The original documents are located in Box 61, folder "1976/09/08 - Dr. James Fletcher" of the James M. Cannon Files at the Gerald R. Ford Presidential Library.

THE WHITE HOUSE

WASHINGTON

September 8, 1976

MEMORANDUM FOR: TERRY O'DONNELL

FROM: GLENN SCHLEEDE Glenn

SUBJECT: FLETCHER MEETING WITH THE PRESIDENT

We now have confirmation that the following people will be attending the meeting with Dr. Fletcher in the Oval Office:

Jim Cannon
Jim Fletcher
Bill Hyland (for General Scowcroft)
Bill Gorog (for Bill Seidman)
Alan Lovelace
Jim Mitchell (for Jim Lynn)
H. Guyford Stever

cc: Jim Cannon

MEETING WITH PRESIDENT AND
DR. FLETCHER

2:00 Wednesday, September 8, 1976

~~4:00~~ ~~12:15~~ p.m.

Oval Office

30 minutes

THE WHITE HOUSE

WASHINGTON

September 7, 1976

MEETING WITH DR. JAMES FLETCHER
Wednesday, September 8, 1976
12:15 p.m. (30 minutes)
The Oval Office

From: Jim Cannon Jim

I. PURPOSE

- Part I (5 minutes) - to permit (1) Dr. Fletcher to present you a model of the Space Shuttle and (2) you to announce your request to Fletcher -- and his acceptance -- of a proposal to name the first shuttle orbiter the "Enterprise."

- Part II (about 25 minutes) - to permit Dr. Fletcher to (1) report on NASA accomplishments, and (2) express his concerns about the space program.

II. BACKGROUND, PARTICIPANTS, AND PRESS PLAN

A. Background - Part I

The first important visible effort in the Shuttle program -- the roll-out of the first orbiter for the Space Shuttle -- occurs on September 17 at Palmdale, California. Your advisers have recommended (and Dr. Fletcher has agreed to accept) a request from you to name the orbiter the "Enterprise," -- a proposal made by thousands of "Star Trek" fans.

Background - Part II

1. Dr. Fletcher would like to report briefly on NASA accomplishments and plans, particularly on the Viking landings on Mars and the Space Shuttle.

2. He will also mention his concerns that U.S. space capabilities have eroded and that the NASA program has been cut too deeply. He had asked for an opportunity to present his concerns before decisions were made on 1978 Budget planning ceilings. Since planning ceilings have been set, he will be reluctant to stress his concerns now and probably will propose a later meeting for this purpose.

Dr. Fletcher's principal concerns are summarized at Tab A. His June 4, 1976 letter requesting a meeting is summarized at Tab B. The full letter is at Tab C.

The 1978 planning ceiling given NASA provides only for run-out costs of current commitments (including inflation). The overall NASA program would be reduced because there is no provision for new starts or replacements for programs being completed.

While unknown to NASA, OMB has counted in its own planning totals an additional $90 million in BA (about 2-1/2 percent of ceiling) and $40 million in outlays to initiate some 1978 new starts (e.g., space telescope). This will be welcomed by NASA but will not answer NASA's basic desire for a longer term commitment to program growth that would permit planning and executing a balanced space program.

B. <u>Participants</u>

- Part I - Dr. Fletcher
- Part II - Dr. Fletcher and his Deputy Alan Lovelace
  - The Vice President, Guy Stever, Jim Cannon, Jim Lynn, Bill Seidman and Bill Hyland

C. <u>Press Plan</u>

- Part I - Press photo opportunity; sound on film
- Part II - White House photographer

III. <u>TALKING POINTS</u>

- Part I - Presentation: See Tab D.
- Part II - Substantive Meeting:

  - Jim and Alan, I'm looking forward to hearing more about your accomplishments on Mars and your progress on the Shuttle. Would you go ahead.

  - I have your letter with your views on the space program and budget. I understand your concerns.

  - We must hold a tight rein to achieve a balanced budget in 1979, but I want to be sure we consider your proposals. If we are able to accommodate some new starts in 1978, what would you select for highest priority?

TAB A

TAB A

POINTS THAT DR. FLETCHER PROBABLY WILL MAKE ORALLY DURING THE MEETING

- The space program has gained new public support with Viking successes.

