Jim Webb look - Let for me draft

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THE VICE PRESIDENT
WASHINGTON

Rec'd 11-15-66 12 noon

November 10, 1966
11:30 a.m.

MEMORANDUM

FOR: The President

FROM: The Vice President

SUBJECT: International Space Exhibit

For some time now, the Space Council has been giving serious consideration to developing another means for projecting the image of this country to other peoples of the world.

With emphatic encouragement from Secretary McNamara and with the enthusiastic and technical assistance of Leonard Marks, the Council has come up with an international space exhibit proposal.

All members of the Council support this proposal.

Attached is a one-page brief of this project. I recommend it for your approval.

Hubert H.

Attachment

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON 20502

EXECUTIVE SECRETARY

November 10, 1966

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities

1. Launches

a. Lunar Orbiter II, launched successfully from Cape Kennedy November 6 by an Atlas Agena launch vehicle, successfully completed its mid-course maneuvers and subsequently entered an elliptical orbit around the moon. This orbit will be adjusted to bring the Orbiter within 28 miles of the surface. The 850-pound spacecraft's mission is to photograph the lunar surface with both its high resolution and its medium resolution cameras. Between 300 and 400 pictures are expected to be obtained to aid study of 13 potential lunar landing sites for the Apollo's two-man Lunar Excursion Module.

b. A classified defense satellite was placed into polar orbit from the Western Test Range November 8 by a Thor Agena launch vehicle.

2. Gemini 12. Diplomats from the UN Outer Space Committee, including representatives from Rumania and Outer Mongolia, plan to visit Cape Kennedy to watch the launch of Gemini 12 now scheduled for November 11. The two-day delay was caused by problems with the autopilot system, which steers the Titan II booster. The mission includes rendezvous, docking, station-keeping with the Gemini tethered to its Agena companion, and five hours of extra-vehicular activity.

3. Soviet Space Activity

a. The Soviets reported November 5 that an automatic astronomical station weighing 7.6 tons had been suspended by balloon at an altitude of 12 miles on November 1. The station reportedly carried a high resolution telescope for solar photography.

b. The Soviets announced the launch on October 26 of a space probe which carried a gas plasma ion engine to an altitude of about 250 miles. Besides test of the advanced engine, the purpose of the probe was to study the ionosphere.

The White House
Washington

1966 NOV 10 PM 6 50

4. Communications Satellites. The second INTELSAT II launch has been indefinitely postponed until the cause of the motor malfunction on the satellite launched October 26 has been completely diagnosed.

5. Supersonic Aircraft Tests. The second phase of flight tests with the XB-70 in support of the SST program was begun last week by NASA. In cooperation with the Air Force, the first two months of the project will involve sonic boom evaluation with noise measurement studies made for the FAA. The aircraft will subsequently gather supersonic transport engineering data on dynamic loads, stability, control and handling qualities, and general performance.

6. University Satellite. The University of California, Los Angeles (UCLA) plans to build a satellite with NASA funds to probe the earth's magnetic field and interplanetary space. Under an initial NASA $55,000 grant, the University has let contracts to three California firms to study the feasibility of launching the 90-pound payload package.

7. Saturn V Delay. Critical tests of the second stage (S-II) of the giant Saturn V launch vehicle have again been postponed. Major problem is leakage of seals in the lower bulkhead. This postponement will cause slippage of the second stage's mating with the other Saturn V elements at Cape Kennedy until the end of December.

8. Underseas Space Laboratory. In a company-funded project a test unit designed to represent the Saturn V's third stage will be lowered to a depth of 30 to 50 feet off the Virgin Islands where "astronauts" in scuba gear will modify the structure and transform it into a space laboratory to simulate working conditions approaching weightlessness in space.

9. Space Rescue. The Air Force has asked industry to submit proposals for the analysis of operational characteristics of onboard space escape systems.

10. Weather Satellites. ESSA satellites have tracked Hurricane Lois in the Atlantic on its eastward course from the United States. Warnings have been sent to ships in the threatened Atlantic sea lanes.

11. Space Payload Success Box Score
(November 10)

	U. S.		U.S.S.R.	
	1965	1966	1965	1966
Earth Orbit	81	86	55	37
Escape	2	5	4	4

E. C. Welsh

Thursday, November 10
Time: 4:55 P. M.

EXECUTIVE

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON 20502

EXECUTIVE SECRETARY

November 4, 1966

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities

1. Launches

a. A Defense Department satellite was successfully launched into near polar orbit by a Scout launch vehicle from the Western Test Range October 28. The satellite will probe the electron and ion density structure in the radiation belt.

b. A classified defense payload was successfully orbited by an Atlas Agena launch vehicle from the Western Test Range November 2.

c. A Defense Department Titan III C had a very successful launch November 3. Launched from Cape Kennedy, the large booster placed into orbit a classified payload, two military communications research satellites, and a Manned Orbital Laboratory simulator experiment. Also carried aloft was an MOL reentry heat shield on a Gemini test spacecraft which was released into a reentry pattern over the Atlantic and successfully recovered. In order to perform all of these missions, the Titan III C had to maneuver into three different orbits, with its restart capability.

2. Lunar Orbiters

a. The Soviet Luna XII relayed photographs of the lunar surface to ground stations. Two of the photographs were released to the press.

b. A signal was sent to the U. S. Lunar Orbiter I which sent it crashing into the moon's surface October 29. The purpose of this action was to eliminate the possibility that its signals might interfere with the transmissions of Lunar Orbiter II to be launched November 6-11.

3. Intelsat II. A faulty rocket burn kept the Intelsat II communications satellite from assuming its planned position over the Pacific in synchronous orbit. The satellite is working well, is in a highly elliptical orbit, and is available for limited communication purposes.

4. Gemini 12. The last Gemini launch is on schedule for November 9. The four-day mission includes rendezvous and docking with an Agena, three extravehicular experiments, tethered station keeping with an Agena, plus about a dozen other experiments. The recovery will be televised from the deck of the USS Wasp.

5. ComSat Corp. The FCC has been asked to grant authority for the construction of a second high capacity earth station on the West Coast. If approved, this ComSat Corp. station should be completed in 1968 at a cost of about $6.5 million.

6. SST. The Government's supersonic transportation evaluation group submitted its evaluation of the airframe and engine designs for the SST transport to the FAA Administrator October 31. The airline carrier group reported on its evaluation November 1.

7. Safety Tests. Chimpanzees being tested by the Air Force have been able to withstand up to three and a half minutes of a pressureless environment without any serious effect. The favorable implication is that astronauts during periods of disaster would have more time to be rescued than previously believed if their space suits become torn or their cabins damaged.

8. Space Activity. The Air Defense Command reports that there are more than 1100 man-made objects in orbit around the earth, and predicted that the number would go as high as 7000 by 1970.

9. Weather Satellites. Photographs from ESSA weather satellites, including those received by APT units in Oceania and Southeast Asia, were used extensively in preparation of weather briefing information for the President's Asian trip.

10. Japanese Launch. Japan successfully launched the first stage of the rocket system that will attempt to place in orbit that nation's first scientific satellite next year. Test of the solid-fuel rocket lasted three minutes and 20 seconds, and it landed 110 miles from the launch site.

11. Space Payload Success Box Score (Nov. 4)

	USA		USSR	
	1965	1966	1965	1966
Earth Orbit	78	84	54	37
Escape	2	4	4	4

Time: 10:45 a. m.

E. C. Welsh

The White House
Washington

1966 NOV 4 AM 11 57

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EXECUTIVE
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EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON 20502

EXECUTIVE SECRETARY

October 28, 1966
10:30 A.M.

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities.

1. Launches.

a. The Soviet Union launched Luna 12 toward the moon October 22. The spacecraft entered a low altitude orbit around the moon October 25. Soviet ground stations are in communication with the spacecraft.

b. The last of eight Atlas-Centaur developmental launch vehicles placed its Centaur upper stage and a dummy payload into a 100-mile circular parking orbit October 26. The liquid hydrogen fueled Centaur was re-ignited and sent the dummy payload into a highly elliptical orbit reaching out 292,000 miles from earth. The Atlas-Centaur will be used for unmanned lunar, Mars, and Venus flights.

c. An Intelsat II communications satellite, an improved version of Early Bird, was launched into orbit for ComSat by NASA October 26. The launch vehicle was a Delta rocket. The satellite is to be placed at a 22,300 mile altitude above the Gilbert Islands in the South Pacific and will provide a commercial space communications link between North America and the Far East.

2. Congress. The Military Operations Subcommittee of the House Government Operations Committee has issued a report on government use of communications satellites. The report recommends that the Department of Defense greatly expand its communications satellite system so that it can carry a significant portion of military communications traffic, and that DOD reassign its pending contract with the ComSatCorp to other U.S. international carriers, at costs substantially under current cable rates. The report also recommends that the Space Council review what the Committee terms lack of progress in the nuclear space power research and development program.

3. ComSat Rate Reduction. ComSat has notified the FCC it plans to reduce its rates for transmitting television between the U.S. and Europe

as soon as an Intelsat communications satellite, to be launched next month, is placed into operation over the Atlantic. The proposed reduction is from $3,000 to $1,100 for the first ten minutes of black and white television for the U.S. portion of the circuit. Color TV will cost about 25% more.

4. Electronic Research Center. Ground breaking ceremonies for the $60 million NASA Electronic Center at Cambridge, Massachusetts will take place on November 10.

5. Apollo. Technical problems, particularly with the spacecraft environmental control system, have delayed the next Apollo launch, previously scheduled for mid-December.

6. Gemini 12. The last Gemini launch is scheduled for November 9 from Cape Kennedy. The Gemini 12 four-day mission includes rendezvous and docking with an Agena, two instances of extra-vehicular activity, tethered station-keeping with the Agena, plus about a dozen other experiments.

7. Saturn V. Crucial tests of the Saturn V second stage, S-II, originally scheduled for October 23, have been rescheduled for October 28.

8. Accident. During a ground test, propellant tanks in the Apollo service module burst. Whether this accident will delay the lunar program is now being studied by NASA.

9. Air Space. The FAA is proposing to raise the upper limit of controlled air space 60,000 to 150,000 feet to include the flight regimes of some current military aircraft and future supersonic transports.

10. SPACE PAYLOAD SUCCESS BOX SCORE
(October 28)

	USA		USSR	
	1965	1966	1965	1966
Earth Orbit	77	77	52	37
Escape	2	4	4	4

E. C. Welsh

EXECUTIVE

OS
FG11-4

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

October 21, 1966

EXECUTIVE SECRETARY

MEMORANDUM FOR THE PRESIDENT

file

Subject: Space Activities

1. Space Council. The Vice President chaired a meeting of the National Aeronautics and Space Council October 17th. In addition to the regular Council members, the Administrator of FAA and the Director of USIA participated. Matters on the agenda included plans and research in civil aviation, resources satellites, space exhibits, and international cooperation in space.

2. Launches

a. The Soviet Union October 14 launched Cosmos 129 into a low circular orbit in the pattern normally followed by recall from orbit after eight days.

b. With East European communist leaders as spectators, the Soviet Union launched two satellites into orbit October 20. One was Cosmos 130 which went into an orbit similar to Cosmos 129. The other was the fourth Molniya communications satellite, which was placed into a highly elliptical orbit. Speculation is that it will be used to transmit color television and to advance space cooperation with France.

