

EXECUTIVE

FG 209

FG 164

April 27, 1972

MEMORANDUM FOR:

PETER M. FLANIGAN

FROM:

JONATHAN C. ROSE

Jim Fletcher has recently raised with me the subject of the PSAC Space Science Panel, and its membership. PSAC apparently has the authority to constitute and dissolve its various advisory panels, and dissolved the last Space Science Panel two years ago. Since that time, special purpose panels such as the Shuttle review group have been convened from time to time. Dr. David is now in the process of reconstituting a permanent Space Science Panel. I have two concerns about the Panel: one my own, which must necessarily be a problem for the future; and one Fletcher's, which he wanted you to know may come up in the next two-three weeks.

1. I raise for your background the general issue of whether we should have such a panel at all. Because I do not think it could be resolved with any delicacy until after the election, I would not propose that it be brought up with David or Fletcher. However, I have serious doubts about the net usefulness of having a PSAC panel kibitzing and second-guessing in this area. If we assume that major space policy issues are fairly well in hand after the scrutiny of the last three years, then one can guess that to keep busy, a Space Science Panel would inevitably creep into programmatic areas in duplication of NSA's technical expertise and OMB's budgetary purview. If Fletcher needs independent technical advice, he is perfectly free to create his own panel of scientific experts. As to OMB, my discussions with Weinberger would indicate that he doesn't feel in need of such advice on NASA matters and has confidence in Fletcher to make appropriate choices within OMB budget guidelines.

Unfortunately, I suppose we are forced to make the best of the panel which we are apparently going to have throughout the rest of this year. Such optimization is the subject of Fletcher's more immediate concern.

2. Fletcher has conveyed to David his concern about some of the proposed members of the Space Science Panel, and has suggested substitutes. Fletcher is concerned about the generally critical view-

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point held by the proposed chairman of the panel, but believes there is no reasonable way to change him. He will be satisfied if David and he can reach agreement upon the rest of the members. David can be expected, as he did in the case of the PSAC panel on the Shuttle, to invoke the general issue of the integrity and function of the PSAC panels. However, considering the purpose for which the panels are providing advice, I think Fletcher is entitled to have a fairly strong veto over members objectionable to him. David can be expected to point out that all members of PSAC panels are now politically cleared prior to appointment; however, as you know, this clearance is a rather perfunctory one and would hardly indicate whether the person at issue can be expected to engage in unjustifiable harassment or criticism of the agency he is charged to review.

Whether or not this problem does surface will depend on Fletcher; if he is not able to resolve his differences with David, he may call and ask for a meeting with you and David.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

MEMORANDUM FOR THE PRESIDENT

SUBJECT: NASA Budget for FY 1973 and the Future Manned Space Program

Background

Commitments to be made in settling NASA's FY 1973 budget will determine the future civilian space program. Depending on FY 1973 decisions, future funding levels for NASA can vary by \$200 million in FY 1973 and more than \$1 billion in FY 1976.

These FY 1973 budget decisions involve the type of manned space flight programs to follow Apollo and Skylab. In addition, an immediate decision involved is whether to complete the last two Apollo flights. These decisions must be faced for FY 1973 because:

- The lead times are gone to decide what to do after Apollo.
- Industry wants decisions one way or another, particularly on the Space Shuttle--on which contractors have been doing design studies for the last 18 months.
- Adjusting space spending and turning NASA's capabilities to other domestic problems requires a 2-3 year phasing.

This memorandum:

- describes NASA's proposed manned space flight program;
- develops an alternative to the NASA proposal;
- provides summary cost, schedule and employment data; and
- recommends next steps in arriving at decisions.

DECLASSIFIED
E.O. 12958, Sect. 3.6

MR NLN 93-6/3
By AR NARA, Date 2/2/96

DECLASSIFIED
Authority E.O. 12958
By SG NARA Date 1/22/04

Need an opportunity to reorganize Apollo 16 s17 change format of memo

*M-
Pls give mty in NASA budget*



National Aeronautics and Space Administration
Office of Policy and Plans
NASA History Office



Editorial Headnote: President Richard M. Nixon and NASA Administrator James C. Fletcher announced the Space Shuttle program had received final approval in San Clemente, California, on 5 January 1972.

The Statement by President Nixon, 5 January 1972.

I have decided today that the United States should proceed at once with the development of an entirely new type of space transportation system designed to help transform the space frontier of the 1970's into familiar territory, easily accessible for human endeavor in the 1980's and '90's.

This system will center on a space vehicle that can shuttle repeatedly from Earth to orbit and back. It will revolutionize transportation into near space, by routinizing it. It will take the astronomical costs out of astronautics. In short, it will go a long way toward delivering the rich benefits of practical space utilization and the valuable spinoffs from space efforts into the daily lives of Americans and all people.

The new year 1972 is a year of conclusion for America's current series of manned flights to the Moon. Much is expected from the two remaining Apollo missions - in fact, their scientific results should exceed the return from all the earlier flights together. Thus they will place a fitting capstone on this vastly successful undertaking. But they also bring us to an important decision point - a point of assessing what our space horizons are as Apollo ends, and of determining where we go from here.

