An affirmative anti-recession program, initiated with your cooperation, supported the natural forces in the private sector; and our economy is now enjoying renewed confidence and energy. The recession has been halted. Recovery is under way.

But the task of abating unemployment and achieving a full use of our resources does remain a serious challenge for us all. Large-scale unemployment during a recession is bad enough -- large-scale unemployment during a period of prosperity would be intolerable.

I am therefore transmitting to the Congress a new Manpower Development and Training program, to train or retrain several hundred thousand workers particularly in those areas where we have seen chronic unemployment as a result of technological factors and new occupational skills over a four-year period, in order to replace those skills made obsolete by automaticn and industrial change with the new skills which the new processes demand.

It should be a satisfaction to us all that we have made great strides in restoring world confidence in the dollar, halting the outflow of gold and improving our balance of payments. During the last two months, our gold stocks actually increased by seventeen million dollars, compared to a loss of 635 million dollars during the last two months of 1960. We must maintain this progress -- and this will require the cooperation and restraint of everyone. As recovery progresses, there will be temptations to seek unjustified price and wage increases. These we cannot afford. They will only handicap our efforts to compete abroad and to achieve full recovery here at home. Labor and management must -- and I am confident that they will -- pursue responsible wage and price policies in these critical times. I look to the President's Advisory Committee on Labor-Management Policy to give a strong lead in this direction.

Moreover, if the budget deficit now increased by the needs of our security is to be held within manageable proportions, it will be necessary to hold tightly to prudent fiscal standards; and I request the cooperation of the Congress in this regard -- to refrain from adding funds or programs, desirable as they may be, to the Budget -- to end the postal deficit, as my predecessor also recommended, through increased rates -- a deficit incidentally, this year, which exceeds the fiscal year 1962 cost of all the space and defense measures that I am submitting today -- to provide full pay-as-you-go highway financing -- and to close those tax loopholes earlier specified. Cur security and progress cannot be cheaply purchased; and their price must be found in what we all forego as well as what we all must pay.

III. Economic and Social Progress Abroad

I stress the strength of our economy because it is essential to the strength of our nation. And what is true in our case is true in the case of other countries. Their strength in the struggle for freedom depends on the strength of their economic and their social progress.

We would be badly mistaken to consider their problems in military terms alone. For no amount of arms and armies can help stabilize those governments which are unable or unwilling to achieve social and economic reform and development. Military pacts cannot help nations whose social injustice and economic chaos invite insurgency and penetration and subversion. The most skillful counter-guerrilla efforts cannot succeed where the local population is too caught up in its own misery to be concerned about the advance of communism.

But for those who share this view, we stand ready now, as we have in the past, to provide generously of our skills, and our capital, and our food to assist the peoples of the less-developed nations to reach their goals in freedom -- to help them before they are engulfed in crisis.

This is also our great opportunity in 1961. If we grasp it, then subversion to prevent its success is exposed as an unjustifiable attempt to keep these nations from either being free or equal. But if we do not pursue it, and if they do not pursue it, the bankruptcy of unstable governments, one by one, and of unfulfilled hopes will surely lead to a series of totalitarian receiverships.

Earlier in the year, I outlined to the Congress a new program for aiding emerging nations; and it is my intention to transmit shortly draft legislation to implement this program, to establish a new Act for International Development, and to add to the figures previously requested, in view of the swift pace of critical events, an additional 250 million dollars for a Presidential Contingency Fund, to be used only upon a Presidential determination in each case, with regular and complete reports to the Congress in each case, when there is a sudden and extraordinary drain upon our regular funds which we cannot foresee — as illustrated by recent events in Southeast Asia — and it makes necessary the use of this emergency reserve. The total amount requested — now raised to 2.65 billion dollars — is both minimal and crucial. I do not see how anyone who is concerned — as we all are — about the growing threats to freedom around the globe — and is asking what more we can do as a people — can weaken or oppose the single most important program available for building the frontiers of freedom.

IV.

All that I have said makes it clear that we are engaged in a world-wide struggle in which we bear a heavy burden to preserve and promote the ideals that we share with all mankind, or have alien ideals forced upon them. That struggle has highlighted the role of our Information Agency. It is essential that the funds previously requested for this effort be not only approved in full, but increased by 2 million, 400 thousand, to a total just 121 million dollars.