3. Pending Launches

a. The last of eight Centaur research and development flights is scheduled for October 25. This vehicle is scheduled for interplanetary flight.

b. An Intelsat synchronous communications satellite to be placed in stationary orbit over the Pacific for the ComSat Corp. by NASA is scheduled for launch October 26.

c. The second in the series of five U. S. Lunar Orbiters is now scheduled for launch November 6.

d. The twelfth and last Gemini in the U. S. series of two manned spacecraft is scheduled for launch November 9. This very successful program was awarded the distinguished Collier trophy last week. Presentation was made by the Vice President to Mrs. Dryden and Administrator Webb.

4. Congress

a. The House Science and Astronautics Committee has scheduled its annual panel meeting for next January 24-26. The subject is "Government, Science, and International Policy," and Secretary of State Rusk will be the keynote speaker. Government and science leaders from France, The Netherlands, the Soviet Union, Japan, India, and Brazil have been invited.

b. The Senate Aeronautical and Space Sciences Committee has planned hearings in January to review the research plans and hopefully find solutions to U. S. aeronautical problems.

5. Soviet Tracking Stations. The Soviet Union and Cuba are reported to have reached agreement for the installation of two tracking stations somewhere in Cuba.

6. Space/Agriculture Applications. NASA and the Department of Agriculture have signed an agreement for the development of remote sensing equipment which, when placed in orbiting satellites, could make quick, large area surveys of land use, detect crop diseases and pestilence, assess crops and predict future yields, and determine suitable crop-growing areas.

7. Apollo TV. NASA plans live on-board television coverage of the launch and orbital operations of the first manned Apollo launch (scheduled for December). Coverage will be limited to the periods when the spacecraft is within communication distance from Cape Kennedy. Coverage of the periods when the Apollo is over the Pacific is contemplated if the Intelsat satellite scheduled for launch October 26 is in operation by that time.

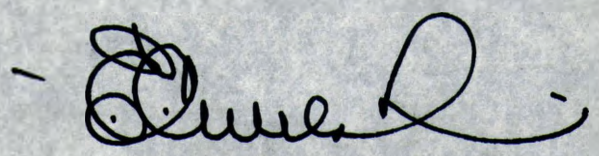
8. West German Budget. Although the total of the West German government's proposed budget for next year is reduced, their space budget item is increased by 20%.

9. Monkey Flight. NASA plans to orbit two monkeys to test the effects of long duration weightlessness on mammals. The monkeys will be trained to manipulate handles which would release food and water to them, and their activities will be viewed via daily television transmission.

10. University Support. Ground-breaking ceremonies were held October 19 for the University of Florida Space Sciences Research Center, to be completed in 15 months with a $1.9 million NASA grant.

11. Space Payload Success Box Score

	USA		USSR	
	1965	1966	1965	1966
Earth Orbit	77	74	52	36
Escape	2	4	4	3



E. C. Welsh

Friday, October 21
Time: 10:40 a. m.

The White House
Washington

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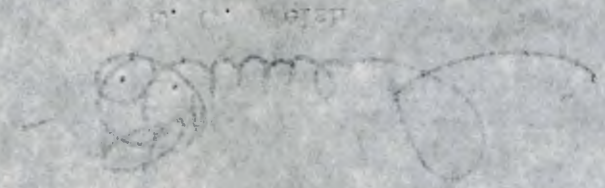

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

EXECUTIVE SECRETARY

October 14, 1966

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities

1. Launch. The United States placed a defense satellite into earth orbit October 12 using an Atlas Agena launch vehicle from the Western Test Range.

2. Weather Satellite. The weather satellite ESSA III, launched October 3 by NASA, is now operational. The Department of Commerce's Environmental Satellite Center began to manage the use of the satellite October 14. It has been programmed for full daily global weather coverage.

3. UFO's. The University of Colorado has been awarded an 18-month $300,000 Air Force contract to make a study of unidentified flying objects. The study, stimulated by the House Arms Services Committee, should help discredit the charges that the government has concealed the facts about "sightings."

4. French-U.S. Space Cooperation. The French Government plans to launch a probe from North Africa after the launch of the U. S. Gemini 12 manned space flight in early November in anticipation that the experiment can be observed by our astronauts.

5. Plans for Use of Apollo Vehicle. NASA is considering a proposal to join an Apollo spacecraft with an empty Saturn IVB rocket casing in which Apollo astronauts could conduct a variety of experiments for periods up to 30 days.

6. Surveyor I. The U. S.'s first spacecraft to land on the moon, which took about 11,000 pictures of the lunar surface, was revived last week and resumed transmitting signals to earth stations. Whether pictures will be obtained is as yet uncertain.

7. Improved X-15. A new version of the rocket plane X-15 is expected to have a speed increase of 1,000 mph, which would raise the operating speed to more than 5,000 mph. The aircraft will continue to gather data

on skin surface heating and high-speed aerodynamics so important to new projects in manned space flight as well as in air transport programs.

8. Soviet Reports

a. A Soviet cosmonaut has reported in a recent Soviet magazine article that the Russians plan to land unmanned space vehicles on nearby planets and return them to earth.

b. A leading Soviet scientist denies having predicted that the Soviets would have a manned lunar landing by 1969 and also indicated that there were many difficulties to overcome before lunar manned trips would be successful.

9. Technological Utilization. The filament winding technique developed for large plastic rocket engines and tanks is now being applied to the development of tires for automobiles and commercial aircraft. Improved strength and weight advantages have been demonstrated.

10. Satellite Collision. The first collision between two orbiting satellites was reported last week. These satellites were DOD gravity-gradient experiments launched in almost identical orbits and close together, by the same launch vehicle. Analysis of the telemetry indicated that they touched antennae some 560 miles above earth, after a small thruster had been fired on one of them.

11. New ComSat Antenna. The ComSat Corporation has filed a petition with the FCC to install a second large antenna at Andover, Maine, which would be used to service the synchronous satellite INTELSAT II, now sheduled for launch November 19 over the Atlantic.

12. Soviet Activity Level. The pause in announcements of Soviet launches is the longest in several years, their last announcement being Cosmos 128 in August. The 1966 count of their payloads is lower than for the corresponding period of 1965, although the number of successful Soviet launches is exactly the same for 1966 as for the corresponding part of 1965. Also, the total weight of payload in 1966 put up by the Russians exceeds 1965.

13. Space Payload Success Box Score (Oct. 14)

	USA		USSR	
	1965	1966	1965	1966
Earth Orbit	73	74	48	32
Escape	2	4	4	3

E. C. Welsh

Friday, October 14
Time: 10:45 a. m.

EXECUTIVE
OS
FG11-4

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

October 7, 1966

EXECUTIVE SECRETARY

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities

1. Launches

a. A new U. S. Weather satellite, ESSA III, was placed into a polar sun-synchronous orbit October 2 by a thrust augmented Delta launch vehicle. The pictures received are of excellent quality.

b. The United States orbited a defense payload October 5 from the Western Test Range using an Atlas Agena launch vehicle.

c. The Soviet Union attempted to launch a spacecraft September 17 which resulted in the appearance of over 150 pieces of debris in earth orbit. They have not announced such a failure, however.

2. Lack of Soviet Manned Launches. The last Soviet manned flight occurred over 18 months ago in March 1965. Because of weather conditions and other factors, it is not likely that the Soviets will be able to launch a manned flight before next year. Soviet statements indicate there have been development difficulties causing the delay, but that when their next manned flight does come, it will be larger and more advanced than Gemini. This suggests the real competition will come next year between the advancing Apollo Saturn IB three-man flights, and the yet to be unveiled Soviet effort. In the interim, both countries have been obtaining valuable information from our Gemini successes.

3. Apollo

a. Launch of the next Apollo on the Saturn 204 remains on a very tight schedule for late November. Announcement as to whether this will be a manned mission will be made later this month.

b. All components of the Apollo Command and Service Modules and the Saturn V are now scheduled to arrive at Cape Kennedy by November 24. Uncertainty about the second stage of this mammoth launch vehicle is of concern. An assessment will be made at that time whether the spacecraft can be launched before the end of the year.

THE WHITE HOUSE
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1966 OCT 7 AM 11 18

4. Communications Satellites

a. Intel II communications satellites are scheduled for launch October 26 for placement over the Pacific and November 19 over the Atlantic. Full service should be available in less than two weeks after each satellite has been inserted into its synchronous orbit.

b. The Communications Satellite Corporation has proposed commercial charges to various Pacific destinations. The suggested rates are substantially below cable rates.

5. Lunar Orbiter II. It is now planned to launch a second Lunar Orbiter in November. The decision was made because more pictorial information is desirable for making a selection of the Apollo lunar landing site.

6. Weather Satellites

a. ESSA satellites have tracked Hurricane Inez continuously since September 23, and warnings have been sent to threatened areas in the path of the erratic storm.

b. Soviet weather satellite information sent over the Washington-Moscow weather data exchange link has been sporadic for the past ten days with only one group of relatively poor quality photographs being transmitted October 1. The Soviets have offered no explanations. The pictures are from Cosmos 122 which has been in orbit three months.

7. Weather Satellite Appropriations. The Commerce Department appealed to the Senate Appropriations Commerce Subcommittee October 5 to restore the $6.5 million House cut in the operational weather satellite program. Failure to restore these funds would degrade the operational service.

8. Weightlessness Laboratory. One of the nation's newest and most unique research facilities for studying weightlessness was unveiled October 4 at NASA's Lewis Research Center. Experiments weighing up to 6000 pounds may be studied for as long as ten seconds of weightlessness.

9. Lunar Activity. The Soviet Luna XI spacecraft orbiting the moon exhausted its batteries October 1 after 277 orbits and 137 transmissions of data. The U. S. Lunar Orbiter by contrast took pictures and has solar paddles to extend its operating life. There was no mention in the Soviet announcements of any attempt to obtain pictures from their satellite.

10. Treaty. Negotiations between the Soviet Union and the U. S. on a space exploration treaty in the United Nations have made progress and there is hope that an agreement will be reached soon.

11. Space Payload Success Box Score
(October 7)

	USA		USSR	
	1965	1966	1965	1966
Earth Orbit	73	73	48	32
Escape	2	4	4	3

E. C. Welsh

Friday, October 7
Time: 11:45 a. m.

EX

EXECUTIVE
PL 10/ST 9
PL/ST 9
OS
Florida Democrats

NIGHT LETTER, SEPTEMBER 30, 1966

HONORABLE PAT THOMAS
Chairman
Florida Democratic Party
c/o George Washington Hotel
Jacksonville, Florida

Seldom have Democrats in Florida, or any other state, mounted a campaign with the advantages we enjoy in 1966.

In the two years since the Democratic platform was adopted in Atlantic City, more than ninety percent of its articles for progress have become law. And we are determined to honor in full our pledge to make every American a shareholder in the bounties of this great land.

Of special pride to your state, as to the entire nation, is the stunning progress we have made in the exploration of space.

This is a glowing part of the story I urge you to tell the people of Florida as you redouble your efforts to insure the victory I anticipate with you on November 8.

