

Jim Webb
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Rec'd 11-15-66
12 noon



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EXECUTIVE

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FG 11-4

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THE VICE PRESIDENT

WASHINGTON

FG 296

FG 440

November 10, 1966

11:30 a. m.

MEMORANDUM

FOR: The President
FROM: The Vice President
SUBJECT: X 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.

Attachment

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CENTRAL FILES



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

EXECUTIVE 05
FG11-4

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.

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to the following:

1. The vehicle launched the launch on October 25 at 10:00 AM. The vehicle was launched from the launch pad at the Cape Canaveral Air Force Station, Florida. The vehicle was launched from the launch pad at the Cape Canaveral Air Force Station, Florida. The vehicle was launched from the launch pad at the Cape Canaveral Air Force Station, Florida.

2. The vehicle was launched from the launch pad at the Cape Canaveral Air Force Station, Florida.

3. Launch Vehicle Activity

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6. Launch Vehicle Activity

The launch vehicle was launched from the launch pad at the Cape Canaveral Air Force Station, Florida.

The launch vehicle was launched from the launch pad at the Cape Canaveral Air Force Station, Florida.

November 10, 1966

EXECUTIVE SECRETARIAT

OFFICE OF THE SECRETARY OF THE AIR FORCE
WASHINGTON, D.C. 20330

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.

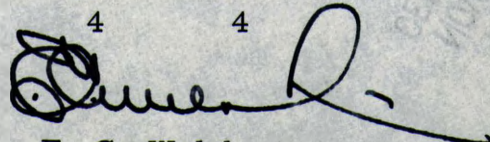
9. Space Rescue. The Air Force has asked industry to submit proposals for the analysis of operational characteristics of onboard space escape systems.

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

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


E. C. Welsh

4. Communications Satellite. The second LUT (LUT II) launch has been in effect until the date of the major mission on the satellite launched October 1965 has been completely completed.

5. Geostationary Satellite. The second phase of LUT tests, LUT-70, is a part of the LUT program. The first test was by LUT-69, in cooperation with the Air Force, the first two months of the project will involve some evaluation with noise reduction and other matters. The LUT-70 will be a geostationary satellite. The satellite will be launched with an orbital inclination, orbital and navigation facilities, and general performance.

6. University Satellite. The University of California, Los Angeles (UCLA) plans to build a satellite with WPA funds to be the center of a satellite field and laboratory. UCLA has been awarded a grant of \$25,000 from the University of California to study the feasibility of launching the 90-pound payload and age.

7. Ballistic V Vehicle. Critical tests of the second stage (L-11) of the Ballistic V Vehicle have been completed. A major problem is leakage of gas in the L-11. This problem will be solved by the L-11 elements at the end of the second stage. The other Ballistic V elements at Cape Kennedy will be the end of the second stage.

8. Unmanned Space Vehicle. In a country-landed project a test unit designed to represent the Ballistic V vehicle will be lowered to a depth of 10 to 20 feet off the V in the island where a test unit in some form will modify the structure and function into a space laboratory to simulate working conditions approaching weightlessness in space.

9. Space Rescue. The Air Force has taken initiative to submit proposals for the analysis of operational characteristics of aircraft escape systems, terms.

10. Weather Satellite. LUT-69 satellites have been launched in the Atlantic on its east and coast from the United States. Warnings have been sent to ships in the threatened Atlantic sea lanes.

State Physical Success For Core (November 1965)

	1965	1966	1967
Launches	81	86	88
Successes	8	8	8

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November 10, 1965
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EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON 20502

EXECUTIVE

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.

November 4, 1966

MEMORANDUM FOR THE DIRECTOR

Subject: Space Activities

Reference

1. Release of information regarding the activities of the Soviet Union in the field of space exploration is a matter of great importance to the United States. It is requested that you advise the President of the United States of the results of your investigation into this matter.

2. A detailed report on the activities of the Soviet Union in the field of space exploration is being prepared by the Intelligence Community. It is requested that you advise the President of the United States of the results of your investigation into this matter.

3. The Intelligence Community is currently conducting a study of the activities of the Soviet Union in the field of space exploration. It is requested that you advise the President of the United States of the results of your investigation into this matter.

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7. The Intelligence Community is currently conducting a study of the activities of the Soviet Union in the field of space exploration. It is requested that you advise the President of the United States of the results of your investigation into this matter.

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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.

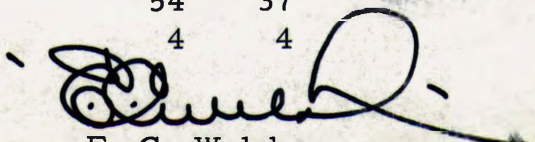
9. Weather Satellites. Photographs from ESSA weather satellites, including those received by APT units in Oceania and Southeast Asia, were used extensively in preparation of weather briefing information for the President's Asian trip.

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

1966 NOV 4 AM 11 57

The White House
Washington



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

EXECUTIVE
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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

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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.

