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AS DEFINED BY ATOMIC ENERGY ACT OF 1954

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CHRONOLOGY OF

SIGNIFICANT EVENTS AND DECISIONS

RELATING TO THE

U. S. MISSILE AND EARTH SATELLITE

DEVELOPMENT PROGRAMS

SUPPLEMENT II

NOVEMBER 1958 THROUGH OCTOBER 1959

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AS DEFINED BY ATOMIC ENERGY ACT OF 1954

3 Nov 58 The Supreme Allied Commander Europe (SACEUR), replying to criticism of NATO by retired Field Marshal Viscount Montgomery, pointed out at a news conference that NATO ground forces were being converted to missile warfare at a rapid pace. He revealed that the present number of 30 missile-equipped battalions was to be expanded to 100 by 1963.
NYT, 4 Nov 58, 1.

7 Nov 58 The OSD Ballistic Missile Defense Steering Group, in a report to the Secretary of Defense (Skifter Report), concluded that there was a "very urgent military requirement" to make NIKE-ZEUS operational at the earliest possible time and that research and development were sufficiently advanced to justify transition to production. It was therefore recommended that: 1) an immediate decision be made to commit NIKE-ZEUS to production; 2) Army FY 1959 funds be supplemented by approximately $31 million; 3) FY 1960 funding be set at the approximate level ($708 million) indicated in an accompanying schedule that specified an initial production rate for planning purposes of 3 batteries and 150 missiles per quarter; 4) a further review of requirements be made prior to establishing the FY 1961 funding level to determine the ultimate production rate and deployment level; and 5) to overcome long-term deficiencies in the present NIKE-ZEUS system, funds for the supporting research program planned by ARPA be increased for FY 1960 to a level significantly higher than for FY 1959.
(S-RD) Rpt, OSD Ballistic Missile Defense Steering Gp to SecDef, "Considerations and Recommendations Concerning a Production Decision for NIKE-ZEUS," 7 Nov 58, Encl to JCS 1620/201, 18 Nov 58, CCS 471.6 (5-31-44) sec 24.

8 Nov 58 A third attempt by the Air Force to place a rocket into orbit around the moon for NASA failed when the third stage of the four-stage vehicle failed to ignite.
NYT, 8 Nov 58, 1.

10 Nov 58 SACEUR informed a representative of the Chairman, JCS, that he proposed to enter into negotiations with Turkey and Greece regarding deployment of IRBM's; he pointed out that a squadron could not be provided for one and not the other. He also recommended that the US proceed with a bilateral agreement with Italy to permit placing of up to 2 IRBM squadrons. With respect to France, however, he had told the French Minister of Defense and the French Chief of Staff that he was no longer interested in stationing IRBM's in France and intended never to bring up the question again, the US production program of THOR/JUPITER could thus discount French needs entirely.
(TS) Ltr, DepDir European Region, OASD (ISA) to O/European Regional Affairs (RA), State Dept, "IRBM Deployments (U)," 20 Nov 58, extracts reproduced in N/H of JCS 2277/48, 1 Dec 58, CCS 471.6 (5-31-44) sec 24.

13 Nov 58 A draft resolution providing for the establishment of a representative ad hoc committee to study and survey peaceful uses of outer space was submitted to the UN

General Assembly by the US Representative on behalf of the US in association with 19 other countries.
(U) Dept of State Bulletin, vol XXXIX, No. 1016 (15 Dec 58) p. 976.

13 Nov 58 — The Secretary of Defense stated at a news conference that as part of a new global strategy the US would reappraise the need for continuing the IRBM program at its originally planned rate; European resistance to accepting IRBM's, the development of the ICBM, and the vulnerability of overseas bases were given as reasons for the reappraisal. Agreeing with the President's statement that Defense costs could be cut, the Secretary said that there was a proliferation of missiles and that marginal programs would have to be eliminated or reduced.
NYT, 14 Nov 58, 1.

14 Nov 58 — The State Department released a statement denying that the Secretary of Defense's remarks of the previous day concerning the IRBM program indicated any radical departure in US strategy. The State Department statement said the US intended to continue making missiles available to its European allies in accordance with the decision made by the NATO heads of government the past December. The CSA made a similar statement at a news conference in the Pentagon.
NYT, 15 Nov 58, 1 (text of State Dept Msg, 10).

15 Nov 58 — The Air Force announced that a spherical capsule, which had been ejected from the nose cone of an ATLAS missile launched on 2 August 1958, had been recovered on 17 October after seventy-six days afloat. The capsule, which was picked up by a fishing boat, had preserved intact 85 per cent of the scientific data it had recorded. At the same time it was revealed that two similar capsules ejected from the nose cones of THOR IRBMs had been recovered previously by Air Force teams.
NYT, 16 Nov 58, 1.

16 Nov 58 — The New York Times reported that Naval Research Laboratory officials bitterly resented the transfer of 150 scientists engaged in the VANGUARD earth satellite project to the National Aeronautics and Space Administration (NASA). According to these officials, personnel raids by NASA would stall or wreck some of the work of the laboratory.
NYT, 17 Nov 58, 1.

18 Nov 58 — NASA announced that it would postpone any further satellite launching attempts in the VANGUARD program until after December 31, the end of the International Geophysical Year (IGY). NASA was awaiting the results of a study of ways to increase the reliability of all satellite vehicles.
NYT, 19 Nov 58, 11.

19 Nov 58 — Speaking before the NATO legislative conference, the CG, Army Ordnance Missile Command, said that the US anti-missile missile program was progressing satisfactorily. Later he told newsmen that the West had just as much knowledge and capability in the missile field as the Communists, cautioning that it was not sensible to compare Soviet and Western weapons item by item.
NYT, 20 Nov 58, 10.

24 Nov 58 — In response to a request for the views of the JCS on the report of the OSD Ballistic Missile Defense Steering Group regarding production of NIKE-ZEUS (Skifter Report--see item of 7 Nov 58), the Secretary of Defense was informed that the JCS were unable to reach an agreement. The CSA had concurred in the recommendations contained in the Report. However, the CNO, the CSAF, and the Chairman, JCS were concerned over the possibly disasterous impact which such vast budgetary outlays as were involved in the recommended action might have on offense/defense balance; it was their view that the Report's recommendations should not be concurred in at that time, inasmuch as an immediate decision to commit NIKE-ZEUS to production would be premature, unduly costly, and "unwise" in the light of its many serious developmental problems to which no solution was as yet in sight. They therefore recommended that no production be authorized for NIKE-ZEUS or for any other AICBM system prior to demonstration of an operational capability, but recommended instead that research and development toward an AICBM capability be continued and expanded as a matter of urgency.

(S-RD) Memo, JCS to SecDef, "Guided Missile Systems (U)," 24 Nov 58, Encl to JCS 1620/204, 24 Nov 58, CCS 471.6 (5-31-44) sec 25, derived from (S-RD) JCS 1620/203, 19 Nov 58, same file.

24 Nov 58 — The CSA informed the Chairman, JCS, of statements he and the Secretary of the Army had made to the Secretary of Defense at discussions of the Army FY 1960 budget. Taking issue with the budget proposed by DOD, the Army's position was that budgeting on the basis of past years' expenditures would result in a serious imbalance in Army programs, inasmuch as funding of NIKE-ZEUS in FY 1960 could not be absorbed in the Army budget without sacrificing essential modernization, while the other reductions advocated would mean radical cut-backs in the Army's missile programs Specific effects on missiles, they maintained, would be as follows: 1) termination of the REDSTONE program in FY 1960, meaning only 2 REDSTONE battalions created although SACEUR requirements were 9; 2) the LACROSSE program cut from the planned 15 battalions to 12 3) no funds available for DAVY CROCKET, 4) NIKE-HERCULES and HAWK build-up curtailed, despite the Army's contention that BOMARC could not take over the HAWK task; and 5) operational availability of PERSHING retarded from FY 1963 to FY 1965, and programs for NIKE-HERCULES improvement and for multi-purpose missile test equipment eliminated.

(S) Memo, CSA to CJCS, "Army Budget, FY 1960," 27 Nov 58, CJCS 471.94 (1958).

25 Nov 58 — The Deputy Secretary of Defense informed the JCS of the determinations he had made, as required by Sect. 402 of P.L. 85-685, regarding air defense missile deployments; these constituted the first increment of releases. Based on the priorities recommended by the JCS (see item of 23 Oct 58), he had determined: 1) that all MISSILE MASTER installations included in the FY 1959 construction authorization would be located at the four sites indicated in an accompanying appendix, and had accordingly directed the Secretary of the Army to utilize funds authorized in Sect. 102 of P.L. 85-685 for such construction; 2) that

NIKE-HERCULES systems would be employed for defense of the 13 SAC bases also listed in the appendix, and accordingly had directed the Secretary of the Army to utilize funds authorized by the same statute for construction of two NIKE-HERCULES battery sites at each of these locations; 3) that BOMARC facilities would be constructed at the three locations listed in the appendix, and accordingly had directed the Secretary of the Air Force to utilize funds also authorized by the same statute for construction of a BOMARC (IM 99-A) site with 28 launchers at one of the locations and a BOMARC (IM 99-B) site with 28 launchers at each of the other two locations. Release of additional SAC base defense authorizations and remaining authorized BOMARC installations was withheld for the time being.

(S) Memo, Dep SecDef to JCS, "NIKE HERCULES - BOMARC Deployment (U)," 25 Nov 58, Encl to JCS 2277/51, 28 Nov 58, CCS 471.6 (5-31-44) sec 25.

26 Nov 58 — The Air Force announced that the ATLAS and TITAN missiles had become part of operational units for the first time. The 706th (ATLAS) and 703rd (TITAN) wings were turned over to the First Missile Division of the 15th Air Force.

NYT, 27 Nov 58, 27.

28 Nov 58 — An ATLAS ICBM was successfully fired from Cape Canaveral over a distance of 5,325 miles. The performance equaled a similar performance by the USSR in August 1957.

NYT, 30 Nov 58, 1.

28 Nov 58 — General Weyland, US representative at the "Conference of Experts for the Study of Possible Measures Which Might be Helpful in Preventing Surprise Attack and For the Preparation of a Report Thereon to Governments," which had commenced at Geneva on 10 November 1958, reported to the Chairman, JCS, that General Gryzlov, his Soviet Counterpart at the Conference, had refused to discuss with him the subject of missiles as an instrument of surprise attack, dismissing them as impossible of inspection or control with any effect on reduction of surprise.

(TS) Msg, Gen. Weyland to CJCS GEN 45, 29 Nov 58, Encl to CM-237-58 to CSA et al., "Geneva "Surprise Attack" Conference," 1 Dec 58, CJCS 388.3 (1957).

29 Nov 58 — The Air Force announced that the HOUND DOG would replace the RASCAL as armament for strategic bombers. The new air-to-ground missile had a range of several hundred miles, as compared to 100 miles for the RASCAL.

NYT, 30 Nov 58, 24.

30 Nov 58 — The Director of Guided Missiles, OSD, reported the following developments in the ICBM and IRBM programs during November: 1) ATLAS--a successful 5,500 n.m. (see item of 28 Nov 58) and a partially successful 3,151 n.m. firing, 2) TITAN--first flight missile readied for launching; 3) THOR--a successful 1,196 n.m. launching, the first flight to carry the re-entry test vehicle, and deployment of 13 missiles for the first squadron in the UK; 4) JUPITER--training plans completed for NATO personnel to replace AF personnel; and 5) POLARIS--missile recovery system for the PEASHOOTER launcher successfully tested and hull erection completed on the Fleet Ballistic Missile submarine, the USS George Washington.

(S) "Progress of ICBM and IRBM Programs," 30 Nov 58, in files of Dir of Guided Missiles, R&E, OSD.

1 Dec 58 The Army announced that its NIKE-HERCULES had destroyed a target flying faster than 1,500 mph at an altitude of more than twelve miles. It was the first assertion that the missile had ever destroyed a supersonic target, in this case a ram-jet XQ-5 drone.
NYT, 2 Dec 58, 33.

3 Dec 58 The President approved an agreement between the Department of the Army and NASA that transferred the Army's Jet Propulsion Laboratory to NASA and granted NASA access to the facilities and support agencies of the Army Ballistic Missile Agency (ABMA) at Huntsville, Alabama. Although NASA had advocated both installations being placed under its jurisdiction, the Army retained control of ABMA.
NYT, 4 Dec 58, 1. (U) US Cong, House, "Missile Development and Space Sciences," Hearings before the Committee on Science and Astronautics, 86th Cong, 1st sess (Washington, 1959) pp. 200-201.

3 Dec 58 At the Geneva "Surprise Attack" Conference the US tabled a Western paper illustrating a possible system for observation and inspection of ballistic missiles, but the "East" side refused to discuss the subject of missiles; General Gryzlov (USSR) stated that it would be undesirable and impossible to inspect missile sites in the absence of a nuclear weapons ban. Other Western representatives at the Conference (French, Italian, British) pointed out the fallacy of having observation and inspection of conventional forces without having adequate coverage of missile sites, since missiles had a capability of greater surprise and destruction.
(TS) Msg, Gen Weyland, Geneva to CJCS GEN 64, 8 Dec 58, Encl to CM-244-58 to CSA et al., "Geneva "Surprise Attack" Conference," 8 Dec 58, CJCS 388.3 (1957).