LYNDON B. JOHNSON

LBJ:Dem. Nat. Comm.:WS:gbk

cc: Juanita Roberts/Whitney Shoemaker/Bob Fleming/Vincent Mary Hooper/Central Files

Date of event: Saturday, October 1, 1966

Original
To Telegraph Office 9/30 @ 5:05 pm

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

EXECUTIVE SECRETARY

September 30, 1966

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities

1. Satellite Launches

a. A defense payload was successfully orbited by a Titan III B with Agena upper stage September 28. This was the second such accomplishment with this launch vehicle.

b. Essa III was scheduled for September 30 from the West Coast, but it failed to ignite. The launch is rescheduled for October 1.

2. Japanese Attempt. First attempt by the Japanese to orbit a satellite ended in failure September 26 even though all four stages of the Lambda solid rocket launch vehicle fired. A second attempt is expected before January. At Japanese request, NASA provides tracking support.

3. U. S.-German Space Cooperation. In addition to agreeing to launch a German-built spacecraft on a Scout vehicle in 1968, U. S. and German officials have discussed another joint space event to send a German spacecraft into orbit about the sun. These activities represent a continuation of U. S. policy of aiding other nations to orbit satellites. Nations previously receiving U. S. aid in launching satellites are the United Kingdom, Canada, Italy, and France.

4. Soviet Tests. The Soviet Union has closed off an area in the mid-Pacific for rocket tests September 26-October 25. The area is approximately 4300 nautical miles down range from their ICBM test base in the Soviet Union.

5. ComSat Launches. The Communications Satellite Corporation plans to have NASA launch synchronous communications satellites with TV capability over the Pacific on October 19 and over the Atlantic approximately three weeks later.

6. NATO ComSat. The United States has proposed that it launch for joint military use by the NATO members a communications satellite to be positioned in synchronous orbit at longitude useful to intra-European message traffic. Such a launch could be scheduled for 1968 and is expected to be jointly financed.

THE WHITE HOUSE
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1966 SEP 30 AM 11 03

7. Scientist Astronauts. NASA has issued a call for more astronaut applications from U. S. citizens with doctorates in the physical sciences, medicine, and engineering.

8. Space Cooperation. The U. S. Government has suggested negotiation with other nations on carrying foreign experiments on U. S. manned flights.

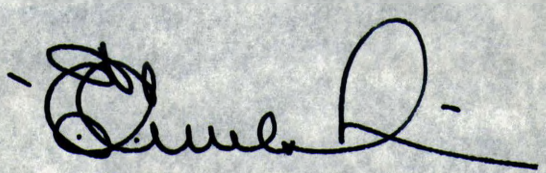
9. Luna 11. A Soviet Tass announcement of September 27 made no mention of lunar orbiter pictures being available from Luna 11, placed in lunar orbit August 29.

10. Weather Satellites. ESSA satellites provided warnings to threatened areas about Hurricane Inez which did damage to Puerto Rico, the Dominican Republic, and Haiti. The satellites are also tracking tropical storm Judith, which is growing stronger daily, and a third storm which has been identified 900 miles to the east of Judith is being photographed.

11. Gemini 12. The last of the Gemini series is now scheduled for early in November rather than the previous October 31 date. Concern about EVA difficulties has contributed to this delay. The astronaut maneuvering unit, which had been scheduled for use, has been withdrawn from the mission.

12. Space Payload Success Box Score
(September 30)

	USA		USSR	
	1965	1966	1965	1966
Earth Orbit	70	71	47	31
Escape	2	4	3	3



E. C. Welsh

Friday, September 30
Time: 10:40 a. m.

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

OFFICE OF
THE DIRECTOR

September 27, 1966

MEMORANDUM FOR THE PRESIDENT

Subject: Meeting of the Fiscal Policy Subcommittee of the President's Labor Management Advisory Committee

The Subcommittee on Fiscal Policy (Dean Keaton, Texas Law School; Don Burnham, President, Westinghouse Electric; and Walter Reuther) met Friday for the first time. Art Okun (CEA), William Shaw (Assistant Secretary of Commerce), Governor Maisel (Federal Reserve Board), and Charles Zwick (Assistant Budget Director) met with them.

The three members of the Subcommittee unanimously agreed to recommend the following position: as soon as the 1967 costs of the Vietnam war can be reasonably fixed, the Government should promptly take whatever tax actions are necessary to meet our Vietnam commitments without sacrificing basic national goals. These include economic growth, price stability, and continued progress toward full employment.

They also agreed -- all three of them -- that the poor not be made to carry a disproportionate share of the costs associated with Vietnam through program reductions or tax increases.

The Committee's tentative program of action includes:

- cutbacks of low priority programs -- in particular the space program and highway program were singled out for drastic cutbacks. They talked about a $1 billion cutback in the space program and a similar major reduction in highway programs.

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

EXECUTIVE
OS
FG11-4

EXECUTIVE SECRETARY

September 23, 1966

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities

1. Surveyor. The Surveyor II mission was a failure and instead of soft-landing, it crashed on the lunar surface. One of the three vernier (course-adjusting) rockets failed to fire and the craft started to tumble. Analysis is proceeding to try and determine why the vernier engine failed, and whether any corrective action is needed for Surveyor III, now scheduled for launch in January.

2. Launches

a. The above-mentioned Surveyor II was launched September 20, and obtained a highly accurate initial orbit.

b. The United States put into orbit two defense payloads September 16 with an Atlas Agena launch vehicle.

c. The United States put into orbit a defense payload September 20, using a Thor Agena vehicle.

3. Pending Launch. Launch of weather satellite ESSA III is now scheduled for September 27.

4. Space Treaty. Soviet insistence on gaining tracking rights in any country granting such rights has led to an impasse in U. N. Space Treaty negotiations. A major U. S. objection to this proposal is that there is no reciprocal obligation for the country gaining tracking rights to grant similar rights within its own territory. Such clause, if agreed to, would reduce the number of countries willing to sign the treaty and could jeopardize existing tracking agreements.

5. Aerospace Employment. The number of employees in the aerospace industry will increase to 1,349,000 by the end of the year, according to the Aerospace Industries Association. This represents an 11 percent increase over December 1965.

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1966 SEP 23 AM 11 45

6. Space Welding Unit. NASA has announced development of a hand-held electron device weighing nine pounds and capable of welding metal together in a vacuum. It is to be tested in forthcoming space flights.

7. Schedules

a. The last of three Apollo instrumentation ships was delivered September 16, eight days ahead of schedule.

b. The first static firing test of the S-II flight hardware second stage of the first Saturn V booster has now slipped from mid-September to the first week of October.

8. Russian Advice. Soviet scientists have given public advice that the reason for overheating and exhaustion of U. S. astronauts during their space walks is due to the pure oxygen system in their space suits. They predict that the Soviet nitrogen-oxygen system would eliminate much of the problem. This does not coincide with U. S. analysis and it is difficult to give much weight to the Soviet conclusions in view of their very limited EVA experience compared with ours.

9. Astronauts' Goodwill Trip. Astronauts Neil A. Armstrong and Richard F. Gordon, Jr. are scheduled to visit major cities in ten nations in Latin America on a tour beginning October 7 and ending October 30.

10. Space Payload Success Box Score
(September 23)

	USA		USSR	
	1965	1966	1965	1966
Earth Orbit	70	70	46	31
Escape	2	4	3	3

E. C. Welsh

Friday, September 23
Time: 10:45 a. m.

(60)

EXECUTIVE

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

05
FG11-4

EXECUTIVE SECRETARY

September 16, 1966

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities

1. Gemini 11 Flight. Gemini 11 and its Agena Target Vehicle were placed into circular orbits September 12, and the first rendezvous of these two spacecraft occurred during Gemini 11's first orbit. Four successful dockings were accomplished, and Astronaut Gordon in 44 minutes of extra-vehicular activity retrieved experiments deposited on the outside of the spacecraft, attached a tether between the two craft, and took pictures before perspiration due to exertion blinded him in one eye and forced him to return to the spacecraft. The Agena was used to push the Gemini to a new altitude record of 850 miles for two orbits. This record high route took the spacecraft through the lower fringes of the Van Allen radiation belt with no significant effects on the astronauts. After undocking, the tether was used to keep the Agena target vehicle close to the Gemini, and the two craft were stabilized by keeping the tether taut and executing a slight rotation. The Gemini reentry maneuvers were done by the spacecraft's computer without the astronauts touching the controls. The capsule landed very close to the waiting carrier September 15 after 71.3 hours of flight. It was a very successful flight.

2. Satellite Sighting. Gemini 11 astronauts sighted another spacecraft while in orbit and took pictures of it. The spacecraft has been identified as Soviet Proton 3. Before launch, the Gemini weighs about 8,000 pounds while the Proton weighs about 27,000 pounds.

3. Military Launch. The United States on September 16 launched a defense payload into polar orbit, using a Thor Altair vehicle.

4. Pending Launches

a. Surveyor II is scheduled for launch Tuesday, September 20. The spacecraft is expected to be softlanded near the center of the visible face of the Moon. After the picture-taking mission is completed, Surveyor II's rockets may be turned on for a short burst to make it move slightly from the initial landing position.

b. The first Japanese satellite is scheduled for launch from Kagoshima September 24.

5. Foreign Developments

a. The British Air Show at Farnsborough had few new items of British aerospace hardware on exhibit. An increased number of non-British items containing British components were displayed.

b. The British-French SST (Concorde) is now estimated to cost $1.4 billion, up $300 million from the estimate earlier this year, and up $980 million from the original estimate.

c. The INTELSTAT III contract team, which received the ComSat Corp. contract for $32 million to expand the satellite system, will include two domestic and nine foreign corporations.

6. Congress. The House Government Operations Military Subcommittee hearings on communications satellite policy have been completed. The hearings brought to light many policy problems resulting from the effort to incorporate satellites into the communications system.

7. Technology Utilization. The AEC is establishing a technology utilization program similar to the one sponsored by NASA.

8. The U.S.-Soviet Weather Data Exchange. The Soviet Union has been transmitting to the U. S. Cosmos 122 TV weather satellite pictures since September 11. The Soviet data transmission is in response to U. S. photographic data which was initiated on September 6 over the Washington-Moscow cold line.

9. Space Payload Success Box Score
(September 16)

	USA		USSR	
	1965	1966	1965	1966
Earth Orbit	69	67	41	31
Escape	2	3	3	3

E. C. Welsh

Friday, Sept. 16
Time: 10:30 a. m.

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

EXECUTIVE SECRETARY

September 9, 1966

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities

1. Gemini 11. Today's launch had to be postponed for at least 24 hours when a fuel leak developed in the Titan launch vehicle.

2. Interplanetary Flight Plans. NASA has forwarded to the Congressional Space Committees its present plan for unmanned exploration of the planets. The plan calls for conducting Mars and Venus flights with the Mariner-type spacecraft followed by Voyager soft landing payloads and orbiters. This will keep flexible the options to shift priorities between Mars and Venus for future flights. Later, other probes might be sent to Jupiter, the asteroids, comets, and the more distant planets.

3. Foreign Space Activities

a. The first Japanese satellite is now scheduled to be launched from Kagoshima September 24. The attempt will be made with a small test satellite aboard the Japanese Lambda-4S vehicle.

b. The fifth launch of the European Launch Organization (ELDO) launch vehicle is scheduled November 2 at Woomera, Australia. The Blue Streak booster will carry three full weight, inert upper stages, and, for the first time, stage separation will be attempted.

c. Although designed for only a two-month life, the first two French satellites of last December and February are still transmitting. The next French launches with the Diamant are expected in February 1967.