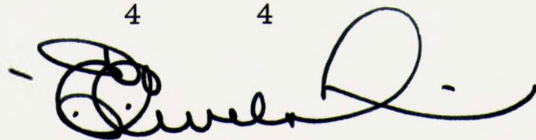
7. Saturn V. Crucial tests of the Saturn V second stage, S-II, originally scheduled for October 23, have been rescheduled for October 28.

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

1966 OCT 28 PM 12
The White House
Washington

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

October 21, 1966

EXECUTIVE SECRETARY

MEMORANDUM FOR THE PRESIDENT

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.

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



EXECUTIVE SECRETARY

MEMORANDUM FOR THE DIRECTOR

Subject: [Illegible]

1. [Illegible text]

2. [Illegible text]

3. [Illegible text]

4. [Illegible text]

5. [Illegible text]

6. [Illegible text]

7. [Illegible text]

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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%.

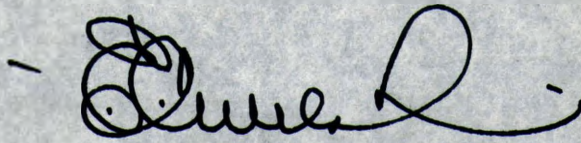
9. Monkey Flight. NASA plans to orbit two monkeys to test the effects of long duration weightlessness on mammals. The monkeys will be trained to manipulate handles which would release food and water to them, and their activities will be viewed via daily television transmission.

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	
	<u>1965</u>	<u>1966</u>	<u>1965</u>	<u>1966</u>
Earth Orbit	77	74	52	36
Escape	2	4	4	3



E. C. Welsh

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

University of Wisconsin - Madison
 Department of Chemistry
 Madison, Wisconsin 53706

Special Agent in Charge, FBI

TO: DIRECTOR, FBI
 FROM: SAC, CHICAGO
 SUBJECT: [Illegible]

[Handwritten signature]

W. C. Welsh

Chicago, October 21, 1966
 10:40 AM

1966 OCT 21 PM 12 12

The White House
 Washington



EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

EXECUTIVE

709
FG 11-4

October 14, 1966

EXECUTIVE SECRETARY

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

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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.

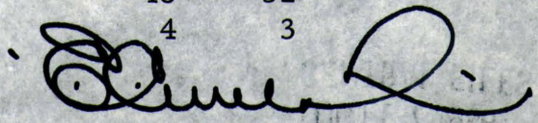
10. Satellite Collision. The first collision between two orbiting satellites was reported last week. These satellites were DOD gravity-gradient experiments launched in almost identical orbits and close together, by the same launch vehicle. Analysis of the telemetry indicated that they touched antennae 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 scheduled 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.

on air and space heating and light-speed radio-telephone to be constant to new
project in human space flight as well as in air transport program.

1. Soviet Reports

2. A Soviet cosmonaut has reported in a recent Soviet magazine article
that the Russians plan to launch manned space vehicles on heavy planets
and return them to earth.

3. A leading Soviet scientist has reported that the Soviets
could have a manned lunar landing by 1965 and also indicated that there were
many difficulties to overcome before lunar manned trips would be successful.

4. Technological difficulties. The difficulties in finding techniques developed for
large rockets needed for these missions is now being applied to the development
of first for automatic and commercial aircraft. Improved strength and
weight advantages have been demonstrated.

5. Satellite Collision. The first collision between two orbiting satellites
was reported last week. These satellites were 1900 Gravity-1 and
Gravity-2, launched in 1960. The collision occurred in the Pacific Ocean, off the
coast of Japan. The collision was reported by the Japanese space agency.
The collision occurred at a distance of 100 miles above earth, after a small rocket had been fired
on one of them.

6. New Soviet Launches. The Soviet Union has filed a petition with
the U.N. to install a second launch station at Andover, Maine, which would be
used to service the synchronous satellite WTS-1 II, now scheduled for
launch November 1965 over the Atlantic.

7. Soviet Activity Level. The press in announce that Soviet launches
is the highest in several years. Their last announcement being Cosmos 133
in August. The 1965 count of their launches is 10, or more than the former
leading period of 1963, although the number of successful Soviet launches
is exactly the same for 1964 as for the corresponding part of 1963. Also,
the total weight of payload in 1965 and up to the Russian success 1965.

Space Report Success Box Score (1965)

Year	Launches	Successes
1965	10	10
1964	10	10
1963	10	10

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OCT 17 1966
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U.S. Navy

Time: 10:45 a.m.
Date: October 17, 1966



EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

EXECUTIVE

OS

FG11-4

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.

EXCUTIVE

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL



THE WHITE HOUSE
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1966 OCT 7 AM 11 18

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED

DATE 10-11-80 BY 1043

SECRET

1. The Soviet Union has announced that it will place a man in orbit around the Earth in a manned spacecraft by the end of the year. The Soviet Union has also announced that it will place a man in orbit around the Earth in a manned spacecraft by the end of the year.