- NASA's overall program level has been held roughly level in current dollars since 1972; a reduction in constant dollars. Growth in the Space Shuttle program has meant cuts in other programs.

- NASA has received OMB assurances that future years' budgets would, as a minimum, provide for a balanced space program -- in addition to the Shuttle. But each year NASA has been cut below this level. NASA's 1978 budget of $3.7 billion is $1 billion below level OMB projected in 1972.

- OMB's 1978 budget planning ceiling for NASA is far too tight and may force additional slippage in the Shuttle program.

- NASA appears to have been treated less favorably in the budget than other agencies.

- NASA has a major economic "leveraging" effect and a major employment impact in several areas, including California, Texas, Florida, and Long Island.

- The NASA-Industry-University team is an important technological resource that should be preserved and utilized.

- U.S. technological leadership is at stake; the U.S. is falling behind in space (USSR) and in aeronautics (Western Europe).

- While his letter calls for a 10 percent increase in real program growth, he will indicate satisfaction with a lower percentage.

TAB B

PRINCIPAL POINTS IN DR. FLETCHER'S LETTER AND ITS ATTACHMENTS

Letter

- Over the past 5 years, NASA has "not been permitted to maintain the program breadth or momentum necessary for continued contributions to national security, international policy, and technological progress."
- NASA has been held below its "critical threshold" with the risk of foregoing "future benefits in international prestige, military spinoffs, economic and industrial stimulation, and constructive non-inflationary employment."
- NASA has reached a "breaking point," is losing much of its government-university-industry team, and the U.S. is in danger of losing leadership as a space power.
- NASA's activity must be expanded or the civil space program will be irreparably damaged.
- An initial 10 percent of real growth in program can make the difference.

Attachment 1 - Space and Aeronautics: Challenge and Opportunity

- Cites major benefits of the aerospace program:
  - Element of international policy -- communications, weather services, earth and ocean resources and conditions.
  - Advanced technology for civil and military purposes.
  - Develop "high" technology -- with productivity and international trade benefits.
  - Inspiration for younger generations; forward looking technological problem solving.
- Summarizes four potential major program thrusts detailed in Attachment 2.

Attachment 2 - NASA Five-Year Planning

- Expansion of national services from space:
  - Global resource information system -- involves expansion of experimental LANDSAT (earth resources) program to provide regularly information on food, energy and other mineral resources; environmental quality, weather; and climate.

- Advancement of space communications -- to avoid loss of U.S. leadership in telecommunications technology to state-supported industries in Japan and Europe.

. Beneficial occupancy of space -- as the next major manned space thrust beyond the Shuttle, a permanently manned center to:

- Service new commercial devices and industrial processes possible only in unique space conditions (weightlessness; near-perfect vacuum).

- Assemble, test and maintain large orbital structures for information, communications and solar energy.

- Provide space research facilities, including tests needed to consider space colonization and long-duration planetary expeditions.

. Integrated scientific exploration of the universe -- including:

- New steps in remote exploration (e.g., orbital telescope) and direct exploration (e.g., planetary; atmospheric and surface sampling).

- Use of knowledge about other planets better to understand and manage the earth.

. Reestablish U.S. dominance in aeronautical techonolgy including:

- Energy-efficient technology to improve new models of current aircraft.

- Regaining from Europe lead in supersonic transports, helicopters and short-haul transports -- to capture civil aircraft markets.

TAB C

NASA
National Aeronautics and
Space Administration
Washington, D.C.
20546
Office of the Administrator

June 4, 1976

The President
The White House
Washington, DC 20500

Dear Mr. President:

I have had the honor to serve as the Administrator of your National Aeronautics and Space Administration for the past five years. During that time, this exciting and dynamic agency has realized many proud accomplishments -- but these have come about largely as the consequence of earlier investments in science and technology.

As a matter of conscience and duty, I must inform you of the steady erosion of the United States space capabilities and of the dangers this poses. Over the past five years, we have not been permitted to maintain the program breadth or momentum necessary for continued contributions to national security, international policy, and technological progress.