This new request is for additional radio and television to Latin America and Southeast Asia. These tools are particularly effective and essential in the cities and villages of those great continents as a means of reaching millions of uncertain peoples to tell them of our interest in their fight for freedom. In Latin America, we are proposing to increase our Spanish and Portuguese broadcasts to a total of 154 hours a week, compared to 42 hours, today none of which is in Portuguese, the language of about one-third of the people of South America. The Soviets, Red Chinese and satellites already broadcast into Latin America more than 134 hours a week in Spanish and Portuguese. Communist China alone does more public information broadcasting in our own hemisphere than we do. Moreover, powerful propaganda broadcasts from Havana, now are heard throughout Latin America, encouraging new revolutions in several countries.

Similarly, in Laos, Vietnam, Cambodia, and Thailand, we must communicate our determination and support to those upon whom our hopes for resisting the communist tide in that continent ultimately depend. Our interest is in the truth.

V. Our Partnewship for Self-defense

But while we talk of sharing and building and the competition of ideas, others talk of arms and threaten war. So we have learned to keep our defenses strong -- and to cooperate with others in a partnership of self-defense. The events of recent weeks have caused us to look anew at these efforts.

The center of freedom's defense is our network of world alliances, extending from NATO, recommended by a Democratic President and approved by a Republican Congress, to SEATO, recommended by a Republican President and approved by a Democratic Congress. These alliances were constructed in the 1940's and 1950's -- it is our task and responsibility in the 60's to strengthen them.

To meet the changing conditions of power, and power relationships have changed, we have endorsed an increased emphasis on NATO conventional strength. At the same time we are affirming our conviction that the NATO nuclear deterrent must also be kept strong. I have made clear our intention to commit to the NATO command, for this purpose, the 5 POLARIS submarines originally suggested by President Eisenhower, with the possibility, if needed, of more to come.

Second, a major part of our partnership for self-defense is the Military Assistance Program. The main burden of local defense against local attack, subversion, insurrention or guerrilla warfare must of necessity rest with local forces. Where these forces have the necessary will and capacity to cope with such threats, our intervention is rarely necessary or helpful. Where the will is present and only capacity is lacking, our Military Assistance Program can be of help.

But this program, like economic assistance, needs a new emphasis. It cannot be extended without regard to the social, political and military reforms essential to internal respect and stability. The equipment and training provided must be tailored to legitimate local needs and to our own foreign and military policies, not to our supply of military stocks or a local leader's desire for military display. And military assistance can, in addition to its military purposes, make a contribution to economic progress, as do our own Army Engineers.

In an earlier message, I requested 1.6 billion dollars for Military Assistance, stating that this would maintain existing force levels, but that I could not foresee how much more might be required. It is now clear that this is not enough. The present crisis in Southeast Asia, on which the Vice President has made a valuable report — the rising threat of Communism in Latin America — the increasing arms traffic in Africa — and all the new pressures on every nation found on the map by tracing your finger along the borders of the Communist bloc in Asia and the Middle East — all make clear the dimension of our needs.

I therefore request the Congress to provide a total of 1.885 billion dollars for Military Assistance in the coming fiscal year -- an amount less than that requested a year ago -- but a minimum which must be assured if we are to help those nations make secure their independence. This must be prudently and wisely spent -- and that will be our common endeavor. Military and economic assistance has been a heavy burden on our citizens for a long time, and I recognize the strong pressures against it; but this battle is far from over, it is reaching a crucial stage, and I believe we should participate in it. We cannot merely state our opposition to totalitarian advance without paying the price of helping those now under the greatest pressures.

VI. Our Cwn Military and Intelligence Shield

In line with these developments, I have directed a further reinforcement of our own capacity to deter or resist non-nuclear aggression. In the conventional field, with one exception, I find no present need for large new levies of men. What is needed is rather a change of position to give us still further increases in flexibility.

Therefore, I am directing the Secretary of Defense to undertake a reorganization and modernization of the Army's divisional structure, to increase its non-nuclear firepower, to improve its tactical mobility in any environment, to insure its flexibility to meet any direct or indirect threat, to facilitate its coordination with our major allies, and to provide more modern mechanized divisions in Europeand bring our equipment up to date, and new airborne brigades in both the Pacific and Europe.

And secondly, I am asking the Congress for an additional 100 million dollars to begin the procurement task necessary to re-equip this new Army structure with the most modern material. New helicopters, new armored personnel carriers, and new howitzers, for example, must be obtained now.

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Third, I am directing the Secretary of Defense to expand rapidly and substantially, in cooperation with our Allies, the orientation of existing forces for the conduct of non-nuclear war, para-military operations and sub-limited or unconventional wars.