2. The United States has announced that it will place a man in orbit around the Earth in a manned spacecraft by the end of the year. The United States has also announced that it will place a man in orbit around the Earth in a manned spacecraft by the end of the year.

3. The Soviet Union has announced that it will place a man in orbit around the Earth in a manned spacecraft by the end of the year. The Soviet Union has also announced that it will place a man in orbit around the Earth in a manned spacecraft by the end of the year.

4. The Soviet Union has announced that it will place a man in orbit around the Earth in a manned spacecraft by the end of the year. The Soviet Union has also announced that it will place a man in orbit around the Earth in a manned spacecraft by the end of the year.

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5. The Soviet Union has announced that it will place a man in orbit around the Earth in a manned spacecraft by the end of the year. The Soviet Union has also announced that it will place a man in orbit around the Earth in a manned spacecraft by the end of the year.

6. The Soviet Union has announced that it will place a man in orbit around the Earth in a manned spacecraft by the end of the year. The Soviet Union has also announced that it will place a man in orbit around the Earth in a manned spacecraft by the end of the year.

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.

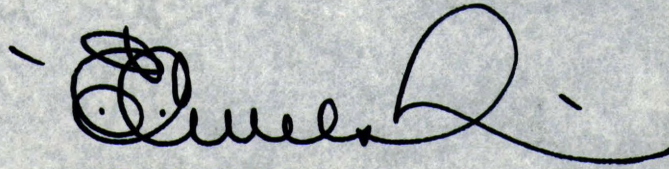
8. Weightlessness Laboratory. One of the nation's newest and most unique research facilities for studying weightlessness was unveiled October 4 at NASA's Lewis Research Center. Experiments weighing up to 6000 pounds may be studied for as long as ten seconds of weightlessness.

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	
	<u>1965</u>	<u>1966</u>	<u>1965</u>	<u>1966</u>
Earth Orbit	73	73	48	32
Escape	2	4	4	3



E. C. Welsh

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

EXECUTIVE

PL10/ST9

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PL/ST9

OS

Florida Democrat

NIGHT LETTER, SEPTEMBER 30, 1966

HONORABLE PAT ^xTHOMAS
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:g bk

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

Date of event: Saturday, October 1, 1966

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

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OCT 1 1966
CENTRAL FILES



EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

EXECUTIVE

OS
FG11-4

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



EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE BOARD
WASHINGTON

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities

1. General Comments

2. A release by the White House on September 28, 1966, announced that the second manned mission to the Moon would be launched in the second quarter of 1968. This was the second such announcement with this launch vehicle.

3. The White House announced on September 28, 1966, that the second manned mission to the Moon would be launched in the second quarter of 1968. This was the second such announcement with this launch vehicle.

4. The White House announced on September 28, 1966, that the second manned mission to the Moon would be launched in the second quarter of 1968. This was the second such announcement with this launch vehicle.

5. The White House announced on September 28, 1966, that the second manned mission to the Moon would be launched in the second quarter of 1968. This was the second such announcement with this launch vehicle.

6. The White House announced on September 28, 1966, that the second manned mission to the Moon would be launched in the second quarter of 1968. This was the second such announcement with this launch vehicle.

7. The White House announced on September 28, 1966, that the second manned mission to the Moon would be launched in the second quarter of 1968. This was the second such announcement with this launch vehicle.

8. The White House announced on September 28, 1966, that the second manned mission to the Moon would be launched in the second quarter of 1968. This was the second such announcement with this launch vehicle.

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.

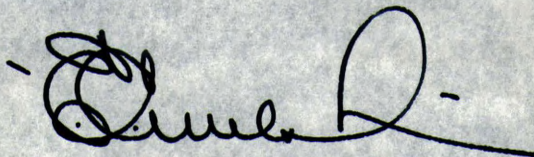
9. Luna 11. A Soviet Tass announcement of September 27 made no mention of lunar orbiter pictures being available from Luna 11, placed in lunar orbit August 29.

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	
	<u>1965</u>	<u>1966</u>	<u>1965</u>	<u>1966</u>
Earth Orbit	70	71	47	31
Escape	2	4	3	3



E. C. Welsh

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

7. Political Situation. USA has issued a call for more national
solidarity and U. S. officials with vociferous in the physical
science, medicine, and engineering.

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

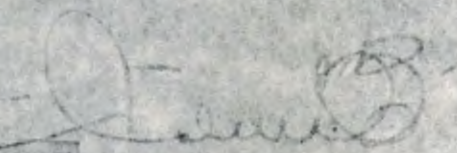
9. World II. Soviet Press announcement of German POWs made no
mention of former officer prisoners being available (see item 11), placed
in German orbit August 27.

10. Weather Satellites. USSR satellites provide warnings to threatened
areas about hurricanes from which all damage to date, the
Dominican Republic, and Haiti. The satellites are also tracking tropical
storms which, which is growing stronger daily, and a third storm which
has been located 500 miles to the east of Haiti is being photographed.