If the civil program continues to be held below its critical threshold, we run a real risk of foregoing rich future benefits in international prestige, military spinoffs, economic and industrial stimulation, and constructive noninflationary employment -- as well as in critical new space capabilities. I feel we are also risking what may be the single most important potential for inspiring America's future generations. I have recently mentioned these problems to the Vice President, Brent Scowcroft, and Jim Cavanaugh among others. I believe they all were surprised at the serious loss of our abilities to compete, cooperate, or advance in space.

In my view, we have reached a breaking point: We have already lost much of the capability of our unique government-university-industry aerospace team, and are in danger of losing even more. We are risking not meeting important expanding international commitments. We are in danger of losing a critical national resource as well as our leadership as a space power. Even the usually conservative financial community is recognizing the signs of a national technological crisis -- and the shrinkage of the NASA program has been a major contributor to that crisis.

Mr. President, I wholeheartedly support your strong commitment to fiscal responsibility and balanced budgets. However, I must point out that NASA, the Executive Agency dedicated to creating long-term future technological strength for the Nation, is in critical difficulty. In blunt terms, if we cannot expand the scope of NASA's activity, the civil space program will be irreparably damaged.

I believe it is important to express my concerns directly to you before the start of the normal budget cycle. I am writing separately to Jim Lynn on this subject, and I will, of course, be working with him during the fall. In my judgment, the effort required to reverse current trends is relatively small. An initial 10% of real growth in program content can make the difference between a strong national program and one at or below the threshold of survival.

If you could make some time available, I would be most pleased to discuss the issue of NASA's future with you in detail. Recognizing your extraordinarily full schedule, I am enclosing two attachments which may help focus both the problem and opportunity: the first is a short paper on the civil aerospace program, and the second is a summary of a new five-year plan for space and aeronautics currently being developed.

On a different but related matter, Don Rumsfeld and I hope to meet with you later in the year to recommend a joint approach to the procurement of the operational Space Shuttle.

Respectfully,

Jim

James C. Fletcher
Administrator

2 Enclosures

cc: The Vice President
James T. Lynn
James M. Cannon
Lt. Gen. Brent Scowcroft
L. William Seidman
James H. Cavanaugh

SPACE AND AERONAUTICS: CHALLENGE AND OPPORTUNITY

A rational, productive aerospace program is a vital component of the near- and long-term future of the United States -- and of the world.

- Space technology is <u>an integral element of international policy</u>: the satellite has become indispensable to intercontinental communications and to international weather services; satellites are positive contributors to accurate United States information on global earth and ocean resources and conditions; aerospace programs provide the United States powerful selective options for cooperation or competition with advanced and developing nations.

- Space technology -- and the concomitant of an advanced and imaginative aerospace industry -- is <u>critical to the national defense posture</u> of the United States. Civil programs, because of their open, exploratory character, generate broad technological advance that energize entire industries as well as being directly employed for civil or military ends.

- Aerospace programs, by their nature, are at the cutting edge of technological advance -- they demand and create, above all, "high" technology. Technology of all levels is recognized as a necessary major contributor to national productivity; what is less well recognized is the enormous economic leverage exercised by investment in and development of "high" technology. Recent assessments indicate that <u>a dollar spent in NASA R&D creates a 14:1 return over 10 years</u> in terms of increased productivity alone, and that small but sustained changes in the levels of NASA expenditures have a disproportionately large effect in creating and sustaining permanent new jobs in the national economy.

- The challenge of space is <u>an exciting inspiration to the</u> younger generations of America and the world. The nation that meets this challenge boldly will strengthen and enlarge the spirit of all its citizens and create the drive for future progress and achievement.

- The civil space agency -- NASA -- is <u>the single Federal instrumentality squarely focused on the future</u>. NASA has developed into the nation's most effective technical problem-solving agency. It is an instrument available for use; it should not be allowed to sag into mediocrity or to dwindle away for lack of forward-looking assignments.

An immediate opportunity now lies before our country: to mobilize its civil aerospace resources in pursuit of national objectives. If action is not taken, the nation's ability to mount effective programs will erode beyond repair, and the international competitors of the United States will establish commanding leads in such areas as permanent manned facilities in space, planetary exploration, space communications, and high speed intercontinental aviation. Aerospace objectives of great value and importance are:

- <u>A global information service</u> -- strengthening the United States' posture at home and abroad with revolutionary improvements in timely and accurate reporting on world-wide economic and environmental conditions through the organized use of space-based observation systems.