In the scientific arena, the past decade of experience has taught us that spacecraft are an irreplaceable tool for learning about our near-Earth space environment, the Moon, and the planets, besides being an important aid to our studies of the

Sun and stars. In utilizing space to meet needs on Earth, we have seen the tremendous potential of satellites for international communications and world-wide weather forecasting. We are gaining the capability to use satellites as tools in global monitoring and management of nature resources, in agricultural applications, and in pollution control. We can foresee their use in guiding airliners across the oceans and in bringing TV education to wide areas of the world.

However, all these possibilities, and countless others with direct and dramatic bearing on human betterment, can never be more than fractionally realized so long as every single trip from Earth to orbit remains a matter of special effort and staggering expense. This is why commitment to the Space Shuttle program is the right step for America to take, in moving out from our present beach-head in the sky to achieve a real working presence in space - because the Space Shuttle will give us routine access to space by sharply reducing costs in dollars and preparation time.

The new system will differ radically from all existing booster systems, in that most of this new system will be recovered and used again and again - up to 100 times. The resulting economies may bring operating costs down as low as one-tenth of those present launch vehicles.

The resulting changes in modes of flight and re-entry will make the ride safer, and less demanding for the passengers, so that men and women with work to do in space can "commute" aloft, without having to spend years in training for the skills and rigors of old-style space flight. As scientists and technicians are actually able to accompany their instruments into space, limiting boundaries between our manned and unmanned space programmes will disappear. Development of new space applications will be able to proceed much faster. Repair or servicing of satellites in space will become possible, as will delivery of valuable payloads from orbit back to Earth.

The general reliability and versatility which the Shuttle system offers seems likely to establish it quickly as the workhorse of our whole space effort, taking the place of all present launch vehicles except the very smallest and very largest.

NASA and many aerospace companies have carried out extensive design studies for the Shuttle. Congress has reviewed and approved this effort. Preparation is now sufficient for us to commence the actual work of construction with full confidence of success. In order to minimize technical and economic risks, the space agency will continue to take a cautious evolutionary approach in the development of this new system. Even so, by moving ahead at this time, we can have the Shuttle in manned flight by 1978, and operational a short time later.

It is also significant that this major new national enterprise will engage the best efforts of thousands of highly skilled workers and hundreds of contractor firms over the next several years. The amazing 'technology explosion' that has swept this country in the years since we ventured into space should remind us that robust activity in the aerospace industry is healthy for everyone - not just in jobs and income, but in the extension of our capabilities in every direction. The continued pre-eminence of America and American industry in the aerospace field will be an important part of the Shuttle's 'payload'.

Views of the Earth from space have shown us how small and fragile our home planet truly is. We are learning the imperatives of universal brotherhood and global ecology learning to think and act as guardians of one tiny blue and green island in the trackless oceans of the Universe. This new program will give more people more access to the liberating perspectives of space, even as it extends our ability to cope with physical challenges of Earth and broadens our opportunities for international cooperation in low-cost, multi-purpose space missions.

'We must sail sometimes with the wind and sometimes against it', said Oliver Wendell Holmes, 'but we must sail, and not drift, nor lie at anchor'. So with man's epic voyage into space - a voyage the United States of America has led and still shall lead.

Statement by Dr. Fletcher, NASA Administrator.

As indicated in the President's statement, the studies by NASA and the aerospace industry of the Space Shuttle have now reached the point where the decision can be made to proceed into actual development of the Space Shuttle vehicle. The decision to proceed, which the President has now approved, is consistent with the plans presented to and approved by the Congress in NASA's FY 1972 budget.

The decision by the President is a historic step in the nation's space program - it will change the nature of what man can do in space. By the end of this decade the nation will have the means of getting men and equipment to and from space routinely, on a moment's notice if necessary, and at a small fraction of today's cost. This will be done within the framework of a useful total space program of science, exploration, and applications at approximately the present overall level of the space budget.

The Space Shuttle will consist of an aircraft-like orbiter, about the size of a DC-9. It will be capable of carrying into orbit and back again to Earth useful payloads up to 15 ft. in diameter by 60 ft. long, and weighing up to 65,000 lb. Fuel for the orbiter's liquid-hydrogen / liquid-oxygen engines will be carried in an external tank that will be jettisoned in orbit.

The orbiter will be launched by an unmanned booster.

The orbiter can operate in space for about a week. The men onboard will be able to launch, service, or recover unmanned spacecraft; perform experiments and other useful operations in Earth orbit; and farther in the future resupply with men and equipment space modules which themselves have been brought to space by the Space Shuttle. When each mission has been completed, the Space Shuttle will return to Earth and land on a runway like an airplane.

There are four main reasons why the Space Shuttle is important and is the right step in manned space flight and the US space program.

- The Shuttle is the only meaningful new manned space program which can be accomplished on a modest budget;
- It is needed to make space operations less complex and less costly;
- It is needed to do useful things, and
- It will encourage greater international participation in space flight.