4. Congress. The House Government Operations Military Subcommittee is conducting a wide-ranging review of U. S. communications satellite performance and policy. Witnesses have included the Director of Telecommunications Management and other officials from the Government and from the Communications Satellite Corporation. During the week of September 12 witnesses are scheduled from the communications carriers and the FCC.

5. Space Treaty Negotiations. The UN Outer Space Committee negotiations on an international space treaty are scheduled to be resumed in New York during the week of September 12.

THE WHITE HOUSE
RECEIVED

1966 SEP 9 AM 11 06

6. Technological Utilization. A chemical engineer from the Jet Propulsion Laboratory has applied solid rocket propellant technology to develop a long-wearing new product which can possibly be used effectively to surface roads, roof buildings, and line swimming pools.

7. Surveyor II. The second Surveyor soft lander spacecraft to the moon is scheduled to be launched September 19 from Cape Kennedy, using an Atlas-Centaur launch vehicle. It will carry a television camera designed to inspect further the moon's surface. It is intended to land the spacecraft approximately at the center of the visible face of the moon.

8. SST

a. Two hundred government experts have begun a two-month study of competing designs of the SST. This team will evaluate some 11,000 pages of proposals submitted by the air frame and engine manufacturers. Concurrently, prospective purchasers of the aircraft are carrying out independent evaluations of the data.

b. NASA has called forproposals from four major companies to research the reduction of airport noise from supersonic aircraft. The first step is likely to be redesign of engine nacelles to minimize fan compressor noise radiation.

9. Weather Satellites. The United States began transmission of weather satellite pictures over the "cold line" to Moscow September 7. Actual weather photographs are being furnished along with cloud analyses. The Soviets have been advised that such transmission is limited to only two weeks unless cloud photographs are also forthcoming from them. To date, the Soviets have furnished over 100 cloud cover charts but no photographs.

10. Large Solids. NASA has awarded a $10 million contract for the fabrication and static test firing of another 260-inch diameter solid propellant rocket motor. This new motor will use propellants with a higher burning rate, thus allowing a new peak thrust of over 5 million pounds for about 80 seconds, as compared with 3.6 million pounds of thrust running 114 seconds during the last tests.

11. Space Payload Success Box Score (Sept. 9)

	USA		USSR	
	1965	1966	1965	1966
Earth Orbit	68	64	40	31
Escape	2	3	3	3

Time: 10:40 a. m.

E. C. Welsh

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

EXECUTIVE SECRETARY

September 2, 1966
10:30 A.M.

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities.

1. Launch. The Soviet Union placed Cosmos 128 into a low earth orbit August 27. The satellite's orbit is typical of previous Soviet satellites recalled to earth after eight days.

2. Lunar Orbiters.

a. Luna 11 is in an orbit inclined at 27 degrees to the lunar equator and is sending data back to Soviet ground stations. To date there has been no Soviet announcement re the receipt of pictures.

b. The U.S. Lunar Orbiter I has completed its picture-taking mission, but the transmission and analysis of the pictures are continuing. The spacecraft also continues to return significant radiation and geodetic data, as it orbits at a 12 degree inclination.

c. The first Soviet Lunar Orbiter, Luna 10, is in an orbit inclined at 72 degrees and has ceased to send any signals.

3. Communications Satellites.

a. ComSat Corporation and A. T. & T. have agreed to ComSat's purchase of the Andover, Maine earth station for $4,981,000, subject to FCC approval.

b. ComSat Corporation is preparing a plan for submission to the Carnegie Commission studying educational TV which will propose that all users of domestic communications satellites underwrite educational television. This is in part a response to the Ford Foundation proposal. A key feature of the ComSat proposal involves direct purchase of services from ComSat by commercial and educational TV networks.

THE WHITE HOUSE
RECEIVED

1966 SEP 2 AM 11 05

4. European Space Projects.

a. The European Space Research Organization (ESRO) has selected a British laboratory to do development work on its first major satellite project, a large astronomical satellite for possible launch in 1971.

b. ESRO will inaugurate its sounding rocket launching range in northern Sweden on September 24 with launches of Skylark rockets scheduled shortly thereafter.

5. Soviet Predictions.

a. A cosmonaut visiting Japan this week has repeated previous Soviet announcements that an unmanned rocket sent to the moon is expected to be recovered on earth. It is not known whether this prediction refers to spacecraft now orbiting the moon or to those to be launched in the future.

b. TASS reports that the Soviet SST, designated TU-144, will go into service before 1970. TASS states the plane will carry 120 passengers, and predicts its operating costs will be no higher than those of piston-engined aircraft.

6. Pending Launches.

a. Gemini 11 and its companion Agena target vehicle scheduled for a three day trip beginning September 9. This flight includes rendezvous and docking, maneuvering of Gemini and Agena linked together by a tether, an 865 mile altitude record, two extra-vehicular maneuvers, and ten other experiments. Conrad and Gordon are the pilots.

b. The second Surveyor lunar soft lander attempt scheduled for September 20.

c. The first earth orbiting Apollo flight scheduled for December.

d. A Titan IIIC launch scheduled for October 28. With the unexpected loss of the last Titan IIIC, it is uncertain whether the next launch will carry its intended MOL heat shield payload or seven Defense communications satellites to make up for those lost.

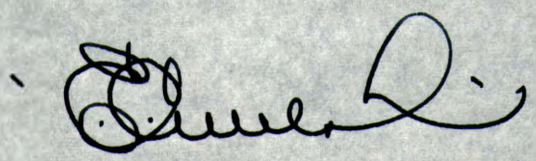
7. Lunar Shape. Selenology experiments on the U.S. Lunar Orbiter suggest that the moon, like the earth, is pear-shaped. Similar information about the earth was learned from the 1958 flight of Vanguard I.

8. Mars Landing Test. Parachute tests have been successfully run on a parachute reentry system for lowering a spacecraft to the surface of a planet. Such a system may be used on the Voyager Mars probe of 1973.

9. Cosmic Rubble. Photographic proof has been produced that there are two huge clouds of cosmic rubble which follow the moon around in the same orbit, and have total diameters of almost twice the diameter of the moon itself. The rubble apparently contains particles ranging from dust size to small boulders.

10. SPACE PAYLOAD SUCCESS BOX SCORE
(September 2)

	USA		USSR	
	1965	1966	1965	1966
Earth Orbit	68	64	35	31
Escape	2	3	3	3



E. C. Welsh

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

OFFICE OF
THE DIRECTOR

September 20, 1966

MEMORANDUM FOR THE PRESIDENT

This afternoon in Joe Califano's office you mentioned that you were seeing Jim Webb about the space program. In turn, I asked if you had seen our memo on this subject. You said "No".

I am attaching a copy of that memo. I realize it is too late for your meeting -- but you may still find it useful.

Charles L. Schultze
Director

Attachment

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

OFFICE OF
THE DIRECTOR

September 1, 1966

MEMORANDUM FOR THE PRESIDENT

Subject: NASA's budget and Mr. Webb's letter

This memorandum comments upon the issues on the space program raised in Mr. Webb's letter of August 26.

Attached are two tables -- the first gives some basic budgetary information about NASA: the second provides a tabular comparison of U.S. and Soviet space achievements. You may wish to glance at these; they are referred to in the course of these comments.

I. The NASA budget.

1. We gave NASA two alternative 1968 budget planning targets -- $5.0 billion and $5.150 billion. This compares with enacted appropriations of $5.175 in 1966 and $4.968 in 1967.

2. Jim Webb believes he needs between $5.6 and $6.0 billion to meet the basic objectives of the space program.

3. The budget guidelines we have given NASA are no more stringent than those given other agencies. In fact, I have already received six letters from agency heads protesting the severity of their budget guidelines. This is the first time such a volume of letters like this has been received. So the budget guidelines are very tight. Yet even with the tight guidelines you saw how big the total is during our budget briefing two weeks ago.

4. In any event, our budget guidelines do not mean that Webb has to recommend a budget total that low. Rather he can recommend what he thinks is necessary, and then show us what adjustments would have to be made in order to get down to our planning figures.

We believe there are specific program adjustments which NASA, the Bureau, and ultimately the President should consider

which, if adopted, would lead to a lower budget total. The whole budget exercise is aimed at identifying those adjustments.

II. The basic issues in the NASA program.

1. The development of major systems for the manned lunar landing program (MLL) is well along. All of the major flight equipment (rockets, spacecraft, etc.) has been ordered and are well into production. But there is a long lead time between decisions and delivery of equipment and space systems.

2. Consequently, unless we decide now what kind of follow-on objectives we want after the MLL and begin ordering some of the equipment, the program will begin tailing off -- space organizations, both government and private, will begin to be disbanded -- and a big gap will open up in the program.

3. We believe that the United States should maintain its capability in manned space. We must keep open several options for later choice -- e.g., manned Mars landing, earth orbital stations, etc. -- although we don't want to set a specific timetable yet.

4. But we do not believe that the level of the United States space effort should be determined

- by how much we can do within the limits of technical capability. This limit grows each year, and such a guideline would surely lead to ever-accelerating space budgets;

- by attempting to guarantee that we are ahead of the Russians in every conceivable sphere of space activity, plus continuing emphasis on the areas where we are already vastly superior. Since we often don't know just what the Soviets are planning, this guideline could lead to a proliferation of effort and again an ever-accelerating budget;

- by the peak level of industrial manpower attained during the development of the Apollo system. The space program is not a WPA.

5. Our problem, therefore, is to arrive at a specific program to follow-on the MLL:

- which can be justified on its own merits,
- which emphasizes maintaining and improving our manned space capability,
- which keeps open important options, and
- which is supportable within reasonable budget limits.

6. We are therefore discussing with Mr. Webb

- whether the follow-on manned space activity should be at the level of 4, 6 or 8 manned flights a year (the differences amount to hundreds of millions of dollars per year);
- what should be the kinds of flights and mix of equipment (Titan III-MOL, the Saturn IB, the more expensive Saturn V);
- whether we can adjust the current Saturn V and Apollo spacecraft production schedule -- from the currently planned peak of six per year by 1969 to a steady three per year. This would avoid a peaking of production (and pressure to maintain the peak) and save some $225 million in 1968. But it would add slightly to the risk of missing the end-of-decade target for the MLL. (The stretchout would provide eight manned flights with the lunar system before 1970 -- instead of eleven under the current NASA program.)
- whether we cannot reduce somewhat NASA's ambitious plans for unmanned scientific flights and concentrate more heavily on manned flights as a post-MLL follow-on (this would save substantial sums in 1968).

7. All of these adjustments are the kind of items that are assumed in our lower target

- but we don't foreclose a finding that any or all of these adjustments are unwise;
- we do want them considered;
- that's the object of asking NASA to evaluate with us these adjustments and the lower budget total.

8. I don't believe that mere consideration of the adjustments spelled out above will wreck the space program.

I don't believe that a $5 or $5.15 billion a year budget will "accelerate the rate at which we are carrying on the liquidation of some of the capabilities we have built up."

I don't believe that when we are spending

- only $2 billion a year on elementary and secondary education
- only $1.8 billion on the poverty program
- only $200 million on water pollution control
- only $25 million a year on our entire program for high-speed ground transportation

a space budget of $5 or $5.15 billion represents a lack of support for the space program.