11. Germanies. The last of the German series is now scheduled for
early in November rather than the previous October 31 date. Concern
about USA difficulties has contributed to this delay. The national
anniversary which has been scheduled for use, has been withdrawn
from the mission.

12. Space to Land Success for Soviet
(September 3)

1962		1961		Total	Total
1962	1961	1962	1961		
21	17	17	17	38	34
3	2	2	2	5	4


OCT 3 1962
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Friday, October 30
1962

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OS

September 27, 1966

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

OFFICE OF
THE DIRECTOR

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
FG 11-4

September 23, 1966

EXECUTIVE SECRETARY

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



EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WASHINGTON

MEMORANDUM FOR THE PRESIDENT

SUBJECT: Space Activities

1. The survey of the situation was a technical one. However, it is necessary to consider the political and economic aspects of the situation. The survey was conducted by the National Aeronautics and Space Administration (NASA) and the Department of Defense (DOD). The survey was conducted in the summer of 1966. The survey was conducted by the National Aeronautics and Space Administration (NASA) and the Department of Defense (DOD). The survey was conducted in the summer of 1966.

2. The survey was conducted by the National Aeronautics and Space Administration (NASA) and the Department of Defense (DOD). The survey was conducted in the summer of 1966.

3. The survey was conducted by the National Aeronautics and Space Administration (NASA) and the Department of Defense (DOD). The survey was conducted in the summer of 1966.

4. The survey was conducted by the National Aeronautics and Space Administration (NASA) and the Department of Defense (DOD). The survey was conducted in the summer of 1966.

5. The survey was conducted by the National Aeronautics and Space Administration (NASA) and the Department of Defense (DOD). The survey was conducted in the summer of 1966.

6. The survey was conducted by the National Aeronautics and Space Administration (NASA) and the Department of Defense (DOD). The survey was conducted in the summer of 1966.

7. The survey was conducted by the National Aeronautics and Space Administration (NASA) and the Department of Defense (DOD). The survey was conducted in the summer of 1966.

8. The survey was conducted by the National Aeronautics and Space Administration (NASA) and the Department of Defense (DOD). The survey was conducted in the summer of 1966.

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.

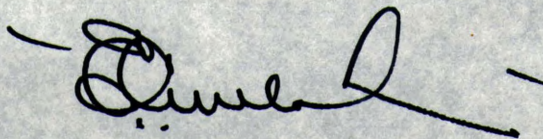
b. The first static firing test of the S-II flight hardware second stage of the first Saturn V booster has now slipped from mid-September to the first week of October.

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	
	<u>1965</u>	<u>1966</u>	<u>1965</u>	<u>1966</u>
Earth Orbit	70	70	46	31
Escape	2	4	3	3



E. C. Welsh

Friday, September 23

Time: 10:45 a. m.

of the... announced... the... of...
 late... and... of...
 together in a vacuum... it is to be tested in... space flight.

1. Summary

2. The last of three Apollo instrumentation flights was delivered
 September 16, 1966, at the Cape Canaveral.

3. 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.

4. Russian... have given... the...
 reason for oversteering and... of...
 space... is due to the pure oxygen system in their space suits. They
 predict that the Soviet... system would eliminate much of
 the problem. This does not coincide with U.S. analysis and it is
 difficult to give... to the Soviet... in view of their
 very limited EVA experience compared with ours.

5. Astronaut... will...
 and... to visit... in...
 in... on... and... October 21.

6. Apollo...
 (September 23)

USA		USSR	
1965	1966	1965	1966
10	40	41	41
4	3	3	3

[Signature]
 W. C. Welch

7. Summary
 8. Summary

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(60)
EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

EXECUTIVE

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.

THE WHITE HOUSE
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1966 SEP 16 AM 10 52

Subject: Space Activities

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...the Soviet Union ... the Soviet Union ... the Soviet Union ...

2. *Johnston, James*

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CENTRAL FILES

SEP 17 1966

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...and the ...

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.

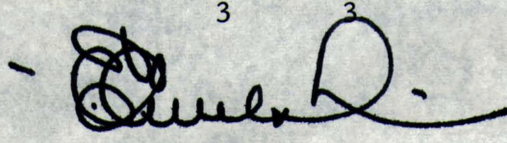
7. Technology Utilization. The AEC is establishing a technology utilization program similar to the one sponsored by NASA.

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	
	<u>1965</u>	<u>1966</u>	<u>1965</u>	<u>1966</u>
Earth Orbit	69	67	41	31
Escape	2	3	3	3

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


E. C. Welsh

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EXECUTIVE

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FG11-4



EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

September 9, 1966

EXECUTIVE SECRETARY

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

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1966 SEP 9 AM 11 06



EXECUTIVE ORDER AND SPACE COUNCIL

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

WASHINGTON

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities

1. The first Japanese satellite is now scheduled to be launched from the Tanegashima Space Center. The satellite will be launched in a small test vehicle.

2. The first Japanese satellite is now scheduled to be launched from the Tanegashima Space Center. The satellite will be launched in a small test vehicle.