4 Dec 58 The JCS informed the Secretary of Defense that they had determined that an operational requirement existed for a nuclear warhead for the SUBROC missile, and that, in view of the urgent need, it was desired that existing developments be utilized to the maximum extent. The JCS requested the Secretary of Defense to notify the Chairman, Atomic Energy Commission (AEC), of this operational requirement and to request AEC cooperation with the Department of the Navy to achieve the Navy's objective of commencing operational evaluation of the USBROC system with atomic capability by September 1962, in order to have operational availability in July 1963.
(S-RD) Memo, JCS to SecDef, "Requirement for a Warhead for the Submarine-Launched, Anti-Submarine Missile (SUBROC) (U)," 4 Dec 58, CCS 471.6 (5-31-44) sec 26, derived from JCS 2012/131, 19 Nov 58, same file, sec 25.

6 Dec 58 The Army announced the launching of its first lunar probe, --PIONEER III, from Cape Canaveral. Powered by a JUNO II four-stage, elongated JUPITER rocket, the missile soared 65,000 miles into space, but owing to failures in the first-stage engine and the guidance system it lacked sufficient velocity to escape the earth's gravity. Despite the failure to reach the moon, PIONEER III transmitted valuable data on the Van Allen radiation belt through which it passed twice during its flight.
NYT, 7 Dec 58, 1.

6 Dec 58 The President directed that the National Security Council Record of Action show his approval of the following recommendations made by the Secretary of Defense: 1) the presently approved 13-squadron ICBM program (9 ATLAS and 4 TITAN) be increased to 20 squadrons (9 ATLAS and 11 TITAN); 2) the production of land-based IRBM's be limited to five squadrons of THOR and three squadrons of JUPITER missiles for which production commitments were already made, with the understanding that this program might be increased by two additional squadrons if further NATO requirements were expressed and military aid funds were available; 3) authorization of the use of FY 1959 funds for one additional POLARIS submarine, bringing the total authorized to six submarines; 4) authorization of FY 1960 funds for the construction of three additional POLARIS submarines, bringing the total to nine submarines; and 5) authorization to proceed in the planning of three additional POLARIS submarines for FY 1961, bringing the total to 12 submarines. (NSC Action No. 2013 was approved by the President on 16 December 1958).

(TS) NSC Action No. 2013, 6 Dec 58.

8 Dec 58 In response to a request from the Assistant Secretary of Defense (P&I) regarding planned deployments of TITAN missiles, the JCS advised the Secretary of Defense that the dispersal of B-52 heavy bombers from Ellsworth Air Force Base and the proposed deployment there of a TITAN ICBM squadron were compatible passive defense measures, and that deploying TITAN ICBM squadrons at both Ellsworth Air Force Base and Mountain Home areas would make maximum utilization of existing DOD facilities.

(S) Memo, JCS to SecDef, "ICBM Programs (U)," 8 Dec 58, CCS 471.6 (5-31-44) sec 26, derived from JCS 2277/50, 25 Nov 58, same file, sec 25.

8 Dec 58 General Trudeau, the Army Chief of Research and Development, in a public speech revealed that three years had been cut from the time necessary to send US missiles from the drawing board into the sky, but that further improvement was needed, including further decentralization of authority. He also said that the time required to bring fourteen types of missiles from design to combat readiness had been reduced from eight or nine years to five years and eight months.

NYT, 9 Dec 58, 28.

9 Dec 58 At an informal meeting during the Geneva "Surprise Attack" Conference the Chief of the Soviet Delegation informed the Senior US Expert that the USSR would remain unwilling to discuss control over ballistic missiles until the West agreed to ban nuclear weapons.

(C) Rpt, Western Experts to North Atlantic Ministerial Meeting, "Report . . . Western Experts at the Conference of Experts . . . [on] Preventing Surprise Attacks . . . ," 13 Dec 58, Encl to CM-255-58 to CSA et al., "Report on Geneva Surprise Attack Conference," 24 Dec 58, CJCS 388.3 (1957).

10 Dec 58 — In a briefing for the JCS on long-range plans for air defense of North America, CINCNORAD listed: 1) requirements for weapons systems to provide defense in depth against both Soviet ICBM's, which would total 2,000 in the 1966-1968 period, and against Soviet supersonic bombers utilizing air-to-surface missiles and missile decoys; and 2) specifications for surveillance and control systems capable of detecting, tracking, identifying, and cataloguing all objects in space. A detailed summary of the nuclear warhead requirements for these defense systems was also presented.

CINCNORAD warned that the only AICBM now envisioned, NIKE-ZEUS, might not have the growth potential for dealing with later generation ICBM's.

(TS-RD) Copy of presentation by CINCNORAD for JCS, 'Briefing of the Long-Range Objectives Plan For the Air Defense of North America,' 10 Dec 58, attachment to SM-1066-58 to CJCS et al., "NADO 59-69 & NADOP 59-63," 29 Dec 58, CCS 381 US (5-23-46) sec 107.

12 Dec 58 — The Air Force announced it had dropped its GOOSE missile program. The GOOSE, a long-range, ground-to-air decoy missile designed to confuse enemy air defense systems, was the second Air Force project canceled in two weeks. (See item of 29 Nov 58.)

NYT, 13 Dec 58, 2.

13 Dec 58 — The UN General Assembly adopted the resolution proposed by the US calling for establishment of an ad hoc Committee to study peaceful uses of outer space. Eighteen nations were to be represented on the Committee.

(U) Council of Foreign Relations. Documents on American Foreign Relations 1958, Harper and Brothers (New York, 1959) pp. 553, 554.

13 Dec 58 — The Western Experts participating in the Geneva 'Surprise Attack" Conference submitted their official report on the Conference to the North Atlantic Council Ministerial Meeting ('Report to the North Atlantic Council Ministerial Meeting from the Western Experts at the Conference of Experts for the Study of Possible Measures Which Might be Helpful in Preventing Surprise Attack and for the Preparation of a Report Thereon to Governments'). Among the conclusions arrived at in the Report was that the USSR, on the basis of positions held by the Soviet delegation in the Conference proceedings, was apparently little concerned at the time with the problem of guarding against surprise attack by means of ballistic missiles, but was concerned over operations of the US long-range bomber force. The Report pointed out that the Soviets had refused to discuss inspection and control of missiles without concurrent discussion of banning nuclear weapons and eliminating foreign bases.

(C) Rpt, Western Experts to North Atlantic Council Ministerial Meeting, "Report . . . Western Experts at the Conference of Experts . . . /on/ Preventing Surprise Attack . . . ,' 13 Dec 58, Encl to CM-255-58 to CSA et al., Report on Geneva Surprise Attack Conference," 24 Dec 58, CJCS 388.3 (1957).

13 Dec 58 The Army shot a monkey 300 miles into space in the nose cone of a JUPITER missile. The outstanding findings of the experiment were that the animal had suffered no significant adverse physical effects during the time of weightlessness as the missile fell to earth.
NYT, 14 Dec 58, 1.

15 Dec 58 The Director of Guided Missiles, OSD, authorized the Secretary of the Army to accelerate production of HAWK ground equipment and missiles so as to achieve by the end of FY 1960 a rate of 4 battery sets and 100 missiles per month. Later, contingent upon approval of additional requirements and funding, this rate might be augmented but was not to exceed the capacity of a single production facility.
(C) Memo, DGM to SecA, "HAWK Program," 15 Dec 58, extracts reproduced in N/H of JCS 2277/49, 22 Dec 58, CCS 471.6 (5-31-44) sec 23.

15 Dec 58 The Director of Guided Missiles, OSD, provided the Secretary of the Air Force with a breakdown of the additional FY 1959 funds that the Deputy Secretary of Defense had approved for release for the BOMARC missile program, and indicated that this was to serve as guidance for program implementation. The Secretary was also advised that the montnly production rate of the IM-99A and the IM-99B missiles combined was not to exceed 30 missiles per month, and that production planning for ground support equipment was to be directed toward a maximum rate of deployment of one base per month.
(C) Memo, DGM to SecAF, "Release of FY 1959 Funds for BOMARC Missile Program," 15 Dec 58, Encl to JCS 1620/207, 23 Dec 58, CCS 471.6 (5-31-44) sec 26.

16 Dec 58 CINCNORAD, in a memorandum to JCS, "strongly recommended" that development of the WS-117L infrared tracking system, which he deemed an essential alternate means of ballistic missile detection complementary to radar, be treated as a matter of the highest urgency.
(S) Memo, CINCNORAD to JCS, "WS-117L Infrared Satellite Program (S)," 16 Dec 58, Encl to JCS 2012/135, 22 Dec 58, CCS 471.6 (5-31-44) sec 26.

16 Dec 58 The first ballistic missile launching on the West Coast took place when a THOR IRBM was fired from Vandenberg AFB. This was also the Free World's first firing of a ballistic missile under simulated battle conditions.
NYT, 17 Dec 58, 2.

17 Dec 58 According to an Associated Press report, SACEUR pleaded with the NATO Foreign Ministers, meeting in Paris, to move rapidly into missile rearmament. Outlining the present strength of NATO in comparison to that of the USSR, he asked for immediate deployment of IRBM's in Europe.
AP, 17 Dec 58.

17 Dec 58 NASA announced that it had ordered development of a rocket engine capable of launching space vehicles weighing several tons. The rocket engine would be designed to provide up to 1,500,000 pounds of thrust.
NYT, 18 Dec 58, 5.

17 Dec 58 The US Delegation to the Geneva "Surprise Attack" Conference, in a letter to the Chairman, JCS, stated in its evaluation of the Soviet position and action at the Conference that the USSR had given the impression of being confident that it led in the missile race.

(C) Ltr, Delegation of USA to CJCS, no subj, 17 Dec 58, Encl to CM-255-58 to CSA et al., "Report on Geneva Surprise Attack Conference," 24 Dec 58, CJCS 388.3 (1957).

18 Dec 58 Project SCORE, a research and development program for a communications satellite system, under the direction of the Advance Research Projects Agency (ARPA), was initiated with the launching into satellite orbit of a relayed-repeater unit built into an ATLAS ICBM, the total weight of which was 8,500 pounds. The US space shot compared with the Soviet's 8,800 pound Sputnik II, although the latter included a 2,919 pound payload that went into orbit separately of its missile vehicle. The new US satellite would test special receiving and broadcasting equipment in communications relay experiments, an inertial guidance system, and the structural strength of components.

(S) "Progress of ICBM and IRBM Missile Programs," 31 Dec 58, in files of Dir of Guided Missiles, R&E, OSD; NYT, 19 Dec 58, 1.

18 Dec 58 The US representative to the Geneva "Surprise Attack" Conference, reported to the Chairman, JCS, that because of basic East-West divergencies, among which was the refusal of the Eastern Bloc to consider the subject of ballistic missiles, the Western side had insisted upon recessing the Conference in order to seek inter-governmental agreement on new terms of reference. Both sides agreed to suspend the meetings for the time being.

(S) Msg, Gen Weyland, Geneva to CJCS, GEN 87, 18 Dec 58, Encl to CM-251-58, to CSA et al., "Geneva "Surprise Attack" Conference," 19 Dec 58, CJCS 388.3 (1957).

18 Dec 58 The Navy announced that it had dropped its REGULUS II missile program. Since the eleven-ton, air-breathing missile was on the verge of being declared combat ready, the cancellation was interpreted by the press as being part of the reductions forecast by the Secretary of Defense when he referred to the "proliferation of missiles." (see item of 13 Nov 58).

NYT, 19 Dec 58, 1.

19 Dec 58 Instruments on the ATLAS missile satellite that was shot into orbit on 18 December transmitted the President's voice from outer space. The performance was considered a major break-through in communications, as well as a major advance in American rocketry. The use of the ATLAS as a satellite booster was described as being six months ahead of schedule.

NYT, 20 Dec 58, 1.

20 Dec 58 SACEUR advised the Secretary of Defense that a preliminary examination was being conducted regarding the advisability of using BOMARC squadrons for certain purposes in the Central region of Allied Command Europe. He requested that an assessment of the suitability and effectiveness of BOMARC for such employment, assuming that a compatible ground environment were available, be provided at an

early date. On 23 Dec 58 the Assistant Secretary of Defense (ISA) requested the JCS to prepare this study.

(S) Msg, USNMR Paris to SecDef, ALO 1148, 201204Z Dec 58, (DA IN 178575); Memo, Asst SecDef (ISA) to JCS, "Study on Employment of BOMARC in Allied Command Europe (U)," 23 Dec 58, Encl to JCS 1620/208, 29 Dec 58, both in CCS 471.6 (5-31-44) sec 26.