And finally, I don't believe that in the context of continued fighting in Vietnam we can afford to add another $600 million to $1 billion in the space program in 1968.

III. The Russian threat.

Mr. Webb is concerned about the relative strength of the United States and Soviet space programs.

1. There is only one area of space activity in which the number of Soviet launches to date exceeds that of the U. S. But, in this area, planetary exploration, we have had far better success with our limited number of attempts than the Soviets have had with their larger effort.

2. In every other category of launches we have a substantial lead. Attachment B provides a tabulation of payloads successfully launched by the U. S. and U.S.S.R. to date, plus a tabulation of manned space flight experience. In total weight of payloads in space, however, U.S.S.R. is still ahead.

3. It is clear that the U.S.S.R. is striving to achieve a capability to launch payloads as large as those of our Saturn IB and Saturn V. They may, in the near future, develop a vehicle capable of exceeding the payload capacity of our Saturn IB which has now had three successful launches.

Evidence indicates that they are working on a launch vehicle which may be designed to exceed the payload capacity of our Saturn V, but there are indications that they are at least a year behind our current Saturn V flight schedules. This situation is a good deal different from that which existed in 1961 when the Russians were demonstrating a weight-lifting capability superior to anything we expected to have for several years and were clearly ahead of us in manned space capability.

Charles L. Schultze

Charles L. Schultze
Director

Attachments

ATTACHMENT A

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Appropriations and Expenditures

(Dollars in Millions)

							1968		
								NASA Alternatives Submitted	
	1962	1963	1964	1965	1966	1967	Planning Figure		
Appropriations	1,825	3,674	5,100	5,250	5,175	4,968	5,150	5,600	6,200
Expenditures	1,257	2,552	4,171	5,093	5,933	5,400	5,300	5,600	5,900

ATTACHMENT B

Payloads Successfully Launched into Space

(as of August 30, 1966)

Calendar Year	United States			U.S.S.R.		
	Earth Orbit	Lunar Escape	Planetary and Interplanetary Escape	Earth Orbit	Lunar Escape	Planetary and Interplanetary Escape
1957	0	0	0	2	0	0
1958	5	0	0	1	0	0
1959	9	1	0	0	3	0
1960	16	0	1	3	0	0
1961	35	0	0	6	0	1
1962	54	3	1	20	0	1
1963	60	0	0	17	1	0
1964	69	2	2	36	0	2
1965	94	2	1	66	4	3
1966	64	2	1	31	3	0
TOTAL .	406	10	6	182	11	7

Manned Space Flight Experience

(as of August 30, 1966)

	United States					U.S.S.R.				
		Time					Time			
	Number	Hr.	Min.	Man-hours	Min.	Number	Hr.	Min.	Man-hours	Min.
1961	(2)*	0	31	0	31	2	27	06	27	06
1962	3	19	04	19	04	2	165	19	165	19
1963	1	34	20	34	20	2	189	56	189	56
1964	0	--	--	--	--	1	24	17	72	51
1965	5	650	11	1,300	22	1	26	02	52	04
1966	3	153	51	307	42	0	--	--	--	--
TOTAL .	12(+2)	857	57	1,661	59	8	432	40	507	16

* Suborbital

EXECUTIVE
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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WASHINGTON 25, D.C. FG260

OFFICE OF THE ADMINISTRATOR

August 26, 1966

The President
The White House

Dear Mr. President:

Almost six years ago when you urged me to accept the responsibilities which devolve upon the Administrator of the National Aeronautics and Space Administration, I asked if my task would be to carry out a preconceived program or to figure out what needed to be done and do it. You said, "the latter," and, of course, this was on the basis that President Kennedy would have to approve whatever you and I worked out. You will remember that in the sessions you had in 1961 with your advisers and Congressional leaders, I was quite reluctant to undertake the responsibility of building a transportation system to the moon and that you had to almost drive me to make the recommendation which you sent on to President Kennedy.

As to my discharge of this responsibility after the decision was made, and of the other responsibilities inherent in the aeronautical and space science activities of NASA, you are in position to judge. I believe the record justifies your continued support. There are few, if any, enterprises of such size and inherent difficulty that have yielded more total value in proportion to resources invested.

In presenting your 1967 budget to the Senate Subcommittee on Appropriations, I used this language and furnished you a marked copy:

> "This budget has been carefully drawn by the President to reflect total national requirements. For NASA this is a particularly stringent budget. We are midway through a ten-year effort to achieve preeminence in all fields of aeronautics and space. This budget is less than we need to carry out this effort with greatest efficiency and minimum risk. Every expenditure that can be deferred until 1968 without causing gaps in our activity has been deferred. This budget provides for continuation of our ongoing efforts and

a few long lead-time items for the post-Apollo period. It provides no alternate or backup vehicles."

"The program we began presenting to you in 1961, and have elaborated in each succeeding year, was intended to meet fierce competition and end up ahead. It was also intended to give us a number of options in space from which we could choose those offering the greatest advantages at the least cost. The competition is still fierce, and we are not yet able to feel assurance that we will end up ahead in the option areas where the Russians are developing their strongest potential. A $5 billion budget level in the years ahead will not be adequate to develop and utilize the options we are now in the final stages of developing. Many of these show clear indications of usefulness far beyond their cost.

"In my view the main question which this committee must consider as it takes up the 1967 budget is whether we can or will continue to meet the challenges and pursue the opportunities opening up in space."

"Along with austerity, the NASA authorization request reflects the President's determination to provide sufficient resources to hold open for another year and not to foreclose the major decisions on future programs where failure to apply resources this year would make it impossible to act effectively next year. Most of these relate to whether to make use in 1970 and beyond of the space operational systems, space know-how, and facilities we have worked so hard to build up, or to begin their liquidation."

The combined effect of the action taken by the Senate and House Conferees on our appropriation, which puts us below the above-mentioned $5 billion figure for FY 1967, and the guidelines furnished us by the Bureau of the Budget for the 1968 submission leave no choice but to accelerate the rate at which we are carrying on the liquidation of some of the capabilities which we have built up. Important options which we have been holding open will be foreclosed. Further, the actions we must take will bring into play

forces of doubt and uncertainty in the minds of many whose competence, skill and courage have kept us above that thin line that divides success from failure.

There has not been a single important new space project started since you became President. Under the 1968 guidelines very little looking to the future can be done next year.

Struggle as I have to try to put myself in your place and see this from your point of view, I cannot avoid a strong feeling that this is not in the best interests of the country.

I know the heavy total responsibility which you bear, Mr. President, and believe firmly in the actions you are taking to make clear to the Communists that you have on call a large measure of power based on the kind of technology NASA is developing and that you are prepared to employ it to make sure they sustain a loss instead of a profit when they undertake excursions such as that in Vietnam. I have no desire to add to your burdens and have had serious doubts that I should involve you in a protest of your 1968 guidelines. However, when Mr. Moyers telephoned that you wanted to make a speech on space that would chart a course that would constitute a ringing challenge for the next half century, and include where we have come, where we have to go, and the benefits from the program, I decided I should let you know my feelings. They are set forth in the enclosed letter which I sent Senator Dirksen the day we had to collect up the votes to beat Senator Proxmire. I hope you can find time to read it. It is never an easy thing to decide the time has come to ask for help from the minority leader. The senior member of our committee, Senator Russell, voted to support Proxmire, as did Senator Robert Kennedy. Without the effective work of Senators Anderson, Magnuson, and Smith, with considerable help from Allott, we would now be facing a catastrophic emasculation of what we have labored so hard to build up.

If it is your purpose to enunciate a ringing challenge for the next half century in space, Bob Seamans and I will be right with you, but we cannot deliver the kind of successes we have had with the thin budgetary margins of the past three years.

With warm and affectionate personal regards, highest respect, and deep appreciation of your many acts of friendship and support, believe me

Sincerely yours,

Jim Webb

James E. Webb
Administrator

August 9, 1966

Honorable Everett Dirksen
United States Senate
Washington, D.C. 20510

Dear Senator Dirksen:

In accordance with your request for information on the effect of the Proxmire proposals to cut up to $1 billion from the space budget for Fiscal 1967, the best I can do in the short time between now and your deadline of noon is to state the following:

1. Through NASA, the nation is in the process of investing approximately $40 billion in the scientific measurement, development of engines, machines and the know-how to operate them, and in the use of this scientific knowledge, technical capability, know-how and machines to make use of both the air and the space region around the earth for practical, economic, and international purposes. Another factor is to make sure we do not wake up some day and find others in possession of the power to deny us the use of space. Beginning in 1958, the various non-military agencies of government were brought together to retrieve the position of leadership in space which we had lost to the Russians. A program looking toward the expenditure of from $22 to $25 billion over a period up to 1975 was initiated by President Eisenhower. With the dramatic capability demonstrated by the Gagarin flight in 1961, this was augmented and speeded up under the leadership of President Kennedy and Vice President Johnson with strong bi-partisan support. Over the past five years, the Congress has appropriated about $22\frac{1}{2}$ billion to carry out this effort and a dramatic build-up has taken place as demonstrated recently by the successful Gemini flights and the Surveyor landing on the moon. Right behind these tremendous efforts and these clear demonstrations of the correctness of our engineering approach, our knowledge of the environmental conditions to be met, and the validity of our system of management which allocates over 90 percent of the doing of this job to American industry, we now find ourselves facing an even greater requirement. The end result of an investment involving between $15 and $16 billion in advanced equipment that can far exceed anything we have seen demonstrated yet is now flowing toward our installations for test and on to Cape Kennedy for launch.

2. While the above five-year record has been achieved within the estimates of cost provided to the Congress at the beginning, we find that reductions made by the Congress in Presidential requests have been largely responsible for slowing up the program by two years and adding more than twice the amount of these reductions to the cost for doing the same amount of work. The reductions made by Congress over five years have amounted to $1,100,000,000 and the increase in cost will amount to $2.7 billion. The enclosed summary of this situation supplied to the Senate Committee on Aeronautical and Space Sciences at the request of Senator Margaret Chase Smith further explains what has happened.

3. For Fiscal Year 1967, the President reduced our request for funds by $712 million, with the result that under the most favorable circumstances the work force in the factories and laboratories of some 20,000 industrial companies, financed by NASA, will be reduced by from 60 to 80 thousand workers. This drastic reduction will have to be made at a time when the Civil Service personnel in NASA centers must take the responsibility for the final test and launch of the end results of the large investments referred to above. The Proxmire proposals would require a further cut of about 100,000 workers and the momentum and effectiveness of the program would, in my opinion, be utterly destroyed. These proposals can only be based on a complete lack of understanding of what it takes to build up a work force of over 450,000 people, proceed rapidly but without the waste of a crash program to develop advanced equipment that can operate with men out to the moon and with automated equipment out to Mars and Venus and then utilize this capability to increase the power of our nation to have an effective voice at the time the largest decisions as to the future of the development of the human race on this planet will be made. Those of us who have had to take the responsibility for what I am describing have little doubt that the balance of technological power among nations is rapidly becoming one of the most important determinants of national economic, social, and political viability as well as leadership in international affairs.

4. Over the past five years, NASA has invested about $2\frac{1}{2}$ billion in facilities to permit us, for from 25 to 50 years, to keep a constant challenge before the Russians or any other nation in the utilization of advanced aeronautical and space systems. American

industry has invested another $630 to $650 million in capital items, such as test stands, vacuum chambers, etc. The 1967 NASA budget includes $95 million to round out and complete this very large investment and make all of it worth more to the country.