3. The first Japanese satellite is now scheduled to be launched from the Tanegashima Space Center. The satellite will be launched in a small test vehicle.

4. The first Japanese satellite is now scheduled to be launched from the Tanegashima Space Center. The satellite will be launched in a small test vehicle.

5. The first Japanese satellite is now scheduled to be launched from the Tanegashima Space Center. The satellite will be launched in a small test vehicle.

6. The first Japanese satellite is now scheduled to be launched from the Tanegashima Space Center. The satellite will be launched in a small test vehicle.

7. The first Japanese satellite is now scheduled to be launched from the Tanegashima Space Center. The satellite will be launched in a small test vehicle.

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.

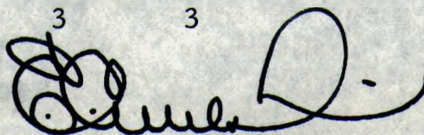
b. NASA has called for proposals from four major companies to research the reduction of airport noise from supersonic aircraft. The first step is likely to be redesign of engine nacelles to minimize fan compressor noise radiation.

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	
	<u>1965</u>	<u>1966</u>	<u>1965</u>	<u>1966</u>
Earth Orbit	68	64	40	31
Escape	2	3	3	3



Time: 10:40 a. m.

E. C. Welsh

6. The most serious limitation. A chemical engineer from the Los Alamos Laboratory has applied the most sophisticated technology to develop a long-wearing new material which can resist the heat of a nuclear reactor, and has a long life.

7. However, the second survey on Soviet rocket technology is scheduled to be launched September 1966. The Soviet Union is expected to launch a rocket vehicle. It will carry a rocket engine and a rocket motor. It is intended to launch the rocket engine at the center of the vehicle of the rocket.

8. CONCLUSIONS

8.1. Two Russian government experts have been a two-month study of the Soviet rocket engine. This team will evaluate some 100 pages of proposals submitted by the Soviet Union and engine manufacturers. Consequently, prospective purchasers of the Soviet rocket engine will have an independent evaluation of the data.

8.2. NASA has called for proposals from four major companies to research the reduction of aircraft noise from supersonic aircraft. The first step is likely to be the design of engine nacelles to minimize the compressor noise radiation.

8.3. The United States began transmission of weather satellite pictures over the T-1 line to Moscow September 7. Actual weather photographs are being furnished along with cloud analysis. The Soviet Union has 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 not photographs.

8.4. The Soviet Union has awarded a \$10 million contract for the development and static testing of another 100-inch diameter solid propellant rocket motor. This new motor will be propelled with a higher burning rate, thus allowing a new design of over 6 million pounds thrust. It is expected that this motor will be tested during the next test.

8.5. Space Program Progress Report (cont.)

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SEP 10 1966
CENTRAL FILES

1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	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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
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1966 SEP 2 AM 11 05

MEMORANDUM FOR THE PRESIDENT

Subject: Soviet Activities

1. Launch. The Soviet Union placed Cosmos 133 into a low earth orbit on August 27. The satellite's orbit is 100 miles above the earth's surface and it is expected to remain in orbit for several months.

2. Launch Orbiter

a. Launch. It is believed that the launch of the first Soviet manned satellite, Cosmos 133, was a test of the Soviet Union's capability to launch a manned satellite. The satellite is expected to remain in orbit for several months.

b. The U.S. Lunar Orbiter 1 has been placed in orbit around the Moon. The mission is to study the Moon's surface and to determine the feasibility of a manned lunar landing. The spacecraft also carries a television camera and a laser altimeter.

c. The first Soviet Lunar Orbiter, Luna 10, is in an orbit around the Moon. The satellite is expected to remain in orbit for several months.

3. Communications Satellite

a. Communications Satellite. The Soviet Union has announced that it has agreed to launch a communications satellite, Molniya, in 1967. The satellite is expected to remain in orbit for several months.

b. Communications Satellite. The Soviet Union is preparing a plan for the launch of a communications satellite, Molniya, in 1967. The satellite is expected to remain in orbit for several months. The plan is to launch the satellite from the Plesetsk Cosmodrome in northern Russia. The satellite will be used for communications between the Soviet Union and other countries.

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.

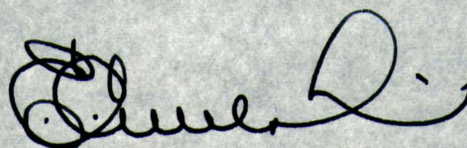
7. Lunar Shape. Selenology experiments on the U.S. Lunar Orbiter suggest that the moon, like the earth, is pear-shaped. Similar information about the earth was learned from the 1958 flight of Vanguard I.

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	
	<u>1965</u>	<u>1966</u>	<u>1965</u>	<u>1966</u>
Earth Orbit	68	64	35	31
Escape	2	3	3	3



E. C. Welsh

1. Initial Report. - Initial report was received on 11/11/66 from the New York office, New York, New York, dated 11/11/66, for about the same time as the above.

2. Initial Report. - Initial report was received on 11/11/66 from the New York office, New York, New York, dated 11/11/66, for about the same time as the above.