In addition, our special forces and unconventional warfare units will be increased and reoriented. Throughout the services new emphasis must be placed on the special skills and languages which are required to work with local populations.

Fourth. The Army is developing plans to make possible a much more rapid deployment of a major portion of its highly trained reserve forces. When these plans are completed and the reserve is strenthened, two combatequipped divisions, plus their supporting forces, a total of 89,000 men, could be ready in an emergency for operations with but 3 weeks notice -- 2 more divisions with but 5 weeks notice -- and six additional division and their supporting forces, making a total of 10 divisions, could be deployable with less than 8 weeks notice. In short, these new plans will allow us to almost double the combat power of the Army in less than two months, compared to the nearly nine months heretofore required.

Fifth, to enhance the already formidable ability of the Marine Corps to respond to limited war emergencies, I am asking the Congress for 60 million dollars to increase Marine Corps strength to 190,000 men. This will increase the initial impact and staying power of our three Marine divisions and three air wings, and provide a trained nucleus for further expansion, if necessary for self-defense.

Finally, to cite one other area of activities that are both legitimate and necessary as a means of self-defense in an age of hidden perils, our whole intelligence effort must be reviewed, and its coordination with other elements of policy assured. The Congress and the American people are entitled to know that we will institute whatever new organization, policies, and control are necessary.

VII. Civil Defense

One major element of the national security program which this nation has never squarely faced up to is civil defense. This problem arises not from present trends but from national inaction in which most of us have participated. In the past decade we have intermittently considered a variety of programs, but we have never adopted a consistent policy. Public consideration have been largely characterized by apathy, indifference and skepticism; while, at the same time, many of the civil defense plans have been so far-reaching and unrealistic that they have not gained essential support.

This Administration has been looking hard at exactly what civil defense can and cannot do. It cannot be obtained cheaply. It cannot give an assurance of blast protection that will be proof against surprise attack or guaranteed against obsolescence or destruction. And it cannot deter a nuclear attack.

We will deter an enemy from making a nuclear attack only if our retaliatory power is so strong and so invulnerable that he knows he would be destroyed by our response. If we have that strength, civil defense is not needed to deter an attack. If we should ever lack it, civil defense would not be an adequate substitute.

But this deterrent concept assumes rational calculations by rational men.

And the history of this planet, and particularly the history of the 20th century,
is sufficient to remind us of the possibilities of an irrational attack, a

miscalculation, an accidental war, or a war of escalation in which fire stakes by each side gradually increase to the point of maximum danger which cannot be either foreseen or deterred. It is on this basis that civil defense can be readily justifiable -- as insurance for the civilian population in case of an enemy miscalculation. It is insurance we trust will never be needed -- but insurance which we could never forgive ourselves for foregoing in the event of catastrophe.

Once the validity of this concept is recognized, there is no point in delaying the initiation of a nation-wide long-range program of identifying present fallout shelter capacity and providing shelter in new and existing structures. Such a program would protect millions of people against the hazards of radioactive fallout in the event of a large-scale nuclear attack. Effective performance of the entire program not only requires new legislative authority and more funds, but also sound organizational arrangements.

Therefore, under the authority vested in me by Reorganization Plan No. 1 of 1958, I am assigning responsibility for this program to the top

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civilian authority already responsible for continental defense, the Secretary of Defense. It is important that this function remain civilian, in nature and leadership; and this feature will not be changed.

The Office of Civil and Defense Mobilization will be reconstituted as a small staff agency to assist in the coordination of these functions. To more accurately describe its role, its title should be changed to the Office of Emergency Flanning.

As soon as those newly charged with these responsibilities have prepared new authorization and appropriation requests, such requests will be transmitted to the Congress for a much strengthened Federal-State civil defense program. Such a program will provide Federal funds for identifying fallout shelter capacity in existing structures, and it will include, where appropriate, incorporation of shelter in Federal buildings, new requirements for shelter in buildings constructed with Federal assistance, and matching grants and other incentives for constructing shelter in State and local and private buildings.

Federal appropriations for civil defense in fiscal 1962 under this program will in all likelihood be more than triple the pending budget requests; and they will increase sharply in subsequent years. Financial participation will also be required from State and local governments and from private citizens. But no insurance is cost-free; and every American citizen and his community must decide for themselves whether this form of survival insurance justifies the expenditure of effort, time and money. For myself, I am convinced that it does.