20 Dec 58 — In response to a request for the views of the JCS regarding the priority of certain proposed BOMARC defenses, the Secretary of Defense was advised that the relative priorities previously established for BOMARC sites should be retained. (see item of 25 Nov 58).

(S) Memo, JCS to SecDef, "NIKE-HERCULES - BOMARC Deployment (U)," 20 Dec 58, CCS 471.6 (5-31-44) sec 26, derived from JCS 2276/56, 15 Dec 58, same file.

20 Dec 58 — A TITAN ICBM, successor to the ATLAS, failed to lift from its pad on its first launching attempt. The malfunction, it was announced, appeared to be minor.

NYT, 21 Dec 58, 2.

23 Dec 58 — The Deputy Secretary of Defense stated to members of the Armed Forces Policy Council that there was no statutory limit on the existence of ARPA, and that he was not considering discontinuing it. He affirmed that ARPA would continue to be the cognizant agency of DOD in the space programs approved by the National Space Council.

(U) Armed Forces Policy Council Advice of Action, 23 Dec 58, "ARPA," Encl to JCS 1620/210, 5 Jan 59, JMF 5224 (1959).

23 Dec 58 — A National Intelligence Estimate, superseding previous estimates, contained the following major conclusions regarding Soviet missile and space-vehicle capabilities:

1) Since Soviet science had made marked progress in many areas of fundamental and applied research and in some fields ranked among the best in the world, significant advances in science and technology were likely to occur with greater frequency than in the past.

2) The USSR would rely increasingly upon missiles as nuclear delivery systems during 1959-1963; presently operational missiles included in this category were a 700 n.m. and a 1,100 n.m. range missile, and a very short-range anti-tank missile. Although having only a limited capability for employment in military operations, several hundred of the 700 n.m. range and a few of the 1,100 n.m. range missiles were now available.

3) Soviet planners intended to acquire a sizeable ICBM operational capability at the earliest possible date, possibly 500 ICBMs by 1962. Ten prototype ICBMs of 5,500 n.m. range, with 5 n.m. Circular Error of Probability (CEP) and 2,000-5,000 lbs. payload, would be available in 1959. ICBM CEP would probably be improved to 3 n.m. by 1962-1966.

4) The Soviet air-to-surface missile system was now capable of carrying nuclear warheads at subsonic speeds to a range of about 55 n.m. against targets clearly definable on radar. A supersonic air-to-surface missile with a 100 n.m. range would probably be available 1960-1961.

5) The USSR probably had a subsonic cruise-type missile with a 200 n.m. range for surfaced-vessel launchers. A 1,000 n.m. range missile for submerged vessels would probably be available in 1961-1963.

6) For air defense the USSR now had available two surface-to-air missile systems of relatively short range (15-30 n.m.) and restricted altitude (30,000-60,000 ft) effectiveness. During 1959-1961, however, improved systems would become operational, and during 1963-1966 operational capability with a surface-to-air system of limited effectiveness against ICBMs and IRBMs was possible.

7) Soviet capabilities for early accomplishments in space included: (a) surveillance satellites, recoverable aeromedical satellites, lunar probes and impacts, lunar satellites, and planetary probes to Mars and Venus (1958-1959); (b) "soft landings" by lunar rockets and recoverable manned earth satellites (1959-1960); (c) a manned glide-type high altitude research vehicle (1960-1961); and (d) heavy earth satellites and manned circumlunar flights (1961-1962). While the USSR was technically capable of each of these accomplishments, it was doubtful if the Soviets could achieve all of them within the time periods specified.

(TS) NIE 11-4-58, "Main Trends in Soviet Capabilities and Policies, 1958-1963," 23 Dec 58, J-2 Files.

24 Dec 58 — The Pentagon announced that the ATLAS ICBM had achieved the status of an effective military weapon, inasmuch as the Air Force had successfully tested it in a 4,300-mile flight on 23 December, the seventeenth flight for the ATLAS in the past year. It would be ready for combat use, according to Air Force estimates, the following year.

NYT, 25 Dec 58, 1.

24 Dec 58 — The President appointed Dr. Herbert F. York as Director of Defense Research and Engineering. Dr. York was formerly chief scientist for ARPA.

NYT, 25 Dec 58, 1.

31 Dec 58 — The Acting Secretary of Defense, responding to a query from the President regarding possible over-programming of missiles in the Military Assistance Program, presented a recapitulation of the NIKE battalions and IRBM squadrons that had been programmed, and stated that, except for FY 1956 and FY 1957, missile programming had proceeded only on the basis of an approved NATO requirement, and after negotiations with the countries concerned had warranted it.

(C) Memo, Actg SecDef to Pres, 31 Dec 58, CCS 471.6 (5-31-44) sec 26.

31 Dec 58 — The Director of Guided Missiles, OSD reported the following progress in ICBM and IRBM programs for December: 1) ATLAS--two successful launchings, one into orbit (see item of 18 and 24 Dec 58), and three firings of captive test missiles; 2) TITAN--no successful launchings (see item of 20 Dec 58); 3) THOR--three satisfactory launchings (see item of 16 Dec 58) and one failure; 4) JUPITER--a successful 1,302 n.m. flight (see item of 13 Dec 58), and 5) POLARIS--no successful launchings recorded during the period.

(S) "Progress of ICBM and IRBM Programs," 31 Dec 58, in files of Dir of Guided Missiles, R&E, OSD.

2 Jan 59 — The US Ambassador in Paris informed the Secretary of Stat that SACEUR had approached the NATO military representatives of Greece and Turkey with an offer to begin preliminary negotiations aimed at establishing a THOR IRBM squadron in each of those countries (see item of 10 Nov 58).
(TS) Msg, Paris to SecState, 2417, 2 Jan 59, JCS Msg Ctr.

3 Jan 59 — The USSR announced that it had successfully fired a "cosmic rocket" toward the moon. Moscow radio reported that the 3,000 pound rocket was traveling at seven miles a second, or fast enough to escape the earth's gravitational pull. A US scientist estimated the power of the new Soviet rocket as between 450,000 and 500,000 pounds of thrust; this compared with the 400,000-pound thrust that sent an ATLAS into orbit on 18 December 1958. Lunik as the Russians named the moon probe, traveled 373,125 miles before its transmitters went dead. The previous record for space shots was the 71,300 miles reached by PIONEER I on 11 October 1958. It was expected that Lunik would become the first artificial planet in the solar system and orbit around the sun indefinitely. The moon shot coincided with Deputy Premier Mikoyan's arrival in the US.
NYT, 3 Jan 59, 1, 4, 5; 4 Jan, IV, 1; 6 Jan, 1, 4.

7 Jan 59 — The Navy announced that its RAT anti-submarine missile project, which was still in the development stage, had been dropped.
NYT, 8 Jan 59, 6.

8 Jan 59 — In a memorandum to the Secretary of Defense, the JCS expressed concurrence in CINCPAC's recommendation to delete 48 120 mm AAA guns from the Republic of Korea Army (ROKA) Military Assistance Program and to substitute one NIKE and one HAWK battalion in the FY 1960 force objectives for ROKA.
(S) JCSM-7-59 to SecDef, "Inclusion of One NIKE Battalion and One HAWK Battalion in FY 1960 Force Objectives for Korea (S)," 8 Jan 59, derived from JCS 2099/849, JMF 9144/4060 (1959).

9 Jan 59 — The Deputy Under Secretary of State instructed the US Ambassador in Paris to ask SACEUR to postpone discussions with Greece and Turkey pending resolution of certain financial, technical, and political questions. It was noted that DOD did not consider these problems to be serious.
(TS) Msg, SecState to Paris, 2407, 9 Jan 59, JCS Msg Ctr.

10 Jan 59 — Under the terms of an agreement signed between NASA and DOD, the actions to be taken in 1959 on global tracking, data acquistion, communications, and data centers for space flight were delineated. NASA's requirements in these fields were primarily for research and development flights; DOD requirements were primarily for research, operational flights, and intelligence support.
(U) Agreement between NASA and DOD, ". . . On Global Tracking /etc/ . . . for Space Flight," 10 Jan 59, reproduced in (U) US Cong, Sen, "Investigation of Governmental Organization for Space Activities," Hearings before

the Subcommittee on Governmental Organization for Space Activities of the Committee on Aeronautical and Space Sciences, 86th Cong, 1st sess (Washington, 1959), p. 25.

10 Jan 59 — The House Select Committee on Astronautics and Space Exploration, in its final report to Congress, said the US faced national extinction unless it undertook to surpass the Soviet Union in the race into space. The Committee criticized the budget approach to the space program and favored increased expenditure, although it did not suggest a figure.
NYT, 11 Jan 59, 1.

16 Jan 59 — In reply to CINCAL's request that an IRBM squadron be deployed to Alaska, the JCS informed CINCAL that production had been authorized for 8 IRBM squadrons, all of which were already committed for deployment elsewhere. Because of the possibility of further NATO requirements and severe funding problems, a decision on the request would be delayed.
(TS) Msg, JCS to CINCAL, 953600, 16 Jan 59, derived from JCS 2277/57, 16 Jan 59, both in JMF 4720 (16 Jan 59).

19 Jan 59 — In a memorandum to the Secretary of Defense the JCS stated that they considered the proposed $40,945 million defense budget for FY 1960 "adequate to provide for the essential programs necessary for the defense of the nation for the period under consideration." However, it was indicated that each Service Chief had reservations with respect to the funding of his own programs. (see item of 29 Jan 59.)
(U) Memo, JCS to SecDef, 19 Jan 59, "JCS Position on the FY 1960 Budget," reproduced in US Cong, Sen, "Missile and Space Activities," Joint Hearings before the Preparedness Investigating Subcommittee of the Committee of Armed Services and the Committee on Aeronautics and Space Sciences, 86th Cong, 1st sess (Washington, 1959), p. 21.

19 Jan 59 — The President's budget message to Congress called for $40,945 million for defense expenditures for FY 1960, with emphasis on long-range nuclear weapons as opposed to a limited warfare capability. The President pointed out, as an indication of this defense realignment, that while the estimated total expenditures of the DOD were to increase by $145 million from 1959 to 1960, that portion of the total to be spent on missile research, development, testing, evaluation, and procurement would increase by more than $800 million.
The President also revealed that the ATLAS would be in combat position by 30 June 1959, and that since sufficient progress had been made to eliminate marginal missile programs, PERSHING and SERGEANT solid-fuel missiles would replace the liquid fueled REDSTONE and CORPORAL.
NYT, 20 Jan 59, 1, 17; Dept of State Bulletin, vol XL (9 Feb 59), p. 198.

20 Jan 59 — The Director of the Weapons Systems Evaluation Group (WSEG), in a memorandum to the Chairman, JCS, stated that he expected certain members of the President's Scientific

Advisory Committee to advocate scheduling more missile squadrons, and accordingly anticipated a possible proposal for programming the establishment of bases before a decision was reached on whether these additional squadrons were to be ATLAS or TITAN; in the opinion of the Director, such measures would not be practical. Instead, he felt, the prime objective should be to insure that the Ballistic Missile Early Warning Systems were completed on schedule, for this would minimize the importance of the "gap" insofar as the posture of the Strategic Air Command (SAC) was concerned, and thus, with the presently scheduled ICBM programs, plus the IRBM's and the POLARIS submarines--all backed up by a quick-reacting SAC--the "situation should be quite healthy."

(S) Memo, Dir WSEG to CJCS, no subj, 20 Jan 59, CJCS 471.94 (1959).

20 Jan 59 — In a memorandum for the Secretary of Defense, the Secretaries of the Navy and Air Force reported that they had resolved their differences regarding joint Service use of Air Space Warning Area W-174. In the light of this agreement, the Services recommended that the Secretary of Defense rescind any action he might have taken to suspend construction on the Eglin Gulf Test Range operations. Any further problems concerning Air Space Warning Areas, the Secretaries of the Navy and Air Force agreed, would be resolved at the Service level.

(S) Memo, SecNav and SecAF to SecDef, 20 Jan 59, "Use of Space Warning Area W-174 (U)," Encl to JCS 222/134, 13 Feb 59, JMF 4961 (Permanent).

21 Jan 59 — In response to a request for information by the Senate Armed Forces Committee, the Military Assistant to the Chairman, JCS submitted a memorandum to Senator Symington regarding projected US schedules for operational ICBM's as compared to those of the USSR (revised at the Senator's request from the original version which had been returned the previous day). According to the data and estimates furnished, 78 ATLAS missiles were programmed to be in launching position and ready to fire by April 1962, plus an additional 9 reloads and 7 undergoing operational maintenance; 45 TITAN missiles were programmed to be in launching position and ready to fire by July 1962, plus an additional 5 undergoing operational maintenance. TITAN missiles would be radio-inertial-guidance controlled, as would also be most of the ATLAS missiles until January 1961, but after that date all subsequent ATLAS missiles would be under all-inertial guidance control. In contrast to the planned US ICBM program, the USSR was expected to have an estimated total operational capability of 10 prototype ICBM's in 1959, 100 in 1960 or in the first half of 1961, and 500 in 1962 or possibly as early as 1961.