On the basis of today's decision, NASA will proceed as follows;

This spring we will issue a request for prospective contractors. This summer we will place Space Shuttle under contract and development work will start. Between now and about the end of February, NASA and our contractors will focus their study efforts on technical areas where further detailed information is required before the requests for contractor proposals can be issued. These areas include comparisons of pressure-fed liquid and solid rocket motor options for the booster stage.



Updated April 14, 2000
Marcus Lindroos, html author
Roger D. Launius, NASA Chief Historian
Steve Garber, NASA History Web Curator
For further information E-mail histinfo@hq.nasa.gov



NARA APPROVED

[Handwritten signature]

January 29, 1972

MEMORANDUM FOR: PETER M. FLANIGAN
FROM: JON ROSE
SUBJECT: NASA

In line with my earlier memorandum, I believe that we should de-emphasize your personal involvement with NASA as well as mine as much as possible.

I will undertake to do this. I do not believe a monthly lunch with Fletcher is too much but anything beyond that will simply have to be handled by someone else.

For the sake of the record between you and me, I believe it appropriate to set forth my views on the general subject of NASA in order to make clear that I have not been turned into a space cadet by my contact with the aerospace industry during the California unemployment effort. Through a rather indirect process I believe we have arrived at a predictable level of \$3 billion space budget over the next few years, down from a nearly \$6 billion level during the heydays of the Johnson Administration and the Apollo program. Perhaps the amount should be less, but I think our office and particularly Tom Whitehead can take credit for getting it down this low. My suspicion is without having intensely studied the matter that we would not have a viable space program if the level were too much lower than it is now. I believe for the foreseeable future we must have an effective program if for no other reason that that the Russians are continuing to have one. You may have forgotten momentarily the great stir that was created in 1957. It is certainly conceivable that another breakthrough of that type could cause a similar stir in the 1970s. I am far from convinced that the military uses of space have been exhausted.

If we are going to have a space program, I believe that both NASA and the aerospace industry are entitled to have some notion in general of what the level of federal effort in that program will be. I believe that we have now arrived at that point. We were being severely criticized for not having a viable space program over the last 18 months.

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With regard to the shuttle, I can only say the following. Ed David and Don Rice may well have been right that there existed a different cost curve than the one NASA was able to find for a shuttle with a smaller bay and lighter payload. I am quite clear that only their pressure forced the shuttle modifications which produced the massive savings from the August shuttle to the December shuttle. They were however unable to prove their case when it came to another billion dollars of potential savings if we delayed for several months more. While NASA may not historically have effectively studied the smaller shuttle I became convinced that Jim Fletcher had in the time given to him done the best he could. In the last analysis, that is all one can ask of an honest agency head. He should not be brutalized on a continuing basis by the budget process or by the White House Staff when such pressure appears to reach the point of diminishing returns.

I used to be much more awed by the products Alain Enthoven's system analysis office when I first arrived in Washington than I am now. He produced a group of highly disciplined thinkers prepared to tackle the shaky assumptions of weapons happy generals. This group is highly effective and its graduates include such people as Larry Ryan, John Court, and Phil Odeen all of whom have done excellent work for Henry Kissinger. However, in the circumstances, the essence of judgment is to know when to stop. I simply think Don Rice failed us here. He viewed the political situation as well as the plight of the contractors very lightly. He was far more interested in pursuing the marginal cost savings which his staff led him to believe were possible. This in turn finally led him to some highly shoddy tactics in ex parte lobbying which led me to the simple conclusion that I could not trust what he was saying unless NASA and he were both in the same room. This is not a charge which I make lightly; I simply observe it happening.

I believe we reached the best possible result under the circumstances. In a non-election year I might have seen the equation differently and been willing to wait several extra months to see if Rice was right. But I believe you have to play the ball from where it lies, and this is after all 1972. In the last analysis I am far from clear the Rice-David hypothesis could have been proven, but in another year I might have been willing to take the chance.

The above is my NASA apology. I hope you don't find it overly disagreeable.

EXECUTIVE

FI4/FG164
FG164THE WHITE HOUSE
WASHINGTON

December 19, 1972

MEMORANDUM FOR JOHN KNUBEL

FROM: JON ROSE

Attached is a copy of the Fletcher package which will be coming over to HAK's office this evening. As I expressed, the key issue is as follows:

OMB analysis has indicated that the only way to reach the overall desired mark for NASA of \$3.047 billion is to cancel the Viking-Mars landing mission scheduled to arrive in 1976. NASA has, in my judgment, very constructively responded to what even OMB agrees is a stringent mark based on its guidance to them last year. It very nearly reaches the OMB mark but does so by canceling projects less related to its central mission of planetary exploration than Viking.

I think Henry's principal concern here would be that whatever our budgetary level for NASA during the current year is, it conveys a continuing sense of direction and coherence to the American presence in space. Through the results of the entire fiscal straits we face we are in severe danger of presenting a program which has no clear and defined purpose.

The attached letters I believe reflect this problem adequately. When you have had a chance to read them would you kindly let me know.