VIII. Disarmament

I cannot end this discussion of defense and armaments without emphasizing our strongest hope: the creation of an orderly world where disarmament will be possible. Our arms do not prepare for war -- they are efforts to discourage and resist the adventures of others that could end in war.

That is why it is consistent with these efforts that we continue to press for properly safeguarded disarmament measures. At Geneva, in cooperation with the United Kingdom, we have put forward concrete proposals to make clear our wish to meet the Soviets half way in an effective nuclear test ban treaty -- the first significant but essential step on the road towards disarmament. Up to now, their response has not been what we hoped, but Mr. Dean returned last night to Geneva, and we intend to go the last mile in patience to secure this gain if we can.

Meanwhile, we are determined to keep disarmament high on our agenda -- to make an intensified effort to develop acceptable political and technical alternatives to the present arms race. To this end I shall send to the Congress a measure to establish a strengthened and enlarged Disarmament Agency.

DK. Space

Finally, if we are to win the battle that is now going on around the world between freedom and tyranny, the dramatic achievements in space which occurred in recent weeks should have made clear to us all, as did the Sputnik in 1957, the impact of this adventure on the minds of men everywhere, who are attempting to make a determination of which road they should take. Since early in my term, our efforts in space have been under review. With the advice of the Vice President, who is Chairman of the National Space Council, we have examined where we are strong and where we are not, where we may succeed and where we may not. Now it is time to take longer strides -- time for a great new American enterprise -- time for this nation to take a clearly leading role in space achievement, which in many ways may hold the key to our future on earth.

I believe we possess all the resources and talents necessary. But the facts of the matter are that we have never made the national decisions or marshalled the national resources required for such leadership. We have never specified long-range goals on an urgent time schedule, or managed our resources and our time so as to insure their fulfillment. Recognizing the head start obtained by the Soviets with their large rocket engines, which gives them man y months of lead-time, and recognizing the likelihood that they will exploit this lead for some time to come in still more impressive successes, we nevertheless are required to make new efforts on our own. For while we cannot guarantee that we shall one day be first, we can guarantee that any failure to make this effort will make us last. We take an additional risk by making it in full view of the world -- but as shown by the feat of astronaut Shepard, this very risk enhances our stature when we are successful. But this is not merely a race. Space is open to us now; and our eagerness to share its meaning is not governed by the efforts of others. We go irto space because whatever mankind must undertake, free men must fully share. I therefore ask the Congress, above and beyond the increases I have earlier requested for space activities, to provide the funds which are needed to meet the following national goals: First, I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to the earth. No single space project in this period will be more impressive to mankind, or more important for the long-range exploration of space; and none will be so difficult or expensive to accomplish. We propose to accerlate development of the appropriate lunar space craft. We propose to develop alternate liquid and solid fuel boosters, rauch larger than any now being developed, until certain which is superior. We propose additional funds for other engine development and for unmanned explorations -- explorations which are particularly important for one purpose which this nation will never overlook: the survival of the man who first makes this daring flight. But in a very real sense, it will not be one man going to the moon -- . if we make this judgment affirmatively, it will be an entire nation. For all of us must work to put him there. Secondly, an additional 23 million dollars, together with 7 million dollars already available, to accelerate development of the ROVER nuclear rocket. This gives promise of some day providing a means for even more exciting and ambitious exploration of space, perhaps beyond the moon, perhaps to the very end of the solar system itself. Third, an additional 50 million dollars will make the most of our present leadership, by accelerating the use of space satellites for world-wide communications. Fourth, an additional 75 million dollars -- of which 53 million dollars is for the Weather Bureau -- will help give us at the earliest possible time a satellite system for world-wide weather observation. Let it be clear -- and this is a judgment which the Members of Congress must finally make -- let it be clear that I am asking the Congress and the country to accept a firm commitment to a new course of action -- a course which will last for many years and carry very heavy costs of 531 million dollars in fiscal 1962 -- an estimated seven to nine billion dollars additional over the next five years. If we are to go only half way, or reduce our sights in the face of difficulty, in my judgment it would be better not to go at all. Now this is a choice which this country must make, and I am confident that under the leadership of the Space Committees of the Congress, and the Appropriating Committees, that you will consider the matter carefully. MORE

It is a most important decision that we make as a nation. But all of you have lived through the last four years and have seen the significance of space and the adventures in space, and to one can predict with certainty what the ultimate meaning will be of mastery of space.

I believe we should go to the moon. But I think every citizen of this country as well as the Members of the Congress should consider the matter carefully in making their judgment, to which we have given attention over many weeks and months, because it is a heavy burden, and there is no sense in agreeing or desiring that the United States take an affirmative position in outer space, unless we are prepared to do the work and bear the burdens to make it successful. It we are not, we should decide today and this year.