(TS) Memo, Mil Asst/CJCS to Sen Symington, "Intercontinental Ballistic Missiles," 21 Jan 59; Memo, Mil Asst/CJCS to Sen Symington, same subj, 20 Jan 59, both in CJCS 471.94 (1959).

22 Jan 59 The Secretary of Defense stated to newsmen that reports of USSR combat superiority in ICBM's were not true. According to him, there was no positive evidence that the Soviets had an ICBM in a state of combat readiness, nor were they expected to have one before the ATLAS was ready by 30 June 1959; moreover, estimates that the USSR would have 300 ICBM's by 1960, he felt, were exaggerated. Admitting that the Soviets excelled in the field of rocket propulsion, he revealed that the US had engines of sufficient thrust to propel a large warhead to any desired point.

The Secretary also announced the following deletions in the weapons system development program for FY 1960; 1) the NAVY REGULUS II; 2) the Army REDSTONE; and 3) the Air Force GOOSE decoy missile.

NYT, 23 Jan 59, 1; AP, 22 Jan 59.

26 Jan 59 In a written statement prepared for the House Subcommittee on Appropriations, the Secretary of Defense declared that US national security would be better served by placing reliance on a diversified system of retaliatory weapons, rather than on one or two systems as the USSR had apparently done. In judging the relative military strength of the US and the USSR, the Secretary said that the entire spectrum of strategic weapons available to both countries had to be considered, not just the ICBM.

(U) US Cong, House, "Department of Defense Appropriation for 1960," Hearings before the Subcommittee of the Committee on Appropriations, Part I, 86th Cong, 1st sess (Washington, 1959) pp. 54-55.

27 Jan 59 In hearings before the House Subcommittee on Appropriations, the Secretary of Defense testified that the present plan was to have 12 POLARIS-equipped submarines delivered by 1963. They were to become operational at the rate of three each year from 1960 to 1963.

(U) US Cong, House, "Department of Defense Appropriation for 1960," Hearings before the Subcommittee of the Committee on Appropriations, Part I, 86th Cong, 1st sess (Washington, 1959) p. 141.

27 Jan 59 In his 7-hour speech at the opening of the Twenty-First Congress of the Soviet Communist Party, Premier Khrushchev proclaimed that the Soviet successes in space rocketry had shifted the balance of world power to the Socialist camp. He announced that the USSR had begun serial production of ICBM's.

NYT, 28 Jan 59, 1.

31 Jan 59 The Chairman, JCS, in a statement to newsmen, dismissed Soviet claims of having begun serial production of ICBM's as meaningless, inasmuch as they did not yet have an ICBM that was operational. Such claims, he implied, merely referred to the common practice of employing serial numbers as a means of identifying individual missile units, which the US also did despite the fact that it too had no operational ICBM.

AP, 28 Jan 59.

28 Jan 59 The Douglas Aircraft Company announced that the THOR IRBM was being turned out on a production basis and shipped to US forces and to the United Kingdom.
NYT, 29 Jan 59, 6.

29 Jan 59 ✓ The CSA, appearing before the House Subcommittee on Appropriations, testified that the NIKE-ZEUS was the "only weapon that can give us a defensive capability against the incoming missile. . . ."
(U) US Cong, House, "Department of Defense Appropriation for 1960," Hearings before the Subcommittee of the Committee on Appropriations, Part I, 86th Cong, 1st sess (Washington, 1959) p. 324, 325.

29 Jan 59 In testimony before the Senate Preparedness Investigating Subcommittee, the Secretary of Defense stated that: 1) although the Soviets were not ahead of the US in missiles, they might, in view of their capabilities, soon catch up; 2) the US did not intend to match the USSR missile for missile, but to maintain instead an over-all superiority in striking power through a diversified arsenal of ICBM's shorter-range missiles, and, for a year or two, heavy bombers; 3) the first POLARIS submarine, with reduced-range missiles, was expected to be fully operational in late 1960; 4) the US was making progress in constructing a ballistic missiles warning system; and 5) the President, the JCS, and he believed that the proposed FY 1960 budget "was adequate to provide for the essential programs necessary for the defense of the Nation for the period under consideration."
(U) US Cong, Sen, "Missile and Space Activities," Joint Hearings before the Preparedness Investigating Subcommittee of the Committee on Armed Services and the Committee on Aeronautical and Space Sciences, 86th Cong, 1st sess (Washington, 1959), pp. 5-6, 19, 30, 41-42, 46.

29 Jan 59 In response to a request by the Chairman of the Senate Preparedness Investigating Subcommittee, each Service Chief submitted a statement of the reservations he held regarding the funding of his respective programs in the proposed FY 1960 Defense budget. The CSA and CNO in particular emphasized their Services' missile programs.
The CSA noted that no funds were provided to initiate production of the NIKE-ZEUS. Since this weapon provided the only defense against ICBM's, its importance, he believed, outweighed the risk of financial loss caused by premature production. He also pointed out that the funds for the Army's surface-to-air missile programs fell short of the goals established by the JCS.
The CNO presented his reservations with regard to the adequacy of the Navy's budget, which he felt would not allow for proper development of the Fleet Ballistic Missile weapon system and other guided missile programs. (See item for 19 Jan 59.)
(U) Written Statements, CNO et al, to Chmn, Senate Preparedness Investigating Subcommittee, 29 Jan 59, Reproduced in US Cong, Sen, "Missile and Space Activities, Joint Hearings before the Preparedness Investigating Subcommittee of the Committee on Armed Services and the Committee on Aeronautics and Space Sciences, 86th Cong, 1st sess (Washington, 1959) pp. 21-24.

30 Jan 59 In testimony before the Senate Preparedness Investigating Subcommittee, officials of ABMA and NASA credited the 12-to-20 month Soviet lead in space technology to superiority in missile propulsion; Dr. von Braun of ABMA estimated the thrust of the Soviet moon rocket at 700,000 pounds, twice that of the ATLAS. It was also pointed out that the high accuracy achieved in the moon shot demonstrated the USSR's capability of pinpointing a target in the US with an ICBM.

(U) US Cong, Sen, "Missile and Space Activities," Joint Hearings before the Preparedness Investigating Subcommittee of the Committee on Armed Services and the Committee on Aeronautical and Space Sciences, 86th Cong, 1st sess (Washington, 1959) p. 157.

31 Jan 59 The Director of Guided Missiles, OSD reported the following progress in the missile program during January: 1) ATLAS--two launchings, one a successful 4,263 n.m. firing but with a malfunctioning re-entry vehicle, the other a failure; 2) TITAN--no launchings reported for the period; 3) JUPITER--a successful launching with a 3.2 n.m. CEP; 4) THOR--two launching failures; and 5) POLARIS--one unsuccessful firing and two successful underwater launching tests with cruiser induced waves.

(S) "Progress of ICBM and IRBM Programs," 31 Jan 59, in files of Dir of Guided Missiles, R&E, OSD.

3 Feb 59 The CSAF, testifying before the House Committee on Science and Astronautics, presented arguments in support of a dominant role in space for the Air Force. He maintained that, since air and space comprise a single continuum with no boundary dividing them into separate operational environments, it was a natural extension of Air Force functions, in line with technological developments, to assume responsibility for this "aerospace." Modern military power, in his opinion, was measured in terms of aerospace power, and dominance in this area was the means of national survival.

(U) US Cong, House, "Missile Development and Space Sciences," Hearings before the Committee on Science and Astronautics, 86th Cong, 1st sess (Washington, 1959), pp. 74, 75.

4 Feb 59 Testifying before the House Subcommittee on Appropriations, the CNO stated that although missiles were replacing conventional weapons in many major combat systems, conventional weapons would not be outmoded for purposes of limited warfare during the forseeable future. Phasing in the mew weapons at the proper rate and in the proper proportion without prematurely retiring the older ones had become a major concern of the Department of Defense, he said.

(U) US Cong, House, "Department of Defense Appropriation for 1960," Hearings before the Subcommittee of the Committee on Appropriations, Part I, 86th Cong, 1st sess (Washington, 1959) pp. 481, 484, 487.

5 Feb 59 The Secretary of the Army stated, in response to a question by a member of the House Committee on Science and Astronautics, that the Army's activities in the space field, far from interfering with its missile programs, was "augmenting, supplementing, and assisting our work in connection with missiles."

(U) US Cong, House, "Missile Development and Space Sciences," Hearings before the Committee on Science and Astronautics, 86th Cong, 1st sess (Washington, 1959) p. 209.

6 Feb 59 After two previous attempts had failed, the Air Force fired its first TITAN ICBM from Cape Canaveral. The 300-mile test of the TITAN, a ninety-foot, 110-ton missile with an estimated range of 9,000 miles, was called highly successful. Its first-stage engine generated 300,000 pounds of thrust for the test.

NYT, 7 Feb 59, 1.

[illegible] Feb 59 The Air Force announced the successful firing of its long-range tactical missile MACE, a second generation MATADOR. Continued improvements were being made to boost the surface-to-surface missile into supersonic speeds.

NYT, 7 Feb 59, 7.

[illegible] Feb 59 The Assistant Chief of Naval Research and Development, in a press conference, warned that although the POLARIS IRBM would be operational by late 1960, the USSR had taken the lead in the submarine-launched missile field.

AP, 9 Feb 59.

10 Feb 59 The Secretary of Defense, by Department of Defense Directive No. 5129.1, established the Office of Director of Defense Research and Engineering (O Dir Def R&E) and at the same time abolished the position of Assistant Secretary of Defense (Research and Engineering). In addition to assuming the functions of the abolished office, the Director of Defense Research and Engineering was to serve as the principle advisor and staff assistant to the Secretary for science, basic and applied research, design and engineering, and test and evaluation of weapons systems. In this capacity he would supervise all research and engineering activities in the DOD, including the review of all scientific projects and programs, and would, with the approval of the Secretary, designate which facility would undertake research and development of specific weapons and other scientific programs.

(U) DOD Directive No. 5129.1, "Director of Defense Research and Engineering," 10 Feb 59, JMF 5222 (Permanent).

16 Feb 59 Comments of the JCS were requested by the Deputy Secretary of Defense on proposed recommendations to the President for certain changes in the list of ballistic missile and satellite programs having the highest national priority, which had been established by NSC Action No. 1846 (see item for 22 Jan 58). Among the proposed recommendations were deletion of the THOR-JUPITER weapon system and the IGY scientific satellite programs from the highest priority, and inclusion under the category of satellite programs the following specific projects: SENTRY (satellite-borne visual and ferret reconnaissance system), MIDAS (satellite missile early warning), DISCOVERER (satellite guidance and recovery), and MERCURY (manned satellite).

(TS) Memo, Sp Asst/CJCS to Dir Jt Staff, "Priorities for Ballistic Missile and Satellite Programs," Encl to JCS 1620/229, 17 Feb 59, JMF 4700 (16 Feb 59).

17 Feb 59 The Navy's VANGUARD II, a 21 1/2-pound meteorological satellite, was successfully launched into orbit. Equipped to function as a weather observation station, the satellite was the first such station in space. It was expected to have a long life and contribute significantly to the fund of meteorological data.

NYT, 18 Feb 59, 1.

18 Feb 59 Appearing before the House Committee on Science and Astronautics, the Director of ARPA stated that at present there was no need for the military space program to be concerned beyond 600 miles above the earth although in time it would have to concern itself with space beyond this limit.

(U) US Cong, House, "Missile Development and Space Sciences," Hearings before the Committee on Science and Astronautics, 86th Cong, 1st sess (Washington, 1959) p. 39

19 Feb 59 In response to a memorandum from the Director of Guided Missiles, OSD, requesting that the MINUTEMAN program be re-examined in the light of a possible extension in alloted development time, the JCS stated that achieving an early initial operational capability with MINUTEMAN was an important military requirement. Rather than define

any year as the critical year for availability, the JCS view was that MINUTEMAN was required as soon as possible without a crash program.

(TS) JCSM-61-59 to SecDef, 19 Feb 59, "MINUTEMAN Program (U)," derived from JCS 1620/244, 18 Feb 59, JMF 4730 (18 Feb 59).

19 Feb 59 Testifying before the Senate Subcommittee on Aeronautical and Space Sciences, the Administrator of NASA estimated that within 2 years, the civilian space program would require a $1 billion budget, twice the sum requested in the FY 1960 budget.

(U) US Cong, Sen, "NASA Supplemental Authorization for Fiscal Year 1959," Hearings before the NASA Authorization Subcommittee of the Committee on Aeronautical and Space Sciences, 86th Cong, 1st sess (Washington, 1959) pp. 11, 12, 23, 24.

19 Feb 59 After assessing the suitability and effectiveness of BOMARC for employment in Allied Command Europe (ACE), as requested by the Secretary of Defense, the JCS presented their divergent views for resolution.

CSA and CNO both felt that BOMARC was unsuitable for such deployment since: 1) it had no capability against the major threat to ACE--Soviet missiles; 2) its launching sites were vulnerable to missile attack; and 3) it would cause a disporportionate investment of ACE funds.