3. Initial Report. - Initial report was received on 11/11/66 from the New York office, New York, New York, dated 11/11/66, for about the same time as the above.

4. Initial Report. - Initial report was received on 11/11/66 from the New York office, New York, New York, dated 11/11/66, for about the same time as the above.

U.S.A.		U.S.A.	
1965	1966	1965	1966
88	88	88	88
88	88	88	88

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

September 20, 1966

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OFFICE OF
THE DIRECTOR

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

Charles L. Schultze
Director

Attachment



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EXECUTIVE

EXECUTIVE OFFICE OF THE PRESIDENT

BUREAU OF THE PRESIDENT

Office of the President

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 A. Schultze
Director

Attachment



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SEP 21 1966
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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
Director

Attachments

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Appropriations and Expenditures

(Dollars in Millions)

	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	
							<u>Planning</u>	<u>NASA</u>
							<u>Figure</u>	<u>Alternatives</u>
								<u>Submitted</u>
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.				
	Number	Time		Man-		Number	Time		Man-	
		Hr.	Min.	hours	Min.		Hr.	Min.	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

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

WASHINGTON 25, D.C.



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.

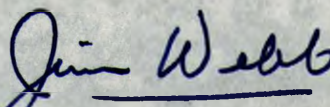
Struggle as I have to try to put myself in your place and see this from your point of view, I cannot avoid a strong feeling that this is not in the best interests of the country.

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,


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 \$22½ 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

industry has invested another \$250 to \$300 million in capital items, such as test stands, vacuum chambers, etc. The JPL A-2 program includes \$25 million to test out and complete it is very large investment and make all of it worth more to the country.

3. We have already seen in the past 22 years before the eyes of the world and heard that book. One failure would have put our nation. Within the next five years, we should come to the 1960s of the Gemini program and move on to the Apollo flights. It will involve the use of the very large Saturn boosters which can compete in one machine the total 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 top of the rocket. This has never been done before. The notion of doing the final perfection, continuous flight, proving reliability and launching these rockets is a step with the entire rocket and payload in place on every launch even the first one, total reliability, complete availability of the launch site, every item required for success, and a good deal of self-contained and self-sufficiency. We have built the organization to see this, but we cannot hold it together on an up-and-down basis.

4. As to the coming development of the production lines for our first satellite, the boosters are going to come to a halt unless we have a reliable launch system to get them. If production is continued, these boosters are going to have to be like the Saturns could be for our future. We cannot use the scientific and technical knowledge we are now having at a great cost to do the necessary planning and testing of the boosters, earth-orbiting equipment, and requirements for operating over long periods of space which these boosters now owe up to us. Senator Frank's proposals will, in my view, shortly put us back to the kind of frustration and inability to meet the US25 space challenge that we felt in 1958 with our own challenge with the Gemini program.

5. The possibility to use our very large rocket engines, advanced electronics, and ability to make these capabilities with those of a human being, as shown in our Gemini flights, has stimulated our confidence in the moon. What we have done

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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 Aeronautical 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
space flight.
While we are
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Launch vehicle
Engine development
Operations

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Tracking and
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Installation

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The Chairman
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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.

	<i>In billions</i>
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 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.

1966 AUG 26 AM 11 36

TV-9 (12" H" x 30" W) - 100% TARE

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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.

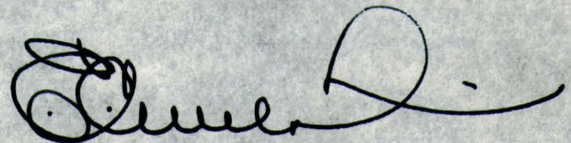
9. Cooperation with Japan. This week Japanese space officials concluded agreements with the U.S. for NASA to lend tracking support for the three satellites Japan will attempt to orbit later this year. The Japanese have requested no publicity of this arrangement pending a successful launching. The agreements 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	
	<u>1965</u>	<u>1966</u>	<u>1965</u>	<u>1966</u>
Earth Orbit	68	64	35	30
Escape	2	3	3	3



E. C. Welsh

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10. Waste Management. The first of a series of high-level reports
to be submitted to the President and the Secretary of Defense
in the near future will be concerned with the management of
waste. The report will discuss the progress made in the
past few years and the potential for further improvement.

11. Space and Nuclear Power
(Continued)

Year	1965	1966	1967	1968	1969	1970
Space	100	150	200	250	300	350
Nuclear	100	150	200	250	300	350

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1966 AUG 26 PM 12 43
The White House
Washington

EXECUTIVE

OS
FG 11-4



EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

August 19, 1966

EXECUTIVE SECRETARY

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 Up-rated 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.

1966 AUG 19 AM 11 18

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is uncertain what the photograph will be like. Camera difficulties have been experienced. Some good pictures have been received, but it is doubtful if about 100 of the best of every five frames will be developed.