This decision demands a major national commitment of scientific and technical manpower, material and facilities, and the possibility of their diversion from other important activities where they are already thinly spread. It means a degree of dedication, organization and discipline which have not always characterized our research and development efforts. It means we cannot afford undue work stoppages, inflated costs of material or talent, wasteful interagency rivalries, or a high turnover of key personnel.

New objectives and new money cannot solve these problems. They could in fact, aggravate them further -- unless every scientist, every engineer, every serviceman, every technician, contractor, and civil servant gives his personal pledge that this nation will move forward, with the full speed of freedom, in the exciting adventure of space.

X, Conclusion

In conclusion, let me emphasize one point: It is not a pleasure for any Fresident of the United States, as I am sure it was not a pleasure for my predecessor, to come before the Congress and ask for new appropriations which place burdens on our people. I came to this conclusion with some reluctance. But in my judgment, this is a most serious time in the life of our country and in the life of freedom around the globe, and it is the obligation, I believe, of the President of the United States to at least make his recommendations to the Members of the Congress, so that they can reach their own conclusions with that judgment before them. You must decide yourselves, as I have decided, and I am confident that whether you finally decide in the way that I have decided or not, your judgment -- as my judgment -- is reached on what is in the best interests of our country.

In conclusion, let me emphasize one point: that we are determined, as a nation in 1961 that freedom shall survive and succeed -- and whatever the peril and set-backs, we have some very large advantages.

The first is the simple fact that we are on the side of liberty -- and since the beginning of history, and particularly since the end of the Second World War, liberty has been winning out all over the globe.

A second great asset is that we are not alone. We have friends and allies all over the world who share our devotion to freedom. May I cite as a symbol of traditional and effective friendship the great ally I am about to visit --France. I look forward to my visit to France, and to my discussion with a great Captain of the Western World, President de Gaulle, as a meeting of particular significance, permitting the kind of close and ranging consultation that will strengthen both our countries and serve the common purposes of world-wide peace and liberty. Such serious conversations do not require a pale unanimity -- they are rather the instruments of trust and understanding over a long road.

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A third asset is our desire for peace. It is sincere, and I believe the world knows it. We are proving it in our patience at the test-ban table, and we are proving it in the UN where our efforts have been directed to maintaining that organization's usefulness as a protector of the independence of small nations. In these and other instances, the response of our opponents has not been encouraging.

Yet is is important that they should know that our patience at the bargaining table is nearly inexhaustible, though our credulity is limited -- that our hopes for peace are unfailing, while our determination to protect our security is resolute. For these reasons I have long thought it wise to meet with the Soviet Premier for a personal exchange of views. A meeting in Vienna turned out to be convenient for us both; and the Austrian government has kindly made us welcome. No formal agenda is planned and no negotiation will be undertaken; but we will make clear America's enduring concern is for both peace and freedom that we are anxious to live in harmony with the Russian people -- that we seek no conquests, no satellites, no riches -- that we seek only the day when "nation shall not lift up sword against nation, neither shall they learn war any more."

Finally, our greatest asset in this struggle is the American people -- their willingness to pay the price for these programs -- to understand and accept a long struggle -- to share their resources with other less fortunate peoples -to meet the tax levels and close the tax loopholes I have Equested -- to exercise self-restraint instead of pushing up wages or prices, or overproducing certain crops, or spreading military secrets, or urging unessential expenditures or improper monopolies or harmful work stoppages -- to serve in the Peace Corps or the Armed Services or the Federal Civil Service or the Congress -- to strive for excellence in their schools, in their cities and in their physical fitness and that of their children -- to take part in Civil Defense -- to pay higher postal rates, and higher payroll taxes and higher teachers salaries, in order to strengthen our society -- to show friendship to students and visitors from other lands who visit us and go back in many cases to be the future leaders, with an image of America -- and I want that image, and I know you do, to be affirmative and positive -- and, finally, to practice democracy at home, in all States, with all races, to respect each other and to protect the Constitutional rights of all citizens.

I have not asked for a single program which did not cause one or all Americans some inconvenience, or some hardship, or some sacrifice. But they have responded -- and you in the Congress have responded to your duty -- and I feel confident in asking today for a similar response to these new and larger demands. It is heartening to know, as I journey abroad, that our country is united in its commitment to freedom -- and is ready to do its duty.

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