- <u>Permanent American occupancy of space</u> -- guaranteeing free access to space by all for peaceful purposes, providing a new and expanding dimension for United States industry and commerce in exploiting the unique environment and technology of space for new goods and services, and opening new horizons for the human spirit.

- The integrated <u>scientific exploration of the Universe</u> -- to find the answers to central questions of life, matter, and energy.

- <u>Reestablishment of American preeminence in aviation</u> -- creating the commercial competence to compete effectively in world markets with new aircraft using new designs, materials, propulsion and technology.

The returns from investment in civil aerospace are power -- economic, scientific, and political. This can flow only from a steady level of activity; research and development cannot thrive or deliver its technological products in an environment of uncertain commitment or sporadic support. Focused investments in high technology are significant national economic tools in the search for prosperity without inflation.

To provide for the future requires thoughtful and prudent investments in the present. At stake are the leadership, prestige, and power of the United States in a critical technological domain affecting the life and livelihood of every citizen -- and, through example and political extension of that power, the future of all the world.

June 4, 1976

TAB D

NASA FIVE-YEAR PLANNING

INTRODUCTION

The management of the National Aeronautics and Space Administration is preparing a five-year plan to provide an integrated framework within which policy and program recommendations and decisions can be evaluated. While not complete at this time, the basic structure of the recommended five-year plan is outlined below.

One critical factor must be kept in mind: the lead-times involved in the development of sophisticated space technology are often such that individual projects may require as much as five to seven years to be complete; in the case of certain exploration missions to the far planets, flight times of as many years are required before new information can be received on earth. The planning context, therefore, has to extend considerably beyond the next five years in order to provide a solid base for the near-term decisions.

In addition, plans for the future must be carefully integrated with the present ongoing program. It is important to take maximum advantage of momentum and technical capabilities in being, and to be ready to exploit new or enlarged opportunities presented by the evolving scientific and technological environment.

GOALS AND OBJECTIVES

The first generation of space and aeronautical activity has come of age. Taken together, the growing maturity of the existing technologies, the experimental successes of the first tentative moves toward delivery of new services from space, the preliminary investigations of important natural phenomena, and the rapid expansion of space and aeronautical activities abroad, now require the United States to choose the major directions for the future that will be pursued in the national interest. These goals and objectives cannot, and should not, be either all-encompassing or narrowly rigid; they must, however, reflect a sense of national purpose, provide a basis for measuring accomplishment, and offer a set of unique and important values in their own right.

The National Aeronautics and Space Administration has identified four goals to characterize the national space and aeronautics program for the next decade. These flow naturally from the growing world consensus on the definition of the major problems and questions confronting human society, from the political and economic realities of today, and from the ongoing programs of the United States and other nations.

1. A major goal is the rapid expansion of significant national services from space. The past fifteen years have sufficiently proven the capabilities of space systems for global observation and communications; the challenge now is to exploit fully these important capabilities for the United States, recognizing that otherwise the advantages of time and technology will pass to others.

   a. One clear direction to follow is the immediate implementation of a global resources information system. This represents a major policy decision with enormous implications for the future of the United States. Critical national decisions of international importance depend on accurate, timely, and continuing information about food, energy, environmental quality, and climate. Space observations coupled with new computer techniques would provide accurate bi-weekly forecasts of global agricultural production for all crops of major economic significance, geological assessments related to the potential for mineral and petroleum discovery and recovery, water quality status and trends, ocean condition forecasts, and eventually annual and long-term climate predictions.

      This wholly new class of information services, already being experimentally demonstrated in grain surveys, would afford the United States a widely expanded horizon for wise political and economic decisions in areas ranging from agricultural commodity exports through national resources management to avoidance of climatic catastrophe. It behooves the United States to have and to use these capabilities in pursuit of domestic and international policy objectives rather than have them developed by others in opposition to United States aims.

The Next Five Years. The expansion of the current Landsat experimental program would begin immediately, allowing the inclusion of improved instruments and relying on dual satellites to afford repetitive world coverage every nine days. A new and complex ground data handling system, to extract and disseminate information from satellite data rapidly and incorporating forecasting and prediction models, would be developed at the same time. Major milestones tied to an investment of less than $100 million per year would be:

-- By 1981, bi-weekly global wheat production forecasts.