CSAF believed, on the other hand, that BOMARC (model B rather than the older model)should be released for ACE, arguing that BOMARC was the primary air defense missile against the air-breathing threat, and that it should be accorded a commensurate priority for development, procurement, and production.

(S) JCSM-59-59 to SecDef, 19 Feb 59, "Study on Employment of BOMARC in Allied Command Europe (U)," derived from JCS 1620/227, 19 Feb 59, JMF 9051/4714 (5 Feb 59).

20 Feb 59 The Acting Secretary of Defense in a memorandum to the Secretary of the Army issued a supplementary increment of releases for the NIKE-HERCULES FY 1959 Military Construction Program (see item of 25 Nov 58). He had determined that the NIKE-HERCULES system would be employed for defense of the 6 additional SAC bases listed therein, which with the 13 contained in the first increment made a total of 19 locations. Funds authorized by Sect. 102 of P.L. 85-685 were released to the Secretary of the Army for construction of 2 NIKE-HERCULES battery site sites at any of the 19 locations specified, but with the proviso that construction was to be limited to that number of sites for which FY 1959 Military Construction funds would provide essential operating facilities.

(C) Memo, Actg SecDef to SecA, "NIKE-HERCULES, FY 1959 Military Construction Authorization," 20 Feb 59, extracts reproduced in N/H of JCS 2277/51, 27 Feb 59, CCS 471.6 (5-31-44) sec 25.

20 Feb 59 The Chairman, JCS, commenting on the proposed new charter for ARPA, informed the Secretary of Defense that the JCS felt that ARPA should eventually be phased out of existence. He pointed out the confusing duplication of

functions between ARPA and the Director of Defense Research and Engineering, which would lead to coordinating as well as engineering problems.

(U) CM-304-59 to SecDef, "DOD Draft Charter for ARPA Dated 16 February 1959," 20 Feb 59, circulated as JCS 1620/232, 24 Feb 59, JMF 5224 (1959).

20 Feb 59 — The Acting Secretary of Defense informed the Secretary of the Air Force that, in accordance with Sect. 402 of P.L. 85-685, he had determined that BOMARC launching facilities would be installed, contingent upon favorable findings by the OSD BOMARC IM-99B Evaluation Group, at Truax AFB, Ethan Allen AFB, and Niagara Falls. Accordingly, the Secretary of the Air Force was directed to proceed with essential preliminary arrangements for construction of a BOMARC site with 28 launchers at each of these three locations, but was requested, in view of the contingency, to avoid all commitments which could be deferred until mid-April 1959.

(C) Memo, Actg SecDef to SecAF, "BOMARC FY 1959 Construction Program," 20 Feb 59, extracts reproduced in N/H of JCS 2277/56, 27 Feb 59, CCS 471.6 (5-31-44) sec 26.

28 Feb 59 — ARPA-directed DISCOVERER I was fired from Vandenberg AFB utilizing a THOR missile as first-stage booster, on 1 March the Air Force announced that it achieved orbit. The reconnaissance satellite, weighing 1300 pounds and carrying a payload of 40 pounds of instruments, had been launched into a new north-south orbit from which it would be able to scrutinize the entire surface of the earth.

(S) "Progress of ICBM and IRBM Missile Programs," 28 Feb 59, in files of Dir Guided Missiles, R&E, OSD, NYT, 1 Mar 59, 1; 2 Mar 59, 1.

28 Feb 59 — Progress of the ICBM and IRBM programs during February was reported to the Secretary of Defense by the Director of Guided Missiles, OSD as follows: 1) ATLAS--a successful firing of 3,122 n.m. range missile and an unsuccessful launching, the first attempted without flight readiness firing; 2) TITAN--two successful firings (see item of 6 Feb 59); 3) THOR--satisfactorily used as the first stage booster for DISCOVERER I (see item of 28 Feb 59); 4) JUPITER--one successful launching and 5) POLARIS--one unsuccessful firing and five successful launchings with POP-UP underwater launcher.

The Director also reported that, since intergovernmental agreements regarding deployment of JUPITER had not yet been reached, initial deployment was not contemplated until October 1959; problems of storage, transportation, training, and morale thus would be compounded.

(S) "Progress of ICBM and IRBM Programs," 28 Feb 59, in files of Dir of Guided Missiles, R&E, OSD.

2 Mar 59 The Secretary of Defense, testifying before the House Committee on Science and Aeronautics, defended the Administration's decision to reject the Army's request for a $730 million appropriation for production of the NIKE-ZEUS anti-missile missile. The decision had been based on technological not budgetary considerations, he said, inasmuch as the best available scientific advice, including that of the President's Science Advisory Committee, had counseled that the missile was not ready for production. Top national priority, however, had been placed on NIKE-ZEUS development.

NYT, 3 Mar 59, 2.

2 Mar 59 The Chief of the Army Ordance Missile Command testified to a Congressional Committee investigating the missile program that he was not getting the cooperation of the Air Force regarding exchange of information on missile development. While he never had any problems with the Navy, it was "very difficult to come by information" from the Air Force, he said, adding that "Official requests for documents were rather repeatedly denied."

(U) US Cong, House, 'Organization and Management of Missile Programs," Hearings before a Subcommittee of the Committee on Government Operations, 86th Cong, 1st sess (Washington, 1959) pp. 285, 287, 288.

3 Mar 59 The Army made the fourth US attempt to shoot a rocket past the moon and into orbit around the sun, which proved to be the first successful US try. The 13.4-pound payload, called PIONEER IV, veered slightly off its intended course and did not reach the hoped-for velocity of 24,890 mph, but did attain enough speed to enable it to escape the earth's gravitational pull. It passed within 37,000 miles of the moon 41 hours after launching and headed into space to join the Soviet's "Mechta" (Lunik) in an independent solar orbit. The payload continued to send signals back to earth until it had travelled 400,000 miles into space, a new record in space communications.

The rocket that launched the twenty-inch, gold-plated payload was the JUNO II, a four-stage rocket built around the JUPITER IRBM.

NYT, 3 Mar 59, 1; 4 Mar, 1; 5 Mar, 1; 7 Mar, 1.

4 Mar 59 In response to a request from CINCNORAD for estimates of the number of US objects in space as of 1 July 1960 and 1 July 1963, the JCS, utilizing ARPA figures, estimated that the US would have 50 space objects in 1960 and 180 in 1963. Approximately one-fifth of the 1960 total and one-tenth of the 1963 total would be deep space probes and would not be located in the general vicinity of the earth. A total of 100 US launchings was expected by 1960 and 350 launchings by 1963. The JCS cautioned, however, that because of the variables of funding and research, these totals must be considered as very broad estimates only.

(S) CINCNORAD to JCS, 9 Feb 59, CAF IN 91485 (10 Feb 59); Ltr, Director, ARPA to Dir Jt Staff, 2 Mar 59; Msg, JCS to CINCNORAD, 4 Mar 59, all in JMF 4960 (Permanent).

5 Mar 59 Implementing the instructions of the National Security Council, the JCS requested the Director, Weapons Systems Eva luation Group to prepare a second annual review of WSEG Report No. 23 regarding the relative military advantages of missiles and manned aircraft.

(TS) SM-256-59 to Dir WSEG, "Second Annual Review of WSEG Report No. 23 (U)," 5 Mar 59, JMF 4700 (5 Mar 59).

6 Mar 59 In a memorandum to the JCS, CINCSAC recommended establishment of an airborne alert as the indicated course to insure adequate survival of the strategic retaliatory force during the period of continuing disparity between Soviet ICBM capability and US early warning capability.

(S) Memo, CINCSAC to JCS, 6 Mar 59, "Establishment of Airborne Alert," Encl to JCS 1899/446, 9 Mar 59, JMF 3340 (29 Apr 59).

11 Mar 59 Appearing before the Senate Preparedness Investigating Subcommittee of the Committee on Armed Forces, the CSA stated that the NIKE-ZEUS weapon was the only "active" anti-ICBM the US possessed. Since the Army's recommendation that certain essential components of the system be put into production during 1960 had not been concurred in, he believed that the availability of the NIKE-ZEUS would be held back at least a year, and in the meantime the Soviets would have numerous ballistic missiles.

(U) US Cong, Sen, "Major Defense Matters," Hearings before the Preparedness Investigating Subcommittee of the Committee on Armed Services, Part I, 86th Cong, 1st sess (Washington, 1959) pp. 53-54, 55.

12 Mar 59 Testifying before the Senate Preparedness Investigating Subcommittee, the CSAF expressed concern over the downgrading of the manned bomber force and cautioned against staking the existence of the US on present-day missiles. He questioned the value of increasing the production of first generation liquid-fueled ballistic missiles; instead, he believed, the US should begin intensified production only after the second generation missiles achieved operational status.

Admitting that the US had no defense against the ICBM, the CSAF hoped that the NIKE-ZEUS, which in his opinion was not yet ready for production, would provide such a defense when operational. He urged that the anti-missile missile program be assigned the highest priority.

(U) US Cong, Sen, "Major Defense Matters," Hearings before the Preparedness Investigating Subcommittee of the Committee on Armed Services, Part I, 86th Cong, 1st sess (Washington, 1959) p. 92.

13 Mar 59 The Federal Council for Science and Technology was established by Executive Order 10807 to promote coordination and improve planning and management of federal programs in science and technology. Creation of such a Council had been recommended to the President by his Science Advisory Committee. Dr. James Killian, the President's special science advisor, was appointed chairman of the new Council.

NYT, 14 Mar 59, 3.

13 Mar 59 The CNO, in testimony before the Senate Preparedness Investigating Subcommittee, expressed the view that the NIKE-ZEUS should not go into production because the system was not far enough along at the present time, although the research stage, he believed, should continue at a high rate.

(U) US Cong, Sen, "Major Defense Matters," Hearings before the Preparedness Investigating Subcommittee of the Committee on Armed Services, Part I, 86th Cong, 1st sess (Washington, 1959) p. 160.

17 Mar 59 The Secretary of Defense issued Department of Defense Directive No. 5105.15 containing a revised charter for ARPA. The provisions of the new charter were substantially the same as the original charter of 7 February 1958, except that ARPA was designated explicitly as an operating research and development agency of the Department of Defense, and its projects were to be subject to the supervision and coordination of the Director of Defense Research and Engineering.

(U) DOD Directive No. 5105.15, "Department of Defense Advanced Research Projects Agency," 17 Mar 59, JMF 5224 (Permanent).

19 Mar 59 In the Armed Forces Policy Council Advice of Action that announced the approval by the Secretary of Defense of the revised charter for ARPA, the Deputy Secretary of Defense stated that, in regard to questions raised by the Chairman, JCS (see item of 20 Feb 59), there were no inconsistencies in the charter concerning the relationship of ARPA and the Director of Defense Research and Engineering.

(U) Armed Forces Policy Council, Advice of Action, "Revised Charter for the Advanced Research Projects Agency (DOD Directive 5105.15)," 19 Mar 59, circulated as JCS 1620/240, 24 Mar 59, JMF 5224 (1959).

19 Mar 59 The New York Times disclosed that a series of nuclear detonations by the US had taken place 300 miles above the earth in September 1958 and had gone undetected by other nations. The explosions, part of Project ARGUS produced new knowledge of the earth's magnetic field and the behavior of radiation in the upper atmosphere and in space.

Following the disclosure, the Deputy Secretary of Defense defended the secrecy that had enveloped the tests, telling newsmen that the military significance of ARGUS, was substantial. He announced that the tests would have no effect on the development of the NIKE-ZEUS anti-missile missile, thus casting doubt on the theory of "unbrella" defense against missiles--the use of a radiation belt to detonate incoming missiles.

NYT, 19 Mar 59, 1; 20 Mar, 1, 10.

24 Mar 59 Testifying before the Subcommittee on Governmental Organization for Space Activities, the Administrator of NASA submitted a list of 49 management committees established to coordinate space activities: committees operating under the authority of the NASA Act of 1958 on which military personnel served totaled 16; military

and joint committees on which NASA staff members served, 23; and military working groups on which NASA staff members served, 10.

(U) US Cong, Sen, "Investigation of Governmental Organization for Space Activities," Hearings before the Subcommittee on Governmental Organization for Space Activities of the Committee on Aeronautical and Space Sciences, 86th Cong, 1st sess (Washington, 1959) pp. 28-29.

26 Mar 59 The Director of ARPA testified before the Senate Subcommittee on Governmental Operations that in his opinion the over-all space program fell into two separate programs: 1) the space exploration and space science program directed by NASA and 2) the research and development program for military use of space directed by ARPA. To pursue the two as one program would be a "tragic mistake," he believed.

The Director also declared that ARPA, in his view, was organizationally independent of the Director of Defense Research and Engineering and the JCS, both of whom were the Secretary of Defense's principle advisors, but had no direct authority over ARPA.

(U) US Cong, Sen, "Investigation of Governmental Organization for Space Activities," Hearings before the Subcommittee on Governmental Organization for Space Activities of the Committee on Aeronautical and Space Sciences, 86th Cong, 1st sess (Washington, 1959) pp. 111, 115, 116, 117, 137, 144, 160, 175.