[illegible]

1. The United States District Court for the District of Columbia has jurisdiction over the subject matter of this case.

around the time of a three-day cruise that ended March 11 in London to inspect the ship's hull and other areas. It is believed to have been the last time the ship was seen.

[illegible]

to the respondent and that it is not a confidential source of information.

Continued

The House Government Operations Committee has held hearings on the status of the Bureau of Land Management's activities. The committee has been raised as to whether the Bureau has adequate resources to carry out its duties.

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GENERAL FILES

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.

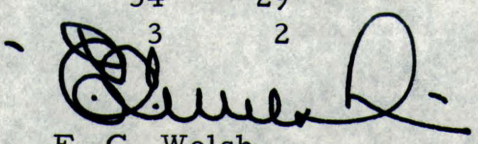
6. Soviet Weather Satellite. The Soviet Union has now revealed that Cosmos 122 launched during the visit of DeGaulle to Tyuratam is a weather satellite returning TV pictures, day and night infrared data, and readings on thermal radiation within the atmosphere. On August 18, they transmitted on an experimental 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 OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

August 12, 1966

05
FG 11-4
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 Up-rated 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.

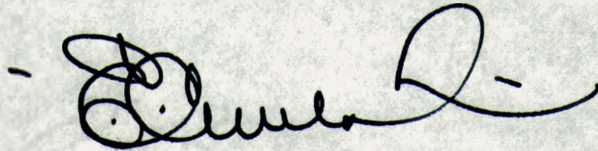
11. International Cooperation. The Brazilian Space Commission successfully launched two acoustical payloads on Nike-Cajun rockets from the Natal Range on August 6. These launchings, as part of a cooperative project with NASA, were coordinated with similar ones from Wallops Island, Virginia; Fort Churchill,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

12.

Space Payload Success Box Score

(August 12)

	USA		USSR	
	<u>1965</u>	<u>1966</u>	<u>1965</u>	<u>1966</u>
Earth Orbit	59	58	33	29
Escape	2	2	3	2



E. C. Welsh

Friday, August 12

Time: 10:30 a. m.

water, and irrigation need. Business being in competitive price range with existing lines is likely resistant to another increase and conversion.

10. Pi Booster. The target date for the first launch of a Pi Booster is still primary on a date of 1967. The first stage is scheduled for shipment to the Cape late this month. The third stage S-IV is now ready to leave a small space flight center for the Cape. The second stage, however, will probably not be shipped from the existing Test Facility to the Cape for two or three months yet.

11. International Cooperation. The Business Space Commission successfully launched two additional payloads on Nike-Cajon rockets from the West Range on August 6. These launches, as part of a cooperative project with the Air Force, were coordinated with similar ones from Wallops Island, Virginia; Fort Belvoir, Colorado; and Point Barrow, Alaska.

Space Payload Successes for 1966
(August 12)

USA		USSR	
1966	1965	1966	1965
33	33	33	33
3	3	3	3

North Orbit
Payloads

James B. ...

James B. ...

James B. ...

1966 AUG 12 PM 12 25

The White House
Washington

TO MRS. ROBERTS

8/12/66

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

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EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

EXECUTIVE

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.



THE WHITE HOUSE
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1966 AUG 5 AM 10 53

MEMORANDUM FOR THE PRESIDENT

Subject: Space Activities

1. The Committee on Space Activities, established by Executive Order on March 1, 1966, has the honor to submit to you the following report on its activities during the past year. The Committee was organized to coordinate the activities of the various Federal agencies concerned with space activities and to provide a forum for the exchange of views and information among them. The Committee has held several meetings and has received numerous reports from the agencies. It has also conducted extensive research and has prepared a number of studies and reports. The Committee's activities have been directed towards the following major areas:

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10. The Committee has held several meetings and has received numerous reports from the agencies. It has also conducted extensive research and has prepared a number of studies and reports. The Committee's activities have been directed towards the following major areas:

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.

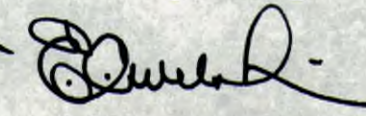
9. Japanese Space Action. On July 23, Japan's Lambda 3H2 rocket set a new Japanese altitude record of 1,100 miles. The solid-fueled three-staged vehicle carried a 500-pound payload which collected data on the lower portion of the Van Allen radiation belt. Japan expects to orbit its first satellite in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

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

2. Experimental Television

a. Harper's Magazine, the Wall Street Journal, and the Congressional Record have carried a story outlining the experimental television project as to its safety, planning, technology, and state of development. The story was based on information and emotional bias.

b. The Soviet Minister of Civil Aviation announced that the USSR plans to have an orbiting service by 1971, which is about the time the Russian Luna 10 satellite is expected to be ready and one to two years before the U.S. will have its own.

c. Experimentation. Much has been contracted for the design, development, construction, and testing of a small research rocket engine. It will be mounted for testing on the U.S. research aerospace plane. Light hydrogen will be utilized as the fuel and the limit speeds at which the engine must be capable of operating will be between 1000 and 2000 miles per hour.

d. Japanese space clock. On July 15, Japan's Tanaka 300 rocket set a new Japanese altitude record of 100,000 feet. The solid-fueled three-stage vehicle carried a 300-pound payload which collected data on the lower portion of the Van Allen radiation belt. Japan expects to orbit its first satellite in September.

e. Remains unchanged. A Lunar Orbiter is scheduled for August, and eight Defense Communications satellites for September.