5. We have already sent men into space 22 times before the eyes of the world and brought them back. One failure would have hurt our nation. Within the next three months, we should complete the 12 flights of the Gemini program and move on to the Apollo flights. This will involve the use of the very large Saturn boosters which concentrate in one machine the rough equivalent power of a small atomic bomb. Because of the danger, we must fuel and launch these machines automatically with no human being within miles of the launch pad except the three astronauts on the nose of the rocket. This has never been done before. The burden of doing the final perfection, correcting faults, proving reliability and launching these very large systems with the entire rocket and payload in place on every launch, even the first one, takes high competence, the availability at the launch site of every item required for success, and a good deal of self-confidence and guts. We have built the organization to see this job through, but we cannot hold it together on an up-and-down basis.

6. As to the period beyond 1970, the production lines for our nation's only really big boosters are going to grind to a halt unless we can buy the long lead-time items required to support them. Even if production is continued, these boosters are going to have nothing like the value they could have for our future if we cannot use the scientific and technical knowledge we are now buying at such great cost to do the necessary planning and testing of the payloads, earth-sensing equipment, and requirements for operating over long periods in space which these boosters now open up to us. Senator Proxmire's proposals will, in my view, shortly put us back to the kind of frustration and inability to meet the USSR space challenge that we felt in 1958 with Sputnik and in 1961 with the Gagarin flight.

7. The capability to use our very large rocket engines, advanced electronics, and ability to marry these capabilities with those of the human being, as shown in our Gemini flights, has significance far beyond landing on the moon. What we have done

in space shows a can-do nation building strength in science, technology, engineering and management, teaming up its scientific, industrial and governmental institutions to meet the requirements for operating in the new and unlimited environment of space and developing the kind of national capability that will ensure that we are present when the big decisions affecting our future and that of hundreds of millions of people are made.

8. There is no doubt in my mind that cuts made in this program now will have to be restored and multiplied within the next year or two as the Russians begin to use the capability they are in process of developing for flying very large payloads. Beginning in the 1950's we saw them step over what we could do with our Atlas and Titan boosters with the Vostok and Voskhod systems. They clearly have the capability with the booster that has flown the Proton series to step over the capability of the Saturn IB and get up to some 50,000 pounds in orbit. I believe they are now rapidly building the capability to leap-frog over the kind of payloads the Saturn V can boost into space.

Very important

9. In the years since 1958 NASA has shown the ability to get a great deal for every dollar of the investments made in aeronautics and space. We urgently need your support in order that some of the most important matters affecting the future of this nation are not put in jeopardy by an ill-considered action. The committees of Congress charged with the responsibility have officially approved the President's budget, and I would hope their judgment could be confirmed. Many of the statements being made in support of large cuts in the NASA budget simply will not stand up on close examination.

I appreciate your desire to understand this situation, and I hope I have differentiated the NASA program from some of those you have characterized as "non-essential spending."

Sincerely yours,

Original Signed By
James E. Webb

James E. Webb
Administrator

Enclosure

Administrator to be necessary, to enter into contracts for architectural or engineering services for highly complex research and development facilities without regard to the limitation imposed by 10 U.S.C. 2306(d) on contracts for architectural or engineering services.

Section 6

Section 6 would provide that the act may be cited as the "National Aeronautics and Space Administration Authorization Act, 1967."

The CHAIRMAN. I will also, without objection, place in the record at appropriate places biographies of witnesses appearing before the committee.

Before we begin, I believe Senator Smith has a brief statement. Senator Smith?

STATEMENT BY SENATOR SMITH

Senator SMITH. Thank you, Mr. Chairman. I do have a brief statement.

When it was announced in 1961 that a national effort would be made within this decade to place a man on the Moon and return him to Earth, there were many skeptics. Perhaps the most persistent criticism was over the cost of the program. I recall the rumors floating around in the early years which indicated that the Moon program could cost $40 to $50 billion. It became important, if not imperative, that an authoritative source give an informed estimate of the total cost of the Apollo program. Two years ago Mr. Webb provided that estimate to this committee. To me, his statement on that occasion was exceptionally candid and helpful. The estimated cost of the program came to about $20 billion, but Mr. Webb added that this would increase approximately $1 billion each year the landing was delayed. I requested at that time that a breakdown of the $20 billion estimate be placed in the record. This was done and those breakdown charts have proved invaluable as a reference not only to Senators but, as I understand, to NASA as well.

Because the Apollo program represents about two-thirds of the fiscal year 1967 authorization, I believe it appropriate, and I so request, Mr. Chairman, that these same Apollo charts as currently estimated by NASA be placed in the record at this point.

The CHAIRMAN. Without objection, that will be done.

(The material referred to follows:)

From the inception of the Apollo program in 1961, NASA has consistently held that the cost of a program for carrying out a manned lunar landing, which would build on the Mercury and Gemini experience and develop and demonstrate in this decade practical solutions to major problems of manned space flight in areas beyond near Earth orbit and a national capability from which could evolve further programs to meet national needs, would be between $20 and $40 billion—and closer to the lower figure. The most careful estimates we can make at the present time fully support that position.

After making all adjustments up to and including those which were the basis of the 1966 operating plan, the period within which costs must be incurred to complete the Apollo program—i.e., the development, testing, and flight program of 12 Saturn IB and 15 Saturn V launch vehicles with their associated spacecraft, plus the necessary costs of facilities and operations—extends into the first half of calendar year 1970, since the last 2 of the Saturn V vehicles are targeted for the period after December 31, 1969.

The table below details our present estimate of costs for this program. It is based on an assumption that we will have no follow-on program, in the period

Excerpt,
Hearings before the Committee on Aeronatuical and Space Sciences
United States Senate, Eighty-Ninth Congress, Second Session, on S. 2909.
February 28, March 1, 2, 3, and 4, 1966.

after the lunar landing, to use the Apollo-Saturn system capability for manned space flight missions which our 10 years of work on this program will create. While we regard this as an unrealistic assumption, we have based our estimates on it so that decisions as to the future use of the Apollo resources and questions as to the effect of decisions to stretchout the program can be related to a clear benchmark.

This table shows current estimates of runout costs for the engineering, production, test, and launch contracts now in being, with no partial absorption of the overhead operation of facilities and other relatively fixed costs by follow-on contracts or programs. This, of course, would terminate NASA's efforts in manned space flight, and therefore underlines the necessity for consideration of the issues which must be faced as we proceed through the critical period of decision as to the future of manned space flight.

	In billions
Spacecraft	$6.642
Launch vehicles	8.941
Engine development	1.053
Operations support	1.077
Subtotal MSF R. & D	17.713
Tracking and data acquisition	.730
Facilities	1.773
Installation operations	2.502
Total	22.718

The estimate of $19.501 billion provided the Senate Committee on Aeronautical and Space Sciences in March of 1964 was made on a more optimistic basis. It had been assumed that the NASA budget would rise to a level between $5½ and $6 billion, remain at that level for 1 or 2 years, and decline somewhat according to a pattern that would include a follow-on program representing a reasonable judgment as to the best use of the facilities, boosters, spacecraft, and know-how which the program had brought into being. The projection made in 1964 permitted targeting the use of all 27 major launch vehicles prior to the end of 1969 and incorporated the overall judgment of Mr. Webb, Dr. Dryden, and Dr. Seamans that, in cases where this schedule could not be met or exceeded on the time and cost basis estimated, NASA could meet the essential requirements through adjustments which the organization would have the strength and resources to make effective. The decisions to reduce this program to lower funding levels have required an extension both of the time to accomplish the total flight schedule and of the time required to reach the earliest feasible date for the lunar attempt. Further, these decisions prevented us from achieving momentum as early as planned and delayed the acquisition of know-how needed early in the program.

When a follow-on program decision has been made, which is accepted as part of the process on the fiscal year 1968 budget, we will be able to review the year-by-year estimates for manned flight activities, including any that may have been added to the work already approved for fiscal years 1968, 1969, and 1970, and then develop a proper basis for allocation of costs between programs.

If a follow-on program that involves use of the Apollo system boosters, spacecraft, and facilities is initiated in fiscal year 1968, and if technical and budgetary resources permit the launching of all our major flights successfully on the plan we are now working to, the follow-on program may well benefit from the alternate use of three Saturn IB and 6 Saturn V boosters as well as associated spacecraft already programed for Apollo. A proper deduction from the above table of costs for the costs of this equipment and its share of sustaining engineering, as well as an appropriate allocation of overhead and facilities costs to follow-on missions, could well see the lunar landing accomplished with accumulated costs very close to the $20 billion estimate we have used since 1961. Until the decision on a follow-on program is made, however, we believe the committee will find our present estimates, which are based on conservative rather than optimistic assumptions, the best basis for its use.

The CHAIRMAN. Mr. Webb, we are very happy to have you here, along with Dr. Seamans and your staff, to give us a good overview of the NASA program.

(The biographies of Mr. Webb and Dr. Seamans follow:)

EXECUTIVE

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EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

EXECUTIVE SECRETARY

August 26, 1966
11:20 A.M.

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities.

1. Congress. The Conference Committee report on the Independent Offices Appropriations bill was approved by the Congress. The Space Council appropriation was enacted as requested. NASA's appropriation was $4,968 million. This was for NASA $44 million less than requested for FY 1967 and $208 million less than appropriated for FY 1966.

2. Launches.

a. The third straight successful launch of an Uprated Saturn I was accomplished August 25. A 28 ton weight including a virtually complete Apollo command and service module on a suborbital reentry test from Cape Kennedy to a point near Wake Island flew about 3/4 of the way around the earth. It was recovered after it had made about a 93 minute flight.

b. The Soviet Union launched Luna XI toward the moon August 24. The 3,616 pound payload is expected to arrive in the vicinity of the moon Saturday, August 27.

c. The United States August 19 launched three defense payloads into high polar orbit using the Atlas Agena vehicle from the West Coast Test Range.

3. Launch Failure. A Titan IIIC launch vehicle, carrying eight Defense communications satellites, destroyed itself about 100 seconds after lift-off at Cape Kennedy, August 26.

4. Lunar Orbiter. Excellent pictures have been received, with the most exciting one being the clearest picture ever taken of the back of the moon. There is some blurring of the high resolution pictures, however, while the medium resolution pictures have been better than expected. The first picture of the entire earth has also been taken.

5. Soviet Weather Satellite. Weather pictures from the Soviet's Cosmos 122 weather satellite are similar in quality to the early U.S. Tiros satellite pictures. Advanced infrared readings showed good Soviet progress in this respect. The Soviets are furnishing six to seven cloud analysis charts per day over the Washington-Moscow cold line communication link, and coverage includes day and night passes over Africa, Europe, Asia, and the Pacific.

6. Minuteman for Space. The Air Force plans to convert some of its Minutemen ICBM's into space boosters. A fourth stage will be added to increase range and payload.

7. U.S. Weather Satellites.

a. Tiros IX tracked Tropical Storms Tess and Susan August 15 in the Western Pacific; Typhoon Viola August 19-22; and Tropical Storm Winnie August 22-23 in the same area. Tropical Storm Delores was traced in the Eastern Pacific August 16-22 along with Tropical Storm Eileen August 24 and Tropical Storm Faith in the Atlantic August 22-23.

b. Since July 1961 Tiros satellites have observed 193 tropical storms, hurricanes, and typhoons. Tiros has discovered 42 of these weather developments, thereby saving many lives and great property values, and lessening greatly the distress normally affecting populations where such storms strike.