30 Mar 59 The Assistant Secretary of Defense (ISA) informed the JCS that he had concurred for DOD in the recommendations contained in the Operations Coordinating Board's "Report on a Proposed Cooperative Scientific Satellite Launching Project," dated 1 October 1958, wherein the US would provide assistance to the United Kingdom and other Free-World countries in launching satellites. The Director, ARPA was to be responsible for the coordinated implemantation by all elements of the DOD in cooperating with allies in the proposed space programs.

(S) Memo, Asst SecDef (ISA) to SecA et al., 30 Mar 59, "Report on a Proposed Cooperative Scientific Satellite Launching Project," Encl to JCS 2283/25, 7 Apr 59, JMF 4960 (30 Mar 59).

31 Mar 59 The Director of Guided Missiles, OSD, reported the following developments in the progress of the missile program: 1) one unsuccessful firing of the ATLAS; 2) a postponement of the TITAN firing until April; and 3) three successful firings of THOR, one serving as first stage of a re-entry test; (no JUPITER or POLARIS tests were scheduled in March).

He also reported that the first launch position of THOR had been turned over to the RAF's 77th Strategic Missile Squadron.

(S) "Progress of ICBM and IRBM Programs," 31 Mar 59, in files of Dir of Guided Missiles, R&E, OSD.

3 Apr 59 - A BOLD ORION air-to-ground missile capable of a 1000-mile range was tested at Cape Canaveral. An experimental model was launched from beneath the wing of a B-47 jet bomber.
NYT, 4 Apr 59, 20.

4 Apr 59 The Turkish representative to the NATO Military Committee in Permanent Session conveyed to the Chairman, JCS, the Turkish Foreign Minister's concern over the lack of progress in the deployment of IRBM's to Turkey. The Chairman had given reassurances that there had been no change in US intentions and explained that the delay was caused by administrative problems of arranging for the financing of the program. In reporting this conversation on 6 April 1959 to the Secretary of Defense, the Chairman, JCS, urged the Secretary of Defense to press the State Department for concurrence to proceed with the exexution of the IRBM program for Turkey.
(TS) CM-324-59 to SecDef, "IRBM's for Turkey," 6 Apr 59, extracts reproduced in N/H of JCS 2277/48, 4 Jun 59, CCS 471.6 (5-31-44) sec 24.

6 Apr 59 In response to a request by the Deputy Secretary of Defense, the Ad Hoc Panel for the Evaluation of BOMARC IM-99B submitted a final report recommending that "a limited, though vigorously expedited IM-99B program be pursued at this time. . ." Also included among the Panel's recommendations were: 1) a mixed system of currently available manned interceptors and BOMARC, HERCULES, and HAWK missiles; 2) BOMARC deployment well up into Canada; 3) reconstitution of NORAD in order to centralize authority and responsibility for the management of all air-defense weapons with respect to development, planning, selection, deployment, and operations; and 4) a long-range study of the financial aspects of continental air defense.
(S) Rpt, Ad Hoc Panel to OSD, 6 Apr 59, "Evaluation of BOMARC IM-99B," Encl to JCS 1620/253, 30 Apr 59, JMF 4714 (1959).

6 Apr 59 Seven "MERCURY astronauts," the men who would be trained for the first flight by man in space, were chosen by NASA. All of the astronauts had at least 1500 hours flying time, a degree in engineering or the physical sciences, and extraordinary physical and mental ability to withstand the rigors of space flight. They were to participate in the technical development of the satellite in order to have an intimate knowledge of the capsule once in space.
NYT, 7 Apr 59, 1.

8 Apr 59 The Secretary of Defense announced that William M. Holaday would serve as his Special Assistant for the Guided Missile Program. Mr. Holaday would direct the program's transitional activities from the research, engineering, and testing phases into the production and procurement stages.
(U) Memo, SecDef to CJCS et al., 8 Apr 59, "Special Assistant to Sec Def for Guided Missiles," JMF 5200 Permanent.

13 Apr 59 — Project VANGUARD failed for the seventh time in nine tries to launch a satellite, this one with a dual payload.

NYT, 14 Apr 59, 1.

13 Apr 59 — DISCOVERER II, utilizing a modified THOR missile as first stage booster, was successfully launched into a polar orbit from Vandenberg AFB. Another in ARPA's series of reconnaissance satellites, DISCOVERER II had a total payload of 440 pounds, including a 195 pound re-entry vehicle, the object of the first attempt to recover a satellite from outer space. The re-entry capsule, which was directed back toward the atmosphere by a retro-rocket and then parachuted to earth, was to be recovered by airplane while still in its descent.

On 14 April the attempt to recover the satellite was abandoned.

(S) "Progress of ICBM and IRBM Missile Programs," 31 Apr 59, in files of Dir of Guided Missiles, R&E, OSD, NYT, 14 Apr 59, 1; 15 Apr 59, 1.

14 Apr 59 — Testifying before the Senate Subcommittee on Governmental Organization for Space Activities, the Chief of Army Research and Development defended the Army's role in the space field because of the Army's primary combat function and assigned air-defense mission. Arguing that the new space medium transcended the traditional division into land, sea, and air and thus was not the exclusive province of any one Service, he stated that he foresaw the establishment in the near future of a unified space command under the JCS that would inherit the operational vehicles and satellites being developed under ARPA at the present time.

(U) US Cong, Sen., "Investigation of Governmental Organization for Space Activities," Hearings before the Subcommittee on Governmental Organization for Space Activities of the Committee on Aeronautics and Space Sciences, 86th Cong, 1st sess. (Washington, 1959) pp. 227, 230, 236, 237.

15 Apr 59 — The Director of Defense Research and Engineering, OSD, in a report on the Anti-Ballistic Missile Weapon System program, reported substantial progress both in the Ballistic Missile Early Warning System program and the NIKE-ZEUS missile system program during the period. Schedules generally were being maintained in construction research and development, and the provision of testing facilities. Also, successful detection, tracking, and measurement of ballistic missile firings had been conducted.

(S) Rpt, Dir Def R&E to SecDef, "Progress Report on Anti-Ballistic Missile Weapon System Program - Report No. 5," 15 Apr 59, attachment to (S) Ltr, Actg SecDef to Pres, same subj, 22 May 59, JMF 4700 (15 Apr 59).

16 Apr 59 — At the request of the Secretary of Defense, the JCS forwarded their views regarding NATO-produced second generation IRBMs. They stated that: 1) there was a current military requirement for IRBMs for NATO and their deployment in that area would be advantageous, although changing political factors and the increasing

availability of ICBMs and FBMs might affect this requirement, 2) in the event IRBMs were to be produced by NATO member countries, adherence to US weapon design should not be established as a precondition for US support, but it should be pointed out to NATO producers that greater US technological assistance and earlier operational capability would be possible if their designs approximate US missile designs, particularly in warhead specifications; and 3) US support should be limited to technical assistance, with priority going to nations adhering to US missile specifications.

US control of warheads for these missiles should not be relaxed, the Chairman emphasized, since as long as the US remained sole supplier it could exercise absolute control over their use.

(TS) JCSM 143-59 to SecDef, "Second Generation IRBM for NATO Europe (S)," 16 Apr 59, derived from JCS 2073/1753, 16 Apr 59, JMF 9050/4720 (13 Jan 59).

17 Apr 59 — The JCS, unable to agree upon an Air Force request for priority for an advanced air-to-surface missile, presented divergent views to the Secretary of Defense. The CSA and CNO questioned the need for the new missile, while the CSAF, supported by the Chairman, JCS, recommended development through the prototype testing stage. Both opinions were based upon an interim report previously submitted to the JCS by the Weapons Systems Evaluation Group. The JCS, in agreement on one point, recommended to the Secretary of Defense that the Air Force continue the research and development stage, but that any approval beyond that point be based upon further evaluation by JCS.

(S) JCSM-145-59 to SecDef, "Advanced Air-to-Surface Missile," 17 Apr 59, derived from JCS 2012/152, 17 Apr 59, JMF 4711 (1959).

17 Apr 59 — In a written statement submitted to the House Subcommittee of the Committee on Government Operations, the Director of the Air Research and Development Command defended the Air Force against the Army's charge of non-cooperation in the missile field (see item of 2 Mar 59). He cited examples of Army-Air Force exchange of information to prove that cooperation "has been remarkably good on the part of both services."

(U) US Cong, House, "Organization and Management of Missile Programs," Hearings before a Subcommittee of the Committee on Government Operations, 86th Cong, 1st sess (Washington, 1959) pp. 378-379.

22 Apr 59 — Appearing before the Senate Subcommittee on Governmental Organization for Space Activities, the Under Secretary of the Air Force emphasized the urgency of the man-in-space program, which in his opinion had already been delayed by its transfer, first from the Air Force to ARPA, and then from ARPA to NASA.

(U) US Cong, Sen, "Investigation of Governmental Organization for Space Activities," Hearings before th Subcommittee on Governmental Organization for Space Activities of the Committee on Aeronautics and Space Sciences, 86th Cong, 1st sess (Washington, 1959) pp. 371, 372.

22 Apr 59 In response to a request by the Deputy Secretary of Defense, the Chairman, JCS, recommended a control system to be applicable to any British and French nuclear warheads that might be employed with NATO-built missiles. He called for an extension of the control system utilized by the US for its own warheads: in peacetime--the warheads would remain under the control of the government which produced them, even though earmarked for delivery by a specific NATO-built missile; in wartime--custody and control of all nuclear warheads would be transferred to the NATO command having operational control of the missiles for which the warheads were earmarked. The Chairman believed this practical control method could be made acceptable to Britain and France.

(TS) CM-342-59 to Dep SecDef, "Second Generation IRBMs for NATO Europe (S)," 22 Apr 59, Encl to JCS 2073/1761, 27 Apr 59, JMF 9050/4720 (Permanent).

23 Apr 59 In testimony before the Senate Subcommittee on Governmental Organization for Space Activities, the CG of the Air Force Research and Development Command declared that the military space program was excessively divided and that ARPA should be abolished. He maintained that although over-all programming and policy had been properly defined in the ballistic missile programs, mission responsibility had not been assigned in the space programs; in some cases a particular space program was divided among the Services, with ARPA retaining project direction. The JCS and the Secretary of Defense, in his opinion, had been lax in that they failed to establish missions and allot programs to the Services.

(U) US Cong, Sen, "Investigation of Governmental Organization for Space Activities," Hearings before the Subcommittee on Governmental Organization for Space Activities of the Committee on Aeronautics and Space Sciences, 86th Cong, 1st sess (Washington, 1959) pp. 397-413.

24 Apr 59 An agreement regarding funding and location of IRBM sites having been concluded between the State and Defense Departments, SACEUR was given authorization by the Assistant Secretary of Defense (ISA) to proceed with his proposed formal discussions with Turkish and Greek representatives concerning the deployment of IRBM squadrons.

(S) Msg, DEF XN 958715, Asst SecDef (ISA) to USNMR Paris, 24 Apr 59; (S) Memo, Under SecState to Dep SecDef, 23 Apr 59, JMF 9050/4720 (2 Jan 59).

25 Apr 59 The Chairman, JCS, requested the Deputy Secretary of Defense to recommend to the State Department that an approach be made to the Soviet Union in an effort to recover a DISCOVERER capsule which had landed on the Norwegian island of Spitsbergen, inasmuch as evidence indicated that it had been found by Soviet personnel and was in Soviet custody. The Acting Assistant Secretary of Defense made the requested recommendation by letter to the Assistant Secretary of State on 2 May 1959.

(S) CM-351-59 to Dep SecDef, "Discoverer Capsule," 25 Apr 59; Ltr, Actg Asst SecDef to Asst SecState, no subj, 2 May 59, both in JMF 4700 (25 Apr 59).

28 Apr 59 Senator Symington, in an address to the National Press Club, disputed the claim of the Chairman, JCS, that the US had combat-ready IRBM's in England.

The following day a Pentagon spokesman unofficially admitted that the missile bases in England were not operational but denied any intent to deceive the public. Testimony that the weapons were ready, it was explained, referred only to the delivery of THOR missiles to the United Kingdom the past September; construction of bases and furnishing of crews was a British responsibility. The Secretary of Defense issued a formal confirmation of this position on April 30.

NYT, 29 Apr 59, 1; 30 Apr, 20 1 May 2.

29 Apr 59 Testifying before the Subcommittee on Governmental Organization for Space Activities, the Chairman of the Civilian-Military Liaison Committee (CMLC) stated that his committee was not, in his opinion, "contributing much to the space effort." The Secretary of Defense, the Administrator of NASA, and he were attempting, however, to devise more useful functions for his group.

(U) US Cong, Sen, "Investigation of Governmental Organization for Space Activities," Hearings before the Subcommittee on Government Organization for Space Activities of the Committee on Aeronautics and Space Sciences, 86th Cong, 1st sess (Washington, 1959) pp. 504-505.