-- By 1983, begin production forecasts for rye, oats, barley, rice, corn, soybeans, and sugar; and, global geological resources assessments and ocean condition prediction.

-- By 1985, using an expanded system combining low and synchronous satellite observatories, and an understanding of climate trends and mechanisms.

-- By 1990, routine delivery of the full range of terrestrial, oceanic, and climatic information, leading to climate prediction services.

b. Another clear direction to follow is the aggressive advancement of space communications to assure United States industrial superiority. Current assessments indicate that, without a significant national program in space communications technology, United States industry will lose its present position of international leadership to the state-supported industries of Japan and Europe. Already key elements of international telecommunications services, particularly in the high-power, high-frequency regimes, are being provided by German and Japanese technology more advanced than that which United States industry has been able to sponsor with its own resources. Similarly, new national services made possible and economical because of space technology are ready to be deployed to improve the quality of life and the sense of security of every citizen. Recognition of a Federal responsibility for the health and progress of the private United States telecommunications industry is, in itself, a significant policy initiative.

The Next Five Years. For the competitive advancement of civil space communications technology and the development of practical new commercial services -- such as personal mobile telecommunications, remote health care delivery, direct broadcast to individual receivers, or expanded electronic mail -- joint development and demonstration programs with the electronics and communications industries would establish an American beachhead in high-power, high-frequency satellite technology. The demonstration systems, once developed, could then be leased to commercial operators to amortize the Government's technology investment.

A more immediate new application of space communications services -- search and rescue -- would be demonstrated in 1981 for some $30 million. A key problem in the past has been the unambiguous location of an emergency distress signal. Satellites in conjunction with the new software and aircraft and shipboard emergency transmitters would overcome these limitations. Full-scale operational deployment following the demonstration would be in 1984.

2. Another major goal is the permanent beneficial occupancy of space to promote the national interest, to assure that space will be kept an open resource for all peaceful purposes of free peoples, and to forbid the foreign domination of space.

Current United States programs are focused on the Shuttle and Spacelab systems, critical elements in expanding the scope and capability of short duration space activities at low recurring costs. The next generation of capability, building on the experience developed in the first phase of space utilization, would have the <u>development of the commercial utility of space</u> as a major thrust. This industrialization of space would create new markets, new products and new economic strength for the United States. The position the United States holds in space technology and the investment the United States has made in space capability must be fully exploited to maintain United States world leadership. The key element would be a permanent manned orbital center to service new commercial devices and industrial processes that take full economic advantage of the unique space conditions -- weightlessness, access to a near-perfect vacuum, and solar energy.

The same center would serve as a construction base for the assembly, test, and maintenance of the very large orbital structures required in the future for information acquisition, communications, and energy management. As a research and development laboratory, the center would house experimental and operational research instruments -- telescopes, antennas, biological instrumentation, physics and chemistry facilities -- for continuing investigations under essentially shirt-sleeve conditions.

Serviced by the Shuttle, the space center would be the most important test of future opportunities which may prove critical to man's continued development: long-duration manned planetary expeditions, space colonization, and expansion of human civilization into the solar system.

The Next Five Years. Technology programs using the Shuttle and Spacelab will foster the development of the orbital techniques and methods required for the space center. Spacelab manufacturing and processing experiments -- taking advantage of the space environment to create such new materials as unique crystals, semiconductors, integrated circuits, or pharmaceuticals -- will be intensively pursued in conjunction with United States industry beginning with the earliest Shuttle flights in 1979. Major new milestones, presuming an investment level for these elements growing toward $900 million by 1983, are:

-- By 1982, the first experimental large space structure -- perhaps a 100-meter antenna supporting the expanded space communications effort -- would have been assembled in orbit by crews operating from the Shuttle to demonstrate space construction and maintenance techniques.

-- By 1984, the first permanent space center -- a 4-to-6-man space station -- would be in operation, together with the first commercial manufacturing and processing facilities which would be expected to repay their costs early in this phase of space utilization. The space center would use an evolutionary modular design initially based on the technologies developed for Skylab, Shuttle, and Spacelab. Space center operations would rely on the Shuttle for transportation and service, and the center would be designed to permit major expansion in size and function without encountering technological obsolescence.