8. SST. After having undergone critical attack in HARPER'S, the WALL STREET JOURNAL, and the NEW YORK TIMES, the Supersonic Transport program acquired strong support this week in NEWSWEEK Magazine. This followed support from TIME Magazine.

9. Cooperation with Japan. This week Japanese space officials concluded agreements with the U.S. for NASA to lend tracking support for the three satellites Japan will attempt to orbit later this year. The Japanese have requested no publicity of this arrangement pending a successful launching. The agreements involve coordinated launchings at Wallops Island next year of weather sounding rockets and also include the conditions under which future Japanese satellites might be launched by U.S. launch vehicles.

10. Mars Experiment. The first of a series of high-altitude experiments to investigate parachute designs and techniques for landing instrumented capsules on Mars will be conducted on or after August 29 by NASA. The experiment supports the proposed NASA Voyager program to explore the planets and possibly land a capsule on the surface of Mars in 1973.

11. SPACE PAYLOAD SUCCESS BOX SCORE
(August 26)

	USA		USSR	
	1965	1966	1965	1966
Earth Orbit	68	64	35	30
Escape	2	3	3	3

E. C. Welsh

The White House
Washington

1966 AUG 26 PM 12 43

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

EXECUTIVE
OS
FG 11-4

EXECUTIVE SECRETARY

August 19, 1966

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities

1. Lunar Orbiter. Lunar Orbiter I on August 14 was successfully placed in orbit about the moon, circling that body every three hours and 37.5 minutes. Some good pictures have been received, but it is uncertain what future photographs will be like. Camera difficulties have developed.

2. Launchings

a. The United States on August 16 placed two defense payloads in polar orbit, using an Atlas Agena vehicle.

b. The United States on August 17 placed Pioneer VII into orbit around the Sun by a thrust-augmented Thor Delta. It is designed to discover and report solar radiation conditions.

c. The United States on August 18 placed in polar orbit a defense payload, using a Scout vehicle.

3. Apollo Applications. NASA is negotiating the procurement of 16 additional Uprated Saturn I vehicles for probable use in the Apollo Applications Program.

4. Congress

a. The House Government Operations Military Subcommittee began its hearings on the status of the Defense communications satellite system. Question has been raised as to whether Defense has moved too slowly on this urgent project.

b. The Senate Commerce Committee's Communication Subcommittee began its hearings on August 17 on proposals to use communications satellites for domestic television transmission. Witnesses from the Ford Foundation, the ComSat Corporation, and the carriers have been heard. The broadcast industry witnesses are next.

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5. Pending Launches

a. The Saturn/Apollo suborbital test of the heat shield is now scheduled for August 25. The flight is planned to go three quarters of the way around the earth and will test heat loads comparable to those expected to be experienced in reentry from a lunar mission.

b. Gemini 11 launch is scheduled for September 9, with a first orbit rendezvous with an Agena target vehicle. The plan is for a three-day mission, a new manned altitude record of 865 miles, extra-vehicular activity, use of a power tool in space, and maneuvering of two spacecraft connected on a tether. Astronauts Charles Conrad and Richard F. Gordon will be the crew.

6. Soviet Weather Satellite. The Soviet Union has now revealed that Cosmos 122 launched during the visit of DeGaulle to Tyuratam is a weather satellite returning TV pictures, day and night infrared data, and readings on thermal radiation within the atmosphere. On August 18, they transmitted on an experimental basis radiation data obtained over the South Pacific to the National Environmental Satellite Center in Suitland, Maryland. This is the first weather satellite data of any kind to be furnished by the Soviets in implementation of the bilateral agreement of June 8, 1962.

7. Tropical Storms. U. S. Weather satellites tracked Tropical Storm Susan and Typhoon Tess in the Western Pacific from August 12-15, and Hurricane Connie off the West Coast of Mexico from August 4-15. Warnings were sent to interested areas.

8. Order Backlog. U. S. aircraft manufacturers have nearly five billion dollars worth of domestic and foreign orders for commercial jet transport and executive aircraft.

9. Space Payload Success Box Score
(August 19)

	USA		USSR	
	1965	1966	1965	1966
Earth Orbit	66	61	34	29
Escape	2	3	3	2

E. C. Welsh

Friday, August 19
Time: 11:00 a. m.

EXECUTIVE
05
FG11-4

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

August 12, 1966

EXECUTIVE SECRETARY

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities

1. Appropriations. The Senate passed the Independent Offices Appropriation bill by a vote of 82-2 on August 10, including funds totalling $4,991,600, for NASA ($21 million less than requested and $41 million more than the House action). Efforts to cut the NASA appropriation by 10% and then by 3% were defeated by votes of 65-18 and 52-31. An amendment to cut SST funds for FAA from $280 million to $80 million was defeated by 55-31. The Space Council appropriations were approved as requested.

2. Post-Apollo Planning. The House Space Committee has issued a staff study urging early definition of post-Apollo space plans. The study also calls for early hearings on NASA's post-Apollo plan ideas and recommends that NASA report on future objectives by December 1, 1966.

3. ComSat Hearings

a. The House Government Operations Military Subcommittee is planning hearings beginning August 15 on the government-carrier roles in communication satellites. Witnesses are being called from Government agencies, the ComSat Corporation, and the communications carriers.

b. The Senate Commerce Subcommittee on Communications held an open hearing on August 10 to take testimony from the Chairman of the FCC and the Director of Telecommunications Management on recent technical and regulatory developments in the field of satellite communications.

4. Launchings

a. The Soviet Union on August 8 placed Cosmos 127 in a low circular orbit. This is the type which normally is followed by recovery of the payload after eight days.

b. The United States on August 9 placed a defense payload in polar orbit using a Thor Agena launch vehicle.

c. The United States on August 10 launched Lunar Orbiter I on its way toward the Moon using an Atlas Agena vehicle. The 850 pound spacecraft is scheduled to begin its lunar orbit Sunday, August 14, and after five days of returning scientific data and making orbit adjustments will begin photographing potential Apollo landing sites. It will complete its mission in 31 days and remain in lunar orbit indefinitely.

5. Pending Launches

a. The Titan IIIC rocket could not be launched as planned because of a difficulty in an upper stage. It is now scheduled for August 25. It will carry seven more Defense communications satellites and another gravity gradient test satellite.

b. An Uprated Saturn is scheduled to launch an unmanned Apollo for a suborbital re-entry test August 22.

c. Launch of Gemini 11 is scheduled for September 9. The mission of Astronauts Conrad and Gordon includes rendezvous and docking with an Agena target satellite and extravehicular activities.

d. NASA plans to launch a Pioneer spacecraft into orbit about the sun August 17. The 140-pound satellite will be launched by a Delta rocket from Cape Kennedy.

6. Huge Building. The Boeing Company has projected the construction of the world's largest building at Everett, Washington to build the 400-passenger 747. It would have a volume of 158 million cubic feet, compared with the Vertical Assembly Building at Cape Kennedy with 130 million cubic feet.

7. Photography. The Surveyor I soft lunar lander photographs have been reprocessed by a new computer technique which brings out details much more clearly than in the previous reproductions.

8. Solar Cell. A new "self-healing" solar cell has been developed so that it is about 50 times more resistant to radiation damage. Similar protection can be achieved in transistors and other circuit components.

9. Space Applications. Fiber glass rocket case technology is now being applied to producing low-cost pipe for sewage, water, industrial

waste, and irrigation use. Besides being in competitive price range with existing pipes it is highly resistant to shock breakage and corrosion.

10. Big Booster. The target date for the first launching of a Saturn V Apollo booster is still February or March of 1967. The first stage S-IC is scheduled for shipment to the Cape late this month. The third stage S-IVB is now ready to leave Marshall Space Flight Center for the Cape. The S-II second stage, however, will probably not be shipped from the Mississippi Test Facility to the Cape for two or three months yet.

11. International Cooperation. The Brazilian Space Commission successfully launched two acoustical payloads on Nike-Cajun rockets from the Natal Range on August 6. These launchings, as part of a cooperative project with NASA, were coordinated with similar ones from Wallops Island, Virginia; Fort Churchill, Canada; and Point Barrow, Alaska.

12. Space Payload Success Box Score
(August 12)

	USA		USSR	
	1965	1966	1965	1966
Earth Orbit	59	58	33	29
Escape	2	2	3	2

E. C. Welsh

Friday, August 12
Time: 10:30 a. m.

The White House
Washington

1966 AUG 12 PM 12 25

TO MRS. ROBERTS

8/12/66

E. C. Welsh, Nat'l. Aeóro & Space Council - Exec. Sec. 8/12 Memo re Space Activities.

EXECUTIVE

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

OS
FG11-4

August 5, 1966

EXECUTIVE SECRETARY

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities

1. NASA Appropriations. The Senate Appropriations Committee approved a NASA budget of $4,991,600,000, which is $21 million less than requested and $41 million more than the House action. The Senate Committee figure is about $9 million less than the authorization for NASA passed by the Congress.

2. Space Treaty Negotiations. The UN Outer Space Legal Subcommittee which has been meeting in Geneva for the past few weeks in an effort to draft a space treaty has made progress but has encountered Soviet obstacles to full agreement and has recessed its negotiations. It is still hoped that an agreed-upon treaty can be presented to the General Assembly session which opens next month.

3. Launchings

a. The United States on July 29 placed a military payload in polar orbit, using a Titan Agena combination. (This is the first time these launch vehicles have been used together and is an enhancement of the national launch capability.)

b. The Department of Defense put a scientific payload (OV3) into Earth orbit from the Western Test Range on August 4, using a Scout vehicle.

4. High Altitude Gemini. Gemini 10 set a new manned altitude record of 474 miles. It is now proposed to send Gemini 11 to an 864 mile altitude if it can be fitted into the flight plan. The Agena 11 Target Vehicle would be used to supply the extra propulsion after docking of the two craft.

5. Apollo Crew. The prime crew for the first manned Apollo flight includes Grissom, White, and Chaffee. The back-up crew is McDivitt, Scott, and Schweickart.

6. ComSat

a. DOD has made a 3-year $19M contract with ComSat Corp. for lease of 30 communication channels from Hawaii to the Philippines, Japan, and Thailand. Service is scheduled to start April 1, 1967.

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b. Important policy questions arise out of the Ford Foundation proposal to the FCC that a non-profit private corporation be formed to provide commercial, non-commercial, and educational television satellite service for U. S. domestic use.

7. Supersonic Transport

a. Harper's Magazine, the Wall Street Journal, and the Congressional Record have carried a story criticizing the supersonic transport project as to its safety, planning, technology, and use of government funds. The story was based on misinformation and emotional bias.

b. The Soviet Minister of Civil Aviation announced that the USSR plans to have an SST in service by 1971, which is about the time the British/French Concorde is expected to be ready and one to two years before the U. S. will have its SST.

8. Hypersonic Speed. NASA has contracted for the design, development, construction, and testing of a small research ramjet engine. It will be mounted for testing on the X-15 research aerospace plane. Liquid hydrogen will be utilized as the fuel and the flight speeds at which the engine must be capable of operating will be between 2000 and 5000 miles per hour.