29 Apr 59 The Deputy Administrator of NASA, in testimony before the Subcommittee of the House Appropriations Committee, delineated the functions and jurisdication of NASA and ARPA: in his view, ARPA was a management group for the Secretary of Defense and was concerned with the development of military weapons systems and related military space projects, whereas NASA, a civilian agency, was concerned with the development of peaceful uses of space. Testimony of other NASA officials further defined the differences in research functions: ARPA concentrated on applied research for specific military ends, while NASA concentrated on basic scientific research in the whole field of space measurement and the investigation of space environment problems.

Both organizations continued to coordinate their programs, the Deputy Administrator pointed out: NASA, for the present, employed military weapons system rockets as vehicles for its space probes, while ARPA derived much required information from NASA's basic research projects, particularly in the fields of reconnaissance and early warning satellites. However, since it would be necessary to develop new and powerful rocketry to achieve projected US programs in outer space comparable to those of the USSR, the development of these new rocket vehicles was NASA's responsibility, he maintained.

(U) US Cong, House, "NASA Appropriations," Hearings before the Subcommittee of the Committee on Appropriation. 86th Cong, 1st sess (Washington, 1959) pp. 10-12.

30 Apr 59 In response to CINCSAC's recommendation that a SAC airborne alert be established, the JCS stated their approval in principle and authorized CINCSAC to proceed immediately with planning, training, and other measures necessary

to develop such an emergency capability in each B-52 unit. However, authorization for implementing the airborne alert was withheld pending evaluation of the results of HEADSTART II, a series of tests to determine costs and optimum ratio of airborne to ground alert.

(TS) SM-448-59 to CINCSAC, 30 Apr 59, "Establishment of Airborne Alert," derived from JCS 1899/469, 30 Apr 59, JMF 3340 (29 Apr 59).

30 Apr 59 — The JCS, in response to a request from the Deputy Secretary of Defense for their comments, recommended that a proposed memorandum for the President containing recommendations for certain changes in the list of priorities for ballistic missile and satellite programs be revised as follows: 1) inclusion of NIKE-ZEUS and Weapon System 224A (Phase I, Ballistic Missile Early Warning System and Project DEW DROP) as specific projects under the category of anti-ballistic missile defense weapon systems warranting an industrial priority rating of DX; 2) addition of Project TEPEE to the list of anti-ballistic missile defense weapon systems; and 3) inclusion of Project TRANSIT (navigational satellite) and the Communication Satellite as specific projects under the category of satellite programs. The JCS concurred in the remainder of the proposed recommendations.

(TS) JCSM-163-59 to SecDef, "Proposed Memorandum for the President on Priorities for Ballistic Missile and Satellite Programs (C)," 30 Apr 59, derived from JCS 1620/243, 7 Apr 59, both in JMF 4700 (29 Apr 59).

30 Apr 59 — The JCS recommended to the Secretary of Defense that, in view of the lack of a common procedure among the Services and other DOD agencies regarding changes to the list of ballistic missile and satellite programs of highest national priority, a review should be undertaken and appropriate clarifying instructions issued.

(TS) Ibid.

30 Apr 59 — The Director of Guided Missiles reported the following missile developments in his monthly progress report: 1) ATLAS--one unsuccessful firing; 2) TITAN--one successful firing and one cancellation; 3) THOR--three successful firings, plus a successful launching of DISCOVERER II utilizing a THOR as first stage booster (see item of 13 Apr 59); 4) JUPITER--a successful 1,302 n.m. firing; and 5) POLARIS--a successful 427 n.m. launching.

He also reported that DOD approval had been obtained for construction of Fleet Ballistic Missile submarines 7, 8, and 9, subject to the condition that Navy obligations and expenditures would not be increased in FY 1959.

(S) "Progress of ICBM and IRBM Programs," 30 Apr 59, in files of Dir of Guided Missiles, R&E, OSD.

6 May 59 NASA announced the awarding of a contract for development of a 147-ton, three-stage rocket whose chief job would be lunar and planetary investigations. The rocket, called VEGA, was designed to shoot a payload of 2,000 pounds--either a space platform or several men--300 miles into space. The program called for eight such vehicles by the end of 1961. It was indicated that a shot at Venus might be attempted early in 1961.
NYT, 7 May 59, 5.

7 May 59 In testimony before the Subcommittee on Governmental Organization for Space Activities, the Director of Defense Research and Engineering described the function of his office as supervising and coordinating "all research and engineering regardless of what agency [Army, Navy, Air Force, or ARPA] undertakes the task or the nature of the task undertaken."
He stated that in his opinion NASA should not have been created, but that the national space program should have been left in ARPA. However, he did not think it advisable, for the present, to make any changes in the existing arrangement. He felt that ARPA, despite having many of its functions assumed by NASA, nevertheless still had a useful role as the central operating agency for military space activities and should be continued for the time being.
(U) US Cong, Sen, "Investigation of Governmental Organization for Space Activities," Hearings before the Subcommittee on Governmental Organization for Space Activities of the Committee on Aeronautics and Space Sciences, 86th Cong, 1st sess (Washington, 1959) pp. 558-560, 578, 580, 581.

6 May 59 The first meeting of the UN Ad Hoc Committee on Peaceful Uses of Outer Space convened, although the 3 Communist members (USSR, Poland, and Czechoslovakia) boycotted it because of its Western majority, and India and the UAR stayed away on the grounds that the Committee could serve no useful purpose without the participation of both major powers. A US plan calling for establishment of legal and scientific subcommittees was adopted, and on 7 May the US delegate proposed that the practical issue of liability for injury or damage caused by satellites crashing to earth be given first consideration among the legal problems of outer space.
(U) Dept of State Bulletin, vol XL, No. 1042, 15 Jun 59, pp. 883-885, 888, 889; NYT, 7 May 59, 1; 8 May 59, 10.

7 May 59 The Secretary of the Air Force testified before a Senate appropriations subcommittee that at least some of the THOR missiles in the UK were in launching position, ready for use in an emergency.
NYT, 8 May 59, 6.

8 May 59 The Air Force announced that the MACE, a 600 mile-range surface-to-surface missile had been deployed with the Tactical Air Command in West Germany. According to the announcement, the MACE's self-contained navigational system, which provided for a multiplicity of attack routes, and its simplicity of design made it probably the most reliable missile in the military inventory.

Some of the MATADORs being replaced by the MACE were to be delivered to the West German Government for its own defenses.
AP, 8 May 59.

8 May 59 The JCS, in response to a request for comments, presented divergent views to the Secretary of Defense on a Navy proposal to use the POLARIS missile system on surface ships. The CNO supported the plan while the CSA and CSAF opposed it pending further definition of US nuclear retaliatory needs.
(S) JCSM-168-59 to SecDef, "Installation of a POLARIS Battery in Surface Ships (U)," 8 May 59, derived from JCS 1620/256, 8 May 59, JMF 4720 (8 May 59).

8 May 59 In reply to a request for the JCS concept of employment of the POLARIS weapon system and how it should fit into the unified and specified command structure, the divergent views of the JCS were forwarded to the Secretary of Defense.
CSA recommended that, since POLARIS was a new and unproved weapon, it be assigned initially to commanders of unified and specified commands exercising operational command of major naval forces, and later a review should be conducted by the JCS to determine the command structure
The CSAF recommended that a single unified strategic command be created, and that the POLARIS be included in it with all other strategic weapons (i.e., medium and heavy bombers, IRBM's and ICBM's).
The CNO, emphasizing the basic difference in concepts of national strategy, took strong exception to the CSAF's recommendations, and charged that the Air Force concept of a functional strategic command was "militarily undesirable and fiscally extravagant." Pointing out that the POLARIS "was designed as a naval weapon system with a national strategic mission and would operate in the same general sea areas as other naval forces," the CNO recommended that the POLARIS therefore be assigned to unified commanders having command of major naval forces, but with the respective commanders of the latter exercising this command.
(TS) JCSM-171-59 to SecDef, 8 May 59, "Concept of Employment and Command Structure for the POLARIS Weapon System (U)," derived from JCS 1620/257, 8 May 59, JMF 4720 (5 Jan 59).

8 May 59 The National Aeronautics and Space Council (NASC) endorsed and the President approved the following changes, recommended by the Deputy Secretary of Defense, in the National Priority List as recorded in NSC Action No. 1864: 1) delete the IGY scientific satellite (VANGUARD-JUPITER C) programs, and 2) amend the item on "Satellite programs (other than VANGUARD and JUPITER C) determined by the Secretary of Defense to have objectives having key political, scientific, psychological or military import" to read "Space programs determined by the President on the advice of the NASC. . . ."
(S) Memo, SecDef to JCS, 8 May 59, "Top National Priority Program," Encl to JCS 1727/345, 14 May 59; Memo, Dep SecDef to NASC, 26 Mar 59, "Priorities for Satellite Programs," both in JMF 8670 (Permanent).

8 May 59 — In response to CINCNORAD's recommendations that research and development of NIKE-ZEUS be limited to defense against ballistic missile attack and that another guided missile system be developed for defense against air-supported threats, the JCS informed CINCNORAD that the Army had suspended further development on the anti-air version of NIKE-ZEUS in favor of concentrating on its anti-ballistic missile role, and that a critical-component development program had been initiated by the Army for the second generation HAWK.
(S) SM-485-59 to CINCNORAD, 8 May 59, derived from JCS 1620/255, 8 May 59, JMF 4714 (8 May 59).

8 May 59 — Divergent views of the JCS on deployment of NIKE-HERCULES were forwarded to the Secretary of Defense for resolution. CSA and CNO agreed that the requirement for additional NIKE-HERCULES sites was valid. CSAF, however, recommended that, because the NIKE-HERCULES system was assuming a low order of priority in the light of concurrent availability of BOMARC (with its greater coverage and effectiveness), FY 1959 funds already released for NIKE-HERCULES deployments should remain unobligated pending the outcome of a JCS review of over-all NORAD requirements.
(S) JCSM-169-59 to SecDef, 8 May 59, "NIKE-HERCULES Deployment (U)," Encl to JCS 2277/62, 6 May 59, JMF 4714 (29 Apr 59).

12 May 59 — The JCS requested CINCONAD to evaluate the requirement for employing a high-yield warhead with the IM-99B (BOMARC) in the light of the problem that its employment would entail, as described in the accompanying Weapon System Evaluation Report No. 38. CINCONAD was to advise JCS of his requirement for such a warhead, and, if appropriate, of his plans for employing this weapon in coordination with other friendly surface and air defenses and with the civilian agencies affected.
(S-RD) SM-458-59 to CINCONAD, "Employment of High-Yield Weapons in Air Defense (U)," 12 May 59, derived from JCS 2012/151, 6 Apr 59, JMF 4700 (1 May 59).

12 May 59 — The JCS requested CINCNORAD to organize a site-by-site survey of NIKE-HERCULES installations and to determine, after due consideration of the tactical, operational, and technical factors, which of the NIKE-HERCULES batteries were to be converted by installation of Army-developed improvements (new high-power acquisition radar (HIPAR) new target-ranging radar, and modifications in the existing target-tracking radar).
(S) SM-495-59 to CINCNORAD, 12 May 59, "Requirement for Improved HERCULES (U)," derived from JCS 1620/249, 12 May 59, JMF 4714 (4 Mar 59).

13 May 59 — The National Security Council noted that the President had established the following programs as having the "highest priority above all others for research and development": the ATLAS, TITAN, THOR-JUPITER, and POLARIS weapon systems; the Anti-missile Missile Defensive weapon system; and space programs to be determined by the President on the advice of the National Aeronautics and Space Council. Among the programs in this final category the President had designated the SENTRY (satellite-borne visual and ferret reconnaissance system), the DISCOVERER (satellite guidance and recovery), and

the MERCURY (manned satellite). The NSC also noted that the President ordered all feasible efforts be made to reduce the costs of liquid-fuel ICBM weapon systems. the above actions superseded the program set forth in NSC Action No. 1846 and were referred to the Secretary of Defense and the Administrator, NASA for appropriate implementation. (NSC Action No. 2081 was approved by the President on 18 May 1959).

(TS) NSC Action No. 2081, 13 May 59.

13 May 59 — In response to a request by CINCNORAD that certain equipment be made available for hardened centralized control facilities, the JCS requested clarification and justification of the need for such facilities and quantitative requirements for specific equipment.

(S) SM-496-59 to CINCNORAD, "Control Facilities for NORAD (U)," 13 May 59, derived from JCS 1899/467, 13 May 59, JMF 9081/4500 (12 May 59).

13 May 59 — According to the New York Times, two changes in the military construction bill proposed by the Armed Services Committee of the Senate seemed designed to force the Pentagon to make a decision between the BOMARC and the NIKE-HERCULES ground-to-air missiles. One of the proposed changes would require the services to obtain authorization for aircraft and missile programs before asking for appropriations, the other would cut the funds allotted to the NIKE-HERCULES. The Secretary of Defense welcomed the pressure from Congress, but the President deplored it, saying such decisions were an Administration responsibility.

NYT, 14 May 59, 15.