Space (a) load forecast for 1966 (cont. 2)

USA		USSR	
1965	1966	1965	1966
27	27	23	28

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[Signature]

F. C. Welsh

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



EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL AERONAUTICS AND SPACE COUNCIL
WASHINGTON

EXECUTIVE

05
FG 11-4

July 29, 1966

EXECUTIVE SECRETARY

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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1966 JUL 29 AM 10 58

Subject: Apollo 11

Reference: 100-100000

1. The President's Committee on Space Exploration (PCSE) is a non-profit organization that was established in 1959. It is composed of members from the government, academia, and the private sector. The PCSE's mission is to promote and support space exploration and research.

2. The PCSE has been instrumental in the development of the Apollo program. It has provided financial support and technical expertise to NASA. The PCSE has also been involved in the selection of the Apollo 11 crew.

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5. Pending matters

6. The PCSE has been instrumental in the development of the Apollo program. It has provided financial support and technical expertise to NASA. The PCSE has also been involved in the selection of the Apollo 11 crew.

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8. The PCSE has been instrumental in the development of the Apollo program. It has provided financial support and technical expertise to NASA. The PCSE has also been involved in the selection of the Apollo 11 crew.

9. Pending matters

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."

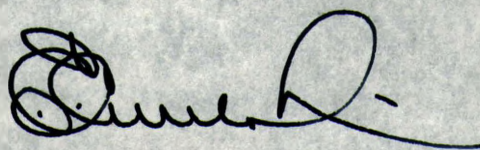
5. Saturn V Gantry. The gantry for the Saturn V completed its first mobility test July 23 by being moved up the launch ramp at Cape Kennedy and positioned around the dummy Saturn V launch vehicle.

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	
	<u>1965</u>	<u>1966</u>	<u>1965</u>	<u>1966</u>
Earth Orbit	53	55	32	28
Escape	2	1	3	2



E. C. Welsh

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

...the Soviet Government ...

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MEMORANDUM FOR JACK HORNER

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FROM BILL MOYERS

Would you inform Bill Hines^X 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.

RECEIVED
JUL 26 1966
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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.

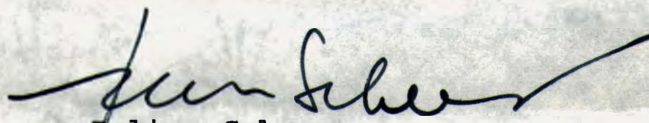
2. Howard DeBakey, he says, conducts an open-heart operation via live television, so this is no more critical as far as life and limb is concerned. (Incidentally, Bill, the patient died!)

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 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.

THE WHITE HOUSE
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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.

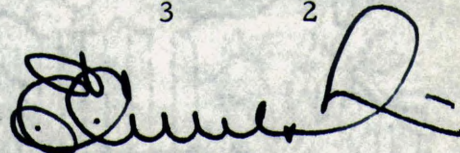
a. Last week, U.S. weather satellites tracked typhoon Mamie during its trip through the Philippine Sea before hitting the Chinese mainland. Tropical storm Nina was tracked off Formosa and tropical storm Celia was tracked in the Atlantic. Advance warnings were issued.

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	
	<u>1965</u>	<u>1966</u>	<u>1965</u>	<u>1966</u>
Earth Orbit	53	54	31	27
Escape	2	1	3	2



E. C. Welsh

5. Project West Ford. The 700 million small copper needles placed into a 1,500 mile circular belt on May 10, 1963 have apparently re-covered the sun spectrum. The communications tests were successful, and since this did the opposite of what the radio or optical radiation one was feared by some scientists.

6. Weather Satellite. A new late not previously on there was reported in early January 1964. A check by Russian authorities revealed that this late was formed as a result of an explosion. The cause of another late in the neighborhood of the large late was in danger of exploding and releasing large volumes of water into the late noted in the Gemini 8 film. These and causing a blast from the station. Russian authorities are taking steps to prevent a disaster from such an explosion.

7. Weather Satellite.

a. Last week U.S. weather satellites received photos from the late which through the Philippine sea before hitting the Chinese mainland. Tropical storm which was tracked on off towards the tropical storm cells was tracked in the Atlantic. Advance warnings were issued.

b. U.S. weather satellites furnished world-wide weather information in support of Gemini 8.

8. Applications. NASA reported the development of a compact hydrogen fuel cell which yielded in seconds, was as less than one pound, and occupies less than 10 cubic inches. It is expected to have general use.

SPACE FLIGHT RECORD FOR 1964

(1964)

1964 1963 1962 1961 1960

Earth Orbit
Escape

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