9. Japanese Space Action. On July 23, Japan's Lambda 3H2 rocket set a new Japanese altitude record of 1,100 miles. The solid-fueled three-staged vehicle carried a 500-pound payload which collected data on the lower portion of the Van Allen radiation belt. Japan expects to orbit its first satellite in September.

10. Pending Launches. A Lunar Orbiter is scheduled for August 9 and eight Defense Communications Satellites for August 11.

11. Space Payload Success Box Score (Aug. 5)

	USA		USSR	
	1965	1966	1965	1966
Earth Orbit	57	57	33	28
Escape	2	1	3	2

Friday, August 5
Time: 10:30 a. m.

E. C. Welsh

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

EXECUTIVE SECRETARY

July 29, 1966

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities

1. Congress

a. The Senate Government Operations Committee's Research Subcommittee is holding hearings on the geographic distribution of Federal research funds. Witnesses are from DOD, NASA, AEC, as well as other government agencies, and also universities.

b. The Senate-House Conference Committee which passed on NASA's authorization bill last week has requested NASA to submit by September 1 its plans for further Venus exploration.

c. The Senate Appropriations Subcommittee on Independent Offices plans to have its markup session on August 2, followed by a meeting of the full Committee on August 4 to review the Subcommittee's action. Senate floor action is planned for the week of August 8.

2. Launch. The Soviet Union placed Cosmos 126 into a low earth orbit July 28. It is the type normally recovered after eight days.

3. Pending Launches

a. The U. S. has scheduled a Lunar Orbiter spacecraft for launch August 9. The spacecraft is programmed to orbit within 25 miles of the moon at its closest point, taking photos of the lunar surface with a resolution of about three feet.

b. Eight Defense communications satellites are scheduled for launch by a Titan III-C booster on August 11. This is a further build-up of the DOD's initial communications satellite system for which seven satellites were put into orbit by the last Titan III-C launch June 16.

c. Other launches during the next few weeks will include the third Uprated Saturn I with Apollo on board August 20, the first communications satellite in support of the Apollo program September 9, and the second Surveyor spacecraft for a soft landing on the moon, to be launched September 18.

THE WHITE HOUSE
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4. Russian Comment. In reference to Gemini 10, the Soviet newspaper Trud said: "American scientists plan their flights statistically. What they fail to fulfill on one flight, they try to fulfill on a second. Success replaces failure. And the flight of Gemini 10 was a successful one."

5. Saturn V Gantry. The gantry for the Saturn V completed its first mobility test July 23 by being moved up the launch ramp at Cape Kennedy and positioned around the dummy Saturn V launch vehicle.

6. Weather Satellites. Tropical Storm Celia, Hurricane Dorothy, and Tropical Storm Ella were tracked by ESSA I and II in the Atlantic. ESSA I tracked Tropical Storm Nina and Typhoon Ora in the Pacific. Warnings were issued.

7. International Cooperation. NASA cooperated with India in successfully launching a sounding rocket from Thumba on July 7 and cooperated with West Germany by launching several German sounding rocket experiments from Wallops Island on July 14.

8. Space Payload Success Box Score
(July 29)

	USA		USSR	
	1965	1966	1965	1966
Earth Orbit	53	55	32	28
Escape	2	1	3	2

E. C. Welsh

Friday, July 29
Time: 10:20 a. m.

EXECUTIVE
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July 26, 1966

MEMORANDUM FOR JACK HORNER

FROM BILL MOYERS

Would you inform Bill Hines that I do not intend to inject myself into the question of a pool location at Mission Control. If it were a question of restricting coverage of the space program, I would, of course, jump in head first to free it up. But the U. S. space program is the most open of almost all our activities. So that is not the issue. The issue is an operational one which I have no business meddling in.

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

OFFICE OF THE ADMINISTRATOR

July 21, 1966

MEMORANDUM to Mr. Bill D. Moyers
The White House

I have talked with Bill Hines and have told him that I called on your request to see if we could come to some agreement on his request for a pool writer position in NASA's Mission Control Center, Houston.

He has made the request, this Agency denied it. He insists that there is nothing more to talk about it, he now comes to you "to adjudicate the matter." He said that if you do not desire to see him, please convey this message, not through Scheer, but directly to Horner at the Star. "I will go elsewhere," he said, "and I expect to make a stink of this."

I concur in your statement yesterday that you do not want to get into operational matters. This is, of course, your decision and how you see the use of your office. We have here a decision by this Agency--not that of a single individual--that this (pool location) is not in the best interest of our national space program. I welcome his appearance here, as he knows, and welcome his discussion with me or Mr. Webb or any others, collectively or individually, because the matter is one properly, I believe, handled here. But I do not feel I should confront him in your office.

Let me take a little more of your time and give you the background on this. As Bob Fleming knows, the television networks have long wanted this same pool position and Bob, I believe, appealed to you on this matter on behalf of the networks several months ago.

I turned the networks down and I responded to Hines' request this week with the following message:

"We cannot grant this request. It is this Agency's position that, with the technical complexity of space missions, the risks and the opportunities involved, particularly in manned space flights, we must be able to conduct the decision-making process under optimum circumstances. Mission Control --our command post during manned missions--is the sole source of this process during a manned mission where policy and technical personnel can confer on mission matters at their discretion.

"NASA supports entirely the public's right to all information concerning its programs, both manned and unmanned, and has assumed and fostered this obligation.

"The real-time coverage last night of the Gemini 10 rendezvous and docking, for instance, is typical of this system in action, as is the open coverage of launches, the release of air-to-ground voice tapes, response to all queries, press briefings, accessibility of personnel and innumerable other means. This has resulted in extensive and full coverage of the manned space flight program. This is practice in NASA and will remain so."

Mission Control is made up of consoles manned by the people, under the direction of the flight director and the mission director, who make the critical decisions involving the missions. There is an area behind glass from which viewers can watch and listen to every step of the operation. It is to this area that Hines wants access.

Hines makes the point that our policy is not consistent because:

1. He requested two weeks ago that a Star stringer in Johannesburg, South Africa, be admitted to a similar viewing area at our tracking station during the Surveyor mission when work was going on. This was an unmanned mission, the work is one of pushing buttons to send command to a passive satellite on the surface of the moon,

and I granted this request. Nine other reporters joined the Star man behind the glass. Hines sees this as a precedent and wants the same thing in Houston.

2. Howard DeBakey, he says, conducts an open-heart operation via live television, so this is no more critical as far as life and limb is concerned. (Incidentally, Bill, the patient died!)

3. From time to time, for brief periods of time, viewers in the glassed area have not been operational people. We have had Members of Congress, Chamber of Commerce types, VIP's, etc. This is correct, although I must admit that I, too, sometimes question the judgment on this. But these people are not knowledgeable, are not reporters, and represent no intrusion. Bob Seamans makes the point that when he wants to talk to the Mission Director and discuss a crucial problem, he feels he ought to be able to do so in some aura of privacy.

These are Hines' points, and as a reporter for many years, I must concede that, from the reporter's point of view, there is some validity to some of them. But Mission Control is NASA's command post, we are conducting new and untried work, we are under tremendous pressure, we are conducting manned flights, and we must be able to run a mission as unencumbered as possible. We exclude the press but provide a full and complete flow of information and Hines concedes this. I might add that a check of the reporters from Washington who cover our program will (1) confirm the honesty, openness and services to the media by NASA and (2) not necessarily stand behind Hines on this matter. In reaching for an analogy, I liken this to open courtroom coverage but no admittance to the juryroom.

This is the only substantive area in NASA that is not wide open. We have created a climate of openness far beyond anything I know of and, perhaps, this is the basic problem that we have with (only) a handful of reporters: they are

one inch away from the whole piece of cloth. Hines can do a good job of creating the impression that we are withholding, censoring or distorting. His charges will not stand scrutiny, for I believe we have created a truly open, honest, and complete program.

Julian Scheer
Assistant Administrator
for Public Affairs

EXECUTIVE
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FG 11-4

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

EXECUTIVE SECRETARY

July 22, 1966
10:20 A.M.

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities.

1. Gemini 10. The Agena and Gemini 10 launches occurred precisely on time and went flawlessly. After an active 3-day flight, the Gemini 10 spacecraft was successfully recovered July 21. Astronauts Young and Collins rendezvoused with two separate Agena target vehicles, docking with and being propelled by one of them (Agena 10). During the flight, they set a new manned altitude record of 474 miles. Astronaut Collins engaged in two extra-vehicular excursions and on the second occasion retrieved an experiment from the Agena 8 target vehicle. All of the major objectives of the mission were completed although some of the experiments had to be curtailed because of irritants to the astronauts' eyes on one occasion and generally an unexpected high use of the spacecraft's fuel.

2. Russian Launch. The Soviet Union July 20 launched Cosmos 125 into a circular orbit.

3. Congress. The Senate-House Conferees met on July 19 and agreed to a FY 1967 funding authorization for NASA of $5,000,419,000. That sum is approximately $11.6 million less than the NASA request, $13.6 million more than the House authorized, and $7.6 million less than the Senate figure. Among the more significant compromises reached by the Conferees were the following: The 1967 Venus probe, which the House wanted to drop, was restored; the atmospheric probe recommended by the House on two Mars flybys planned by NASA for 1969 was dropped; of the $22 million added by the House to the Mars Voyager Program, the Conferees agreed to add $13 million; the 260" solid booster program received an additional $4 million of the $7.5 million recommended by the House; the SNAP 8 nuclear power project received $2 million of $2.4 million previously added by the House Committee.

4. Lunar Orbiter. The NASA spacecraft designed to orbit the moon and take pictures of its surface is scheduled for launch August 10-12.

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5. Project West Ford. The 500 million small copper dipoles placed into a 2,300 mile circular belt on May 10, 1963 have apparently re-entered the atmosphere. The communications tests were successful, and at no time did the dipoles interfere with the radio or optical astronomers as was feared by some scientists.

6. Warning Given. A new lake not previously on maps was spotted in Peru by Gemini 9 on June 4. A check by Peruvian authorities revealed that this lake was formed as a result of an avalanche. The dikes of smaller lakes in the neighborhood of the large lake are in danger of eroding and releasing large volumes of water into the lake noted in the Gemini 9 pictures and causing a disastrous breakout. Peruvian authorities are taking steps to prevent a disaster from such an overflow.

7. Weather Satellites.

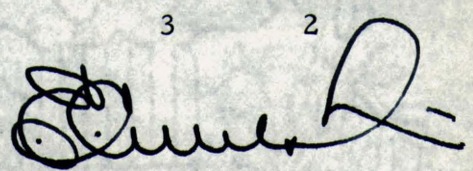
a. Last week, U.S. weather satellites tracked typhoon Mamie during its trip through the Philippine Sea before hitting the Chinese mainland. Tropical storm Nina was tracked off Formosa and tropical storm Celia was tracked in the Atlantic. Advance warnings were issued.

b. U.S. weather satellites furnished world-wide weather information in support of Gemini 10.

8. Applications. NASA reported the development of a compact lightweight life vest which inflates in seconds, weighs less than one pound, and occupies less than 20 cubic inches. It is expected to have general use.

9. SPACE PAYLOAD SUCCESS BOX SCORE
(July 22)

	USA		USSR	
	1965	1966	1965	1966
Earth Orbit	53	54	31	27
Escape	2	1	3	2



E. C. Welsh