-- By 1986, a small-scale prototype of a solar power energy system would be in operation, initially converting solar energy to electrical power for use within the space center. If necessary, this technology could be later expanded to provide beamed energy from space to earth for commercial use; this would also require expansion of the space center to a 12-man station and development of synchronous visit and operations capability.

3. A third goal is the <u>integrated scientific exploration of the Universe</u>: to push back its frontiers, to discover its origin, evolution, and future; to probe and master its dynamic processes; and to understand its relationship to life on Earth and elsewhere.

A new element in NASA's continuing science work is the development of a program that brings together in a new core the traditionally separate disciplines and approaches of classic space research. It is necessary to relate the atmospheres of far planets to our own, the mechanisms of our sun to those of other stars, the tectonics of Earth to those of Mars and Venus and Mercury, the geochemistry of the Moon to that of the terrestrial planets and asteroids and major satellites.

Exploration falls into two large classes: in remote exploration, man uses instruments to observe and measure phenomena at great distances; in direct exploration, man or his instruments operate at the site of the phenomenon.

Remote exploration is characterized by the orbital telescope, operating for extended periods in selected spectral bounds to study the Sun, far stars and galaxies, nearby planets and moons. Direct exploration within the solar system starts with initial reconnaissance, followed by detailed study for extended periods, and in special cases, atmospheric and surface samples must be returned to Earth for analysis. The ultimate steps may include temporary or permanent human occupancy, supported by a planetary environment tailored to human needs.

Connecting remote and direct exploration of the solar system and the Universe to life on Earth is the translation of new knowledge of extraterrestrial phenomena -- energy generation and transmission, internal star dynamics, planetary atmospheric activity -- into clearer understanding of our own life support system of sun, air, and oceans. It is this understanding -- and the wise long-term management of the Earth that can stem therefrom -- that will guarantee a continued safe habitation for man on his home planet.

<u>The Next Five Years</u>. The total space science and exploration program, covering as it does a multiplicity of targets and many disciplines, is not readily summarized. The major elements noted below are only a part of an overall program estimated to require some $600 million per year. There would need be augmentation beyond this level if, for example, it becomes necessary to follow up the discovery of life within the solar system or of intelligence within the galaxy.

The most critical and immediate need in remote exploration capability is the 2.4-meter Space Telescope, a permanent man-tended orbital facility that can quadruple the reach of man into the Universe, can find planets around nearby stars, can look back into time some 15 billion years, and can help decipher the now unexplained energy-generating mechanisms of stellar systems and objects. The Space Telescope would be delivered into orbit by the Shuttle in 1983 and maintained thereafter by routine service flights. Other remote exploration needs would be met by a 1981 solar mission to view the Sun's poles, thought to be sources of particles escaping to galactic space, by continuing Spacelab flights starting in 1982 and carrying such instruments as 1-meter solar and infrared telescopes, and by a second generation of refurbishable high-energy observatories operating in 1983.

The most critical and immediate new capability for direct exploration of the planets would be embodied in a long-duration orbital planetary laboratory carrying multiple atmospheric probes. This mission would first be launched to Jupiter in 1981 to analyze the unique atmosphere of that giant planet and to define its magnetosphere and radiation belts. A similar mission would be launched to Saturn in 1984.

Exploration of the terrestrial planets would rely on a geophysical/geochemical long-duration orbiter, the first deployed around the Moon in 1981 and another around Mercury in 1983. The pervasive cloud layer of Venus requires an orbital radar mapper to investigate the surface; this mission would be launched in 1983. The findings of the 1976 Viking surface exploration of Mars will define critical follow-on investigations; a major step would be the automated return of surface samples to Earth for analysis.

4. The final goal is to reestablish United States dominance in aeronautical technology and, concomitantly, to assure United States preeminence in civil aviation markets at home and abroad. Civil aviation, comprising aircraft manufacturers and airline operators, has been among the most successful of the United States commercial sectors. The historical reasons for this success have been threefold: a reliable base of Federal research and technology, consistently supported since 1915, responsible for managing national aeronautical facilities as well as for technical advances in aviation; a steady demand for new aircraft types for military purposes and their subsequent deployment into the civil sector; and a healthy condition of competition for both domestic and foreign markets among the United States airlines and manufacturers.

   Aviation is still growing; 800 billion revenue passenger miles per year are predicted by 1986, or double current world levels. Through 1986 there will be a world-wide market of $50 billion for civil transports, and demand is growing for efficient and profitable short-haul aircraft, helicopters, and general utility aircraft.

   The United States aviation industry today, however, is not in a position to capitalize on opportunities for new markets: the airlines' economic difficulties, driven by fuel costs and the problems of operating an aging fleet, are deferring orders for new aircraft; the manufacturers cannot finance the development of new systems for lack of capital and because the needed new technologies have not been exercised to the point of being ready for new aircraft at reasonable risk; and for the first time, aggressive state-supported foreign competition is threatening to penetrate former United States markets and to seize a disproportionately large share of new markets now just opening.

In supersonic passenger service, in helicopters, and in quiet short-haul transports, the Europeans already are ahead of the United States. In military aviation, United States superiority is no longer assured. United States leadership can be regained only by a purposeful injection of high technology tailored to the specific economic and transportation environment of the mid-'80's and beyond.

The Next Five Years. Current estimates suggest that an increase in aeronautical research and technology investment over the current $200 million per year level would be necessary if the United States is to regain -- and maintain -- a position of leadership in world aviation through the end of the century. Advanced aeronautical facilities and a sustained government-industry technological partnership are important ingredients of that leadership. Significant areas of effort would include:

-- An integrated energy-efficient technology package to improve new models of current aircraft within the next five years and to permit the wholly new aircraft of the mid-eighties to operate at half today's fuel consumption.

-- A focused effort on quiet, efficient supersonic transport technology to place United States industry in a position by 1985 to respond to the Franco-British and Soviet initiatives in this area.

-- Developments for high speed vertical take-off aircraft with important military as well as civil applications.

-- Design and engineering advances for quiet, comfortable, economical helicopters that have a wide domestic and foreign market.

-- Technology and systems engineering to improve the economics of agricultural aviation services.

SUMMARY

The goals and challenges sketched above together represent the opportunity that now lies before the United States:

-- To capitalize on prior investment in space and aeronautics.

-- To establish new thresholds of national strength and creativity.

-- To regain an unquestioned position of world leadership in high technology deployed in the public interest.

June 4, 1976

THE WHITE HOUSE

WASHINGTON

September 8, 1976

MEMORANDUM FOR: JIM CANNON

FROM: GLENN SCHLEEDE Glenn

SUBJECT: PRESIDENTIAL MEETING WITH DR. FLETCHER

Attached are the Talking Points as approved by Bob Orben's office for the 2:00 p.m. meeting today.

Attachment.

(Butler) September 8, 1976
THIRD DRAFT

TALKING POINTS FOR SPACE SHUTTLE ENTERPRISE, WEDNESDAY, SEPTEMBER 8, 1976

Thank you, Dr. Fletcher.

Let me say first that you and your associates at NASA, together with their colleagues in American industry and academic life, have earned the praise of all Americans for your many successful missions in space. The two Viking landings on Mars are only the latest examples, and the space shuttle model you have presented to me represents still another exciting chapter in space exploration.

Next week, NASA will unveil the first space shuttle orbiter in Palmdale, California. The orbiter represents a major breakthrough in space technology, because it is re-usable. Upon completion of its space mission, it will be piloted back to earth for use in subsequent flights.

This major advance in the space program is the product of many years of hard work, experimentation and invention by thousands of dedicated Americans. It represents the determination, the skill, and the quest for new knowledge which have always characterized Americans.

A great many people have written to me in recent months, suggesting one name in particular for this spaceship, which will carry us not only into space but into the future.

It is a distinguished name in the annals of American history, with a long tradition of courage and endurance. It is also a name familiar to millions of faithful followers of the science fiction television program "Star Trek."

To explore the frontiers of space, there is no better ship than the space shuttle and no better name for that ship than the Enterprise.

That is the name I have suggested to Dr. Fletcher, and it is the name he has agreed to use.

So we await with a special interest the first mission of the space shuttle, and I congratulate you once again, Dr. Fletcher, and your associates for a job well done.

# # # #