14 May 59 — A joint Intelligence Estimate of the Soviet threat to North America was approved by both the US and the Canadian JCS. In the field of weapons systems, the study concluded that by 1963 the USSR would rely extensively on ICBM's and submerged-vessel missiles, which would lead any Soviet attack on North America, and that in the period 1964-1971 the Soviet arsenal would feature improved missiles and manned winged vehicles of hypersonic speed and from 6,000 n.m. to global range. In the field of space programs, the estimate was that the Soviets: 1) would launch surveillance satellites capable of low optic resolution (100-200 ft) in 1960, 2) would achieve lunar probes with "soft" and "hard" landings, manned earth orbits, and planetary probes by 1959-1960, 3) could possibly achieve manned circumlunar flight and 25,000-lb. satellites serving as space platforms by 1961-1962 (Canadian estimate, 1962-1963) and manned lunar landings in 1965.

(TS) CANUS IE, "Soviet Threat to North America 1959-1971," 14 May 59, J-2 Files

15 May 59 — In a written statement to the Senate Subcommittee on Governmental Operations for Space Activities, the Chairman of the Civilian-Military Liaison Committee declared that the US must have both a civil space program and a military space program.

(U) US Cong, Sen, "Investigation of Governmental Organization for Space Activities," Hearings before the

Subcommittee on Governmental Organization for Space Activities of the Committee on Aeronautics and Space Sciences, 86th Cong, 1st sess (Washington, 1959) p. 550

19 May 59 — In a written statement to the Senate Subcommittee of the Committee on Aeronautical and Space Sciences, the Director of Defense Research and Engineering said that he was confident there was no unnecessary duplication between the programs of NASA and DOD.

(U) US Cong, Sen, "NASA Authorizations for Fiscal Year 1960," Hearings before the NASA Authorization Subcommittee of the Committee on Aeronautical and Space Sciences Pt II, 86th Cong, 1st sess (Washington, 1959) p. 681.

20 May 59 — The Operations Coordinating Board emphasized that information made public concerning US space activities should stress in-hand capabilities and accomplishments rather than predictions and hoped-for accomplishments, and that any discussion of projects should stress their minimum, not maximum, objectives.

(S) OCB Minutes (20 May 59) 25 May 59, JMF 5202 (Permanent).

20 May 59 — The Assistant Secretary of Defense (ISA) informed the JCS that the Director of ARPA would be responsible for the coordinated implementation by all components of DOD of those courses of action indicated as falling within the sphere of DOD in the Operations Coordinating Board's "Operations Plan for Outer Space," dated 18 March 1959.

(U) Memo, Asst SecDef (ISA) to JCS, 20 May 59, "OCB Operations Plan for Outer Space," Encl to JCS 2283/34, 28 May 59. JMF 8670 (Permanent).

21 May 59 — The Administrator of NASA, testifying before the Senate Committee on Aeronautical and Space Sciences, stated that the estimated budget for FY 1960 included $70 million for research and development on manned space flight. This figure would amount to over 20 per cent of NASA's total research and development program.

(U) US Cong, Sen, "NASA Authorizations for Fiscal Year 1960," Hearings before the NASA Authorization Subcmte of the Committee on Aeronautical and Space Sciences Pt II, 86th Cong, 1st sess (Washington, 1959) pp. 708, 719.

22 May 59 — In a memorandum to the Secretary of Defense, the JCS presented their views on military space policy in the context of international control of outer space, the subject of proposed action by Congress and the Executive Department and by representatives at the United Nations. The JCS advised that the US military services had a continuing requirement to use outer space for research, development, and operation of weapon systems necessary to the nation's security. In order that the security of the US be fully protected, the JCS therefore advocated preserving unrestricted military use of outer space unless and until enforceable agreements for control could be reached.

(C) JCSM 195-59 to SecDef, 22 May 59, "US Military Space Policy," derived from JCS 2283/28, 21 May 59, JMF 8670 (2 May 59).

24 May 59 — The CSA issued a statement concerning the Army's role in air defense in which, among other things, he criticized the Senate Armed Services Committee for drastically reducing the authorization for the NIKE-HERCULES program. Defending the NIKE-HERCULES against the rival Air Force BOMARC, the CSA pointed out that the Army missile was operational while the BOMARC was not and, in answer to charges that the NIKE-HERCULES was obsolescent, claimed that it was effectively meeting immediate needs for defense against current and foreseeable enemy bombers and missiles.
NYT, 25 May 59, 1.

27 May 59 — The Air Force's BOMARC B, a solid-fuel, 400-mile, ground-to-air missile, performed satisfactorily in its first flight test, although it did not go the full intended range. BOMARC B, an advanced version of the "area defense" missile designed to combat manned and pilotless aircraft at both low and high altitudes, had twice the range of BOMARC A, which was ineffective at low altitudes.
NYT, 28 May 59, 1.

28 May 59 — Two monkeys that survived a 1,700-mile space flight, which had carried them 300 miles into space at speeds up to 10,000 miles an hour, were recovered from the nose cone of a JUPITER rocket 90 minutes after liftoff. Although important data on physiological reactions of primates to space-flight conditions were obtained--data necessary before sending man into space--the biomedical aspect of the experiment was secondary to the main purpose of the test, which was to determine the ability of the nose cone to protect a nuclear warhead against meteor-like destruction on re-entering the atmosphere.
(S) "Progress of ICBM and IRBM Missile Programs," 30 May 59, in files of Dir of Guided Missiles R&E, OSD.

28 May 59 — Dr. James R. Killian resigned as Special Assistant for Science and Technology to return to the Massachusetts Institute of Technology. He was replaced by Dr George B. Kistiakowsky. Dr. Killian remained a member of the Science Advisory Committee, which he had headed during his service in Washington.
NYT, 29 May 59, 1.

29 May 59 — The State Department declared that Soviet Premier Khrushchev's speeches in Albania, in which he warned that acceptance by Italy and Greece of missile bases might lead to the construction of bases in Albania in retaliation, were undermining chances for success of the Foreign Ministers' Conference at Geneva, as well as jeopardizing the prospects for a later summit meeting.
NYT, 30 May 59, 1.

31 May 59 — The Director of Guided Missiles reported the following developments in the progress of the ICBM and IRBM programs during May: 1) ATLAS--one unsuccessful firing; 2) TITAN--the fourth successful launching; 3) THOR--the 11th, 12th, and 13th successful firings; 4) JUPITER--three successful firings notable in their high CEP accuracy; and 5) POLARIS--one successful and one unsuccessful launching.
(S) "Progress of ICBM and IRBM Programs," 31 May 59, in files of Dir of Guided Missiles, R&E, OSD.

2 Jun 59 The US launched DISCOVERER III into space with four mice in its nose cone. It was the first known attempt to recover animals from a satellite after orbiting. The mice were scheduled to be retrieved after 26 hours aloft when they would have travelled a distance equivalent to a round trip to the moon. However, because of a malfunction in the second stage, the rocket was apparently destroyed and the mice were killed upon re-entry into the atmosphere.
NYT, 4 Jun 59, 1, 5 Jun, 9.

6 Jun 59 A recording of a message from the President was sent via the moon to the Canadian Prime Minister 1700 miles away. The message, transmitted from MIT's Lincoln Laboratory near Boston, travelled a total of 450,000 miles on its way to Prince Albert, Saskatchewan and took 2.7 minutes. Although not the first time the moon had been used to relay signals, it was the first demonstration of transmission of such quality between stations so far apart.
NYT, 7 Jun 59, 1.

8 Jun 59 The X-15 rocket plane, destined to be the first manned space vehicle, performed well in a 3-minute glide to earth after release from a B-52. The X-15 was designed to fly at speeds up to 4,000 miles an hour and altitudes of 100 miles or more. The glide was a critical test of the stability and control of the craft.
NYT, 9 Jun 59, 1.

8 Jun 59 At the direction of the Secretary of Defense, issued in an Armed Forces Policy Council meeting on 17 March 1959, the JCS forwarded their review of estimates of major force composition for FY 1961-1963 to assist the Secretary in his development of guidelines for the FY 1961 budget. The review was completed in light of financial ceilings expressed in new obligational authority of $41.379 billion for FY 1961, $43.448 billion for FY 1962, and $45.620 billion for FY 1963. It also identified areas of disagreement on major force composition, predominately occurring in the missile and space programs of the Services.
(TS) JCSM 217-59 to SecDef, "Areas of Agreement and Disagreement by the JCS on Major Force Composition of the Services (U)," 8 Jun 59, derived from JCS 1800/288, 8 Jun 59; AFPC Advice of Action, "Preparation of FY 1961 budget," 24 Mar 59, Circulated as JCS 1800/280, 27 Mar 59, JMF 7000 (Permanent).

9 Jun 59 The first POLARIS-firing submarine, the George Washington, was launched at Groton, Connecticut. The 380-foot nuclear powered submarine of 5,400 tons, one of nine authorized ships expected to carry the solid-fuel IRBM, was equipped with 16 vertical tubes from which to fire the POLARIS.
NYT, 10 Jun 59, 12.

12 Jun 59 The Secretary of Defense disclosed the new master plan for continental air defense in testimony before the Senate Armed Services Committee. Instead of trying to decide between the BOMARC and the NIKE-HERCULES missiles, the new plan was based on an integration of the two systems into a complementary defense arrangement somewhat scaled down from originally planned expenditures.
NYT, 13 Jun 59, 1.

15 Jun 59 The President signed the $485.3 million NASA appropriation bill for FY 1960. The bill earmarked over $333 million for research and development and $57.8 million for construction and equipment, including a space science laboratory, launching facilities at the Pacific Missile Range, and other facilities.
P.L. 86-45, H.R. 7007 (73 Stat. 73, 74), 15 Jun 59.

17 Jun 59 The Secretary of Defense informed the JCS of his decision to disapprove the Navy proposal to install POLARIS batteries in surface ships. However, the proposal would be considered along with other weapon systems available in the same time frame in any further study of strategic retaliatory forces (see item of 8 May 59).
(C) Memo, SecDef to CJCS, "Installation of a POLARIS Battery in Surface Ships," 17 Jun 59, JMF 4720 (8 May 59).

18 Jun 59 The JCS forwarded to CINCONAD and the Director, National Security Agency, a report by the Weapons Systems Evaluation Group regarding applicability of Electronic Countermeasures (ECM) as a defense against the ICBM threat (WSEG Report No. 36). The major conclusion of the report was that the defense potential of DAVID or any such ECM system as a counter to the ICBM threat was not great enough to justify installation.
(TS) Note by Secys, "WSEG Report No. 36--ECM Against the Ballistic Missile Threat (U)," JCS 222/143, 18 Jun 59, JMF 6800 (26 May 59).

22 Jun 59 A malfunction in its second stage caused a VANGUARD rocket to fail to launch a satellite into orbit. The satellite was intended to measure the earth's heat balance -- information important in weather forecasting. This was the eighth failure in ten tries for the VANGUARD.
NYT, 23 Jun 59, 12.

22 Jun 59 A report submitted by the Weapons Systems Evaluation Group to the JCS, Vol. I WSEG Report No. 39, "Military Applications of Artificial Earth Satellites," sought to assess the military advantages and feasibility of manned and unmanned satellites and space stations. The general conclusions arrived at were: 1) the military potential of manned satellites was not apparent at that time, but unmanned satellites could be expected to perform useful and even vital military functions within the 1961-1965 time period; and 2) the SATURN booster seemed to offer the earliest possibility of a militarily useful manned satellite, although there appeared to be no effort directed specifically toward exploiting it for this purpose. Recommended as necessary was the initiation of studies which would utilize the results of the MERCURY, X-15, and other programs, as well as of studies which would delineate specifically the military functions that a man in space might perform advantageously as compared with the capabilities of unmanned satellites. The report's supplement dealt in detail with the technical problems of satellite reconnaissance systems.
(S) Volume I WSEG Report No. 39, "Military Applications of Artificial Earth Satellites," 22 Jun 59, Encl to JCS 2283/41, 25 Jun 59, JMF 8670 (23 Jun 59).

25 Jun 59 Launching of the fourth DISCOVERER satellite was attempted at Vandenberg AFB but it failed to go into orbit.
NYT, 26 Jun 59, 8.

27 Jun 59 The Secretary of Defense reported at the annual defense conference at Quantico that as a result of five consecutive failures the ATLAS ICBM, which was supposed to be ready by the end of June, would not be operational for at least another sixty days. According to the Secretary, despite intelligence indications that the Russians were having similar difficulties, the USSR nevertheless was expected to have ten ICBM missiles by the end of the year.
NYT, 28 Jun 59, 1.

30 Jun 59 CINCONAD, in response to a request for his evaluation, advised the JCS that he did not support a requirement for high-yield warheads for BOMARC.
(S-RD) Memo, CINCONAD to JCS, "Employment of High-Yield Weapons in Air Defense (U)," 30 Jun 59, Encl to JCS 2012/157, 7 Jul 59, JMF 4700 (30 Jun 59).

30 Jun 59 The Director of Guided Missiles, OSD reported the following developments in the progress of the ICBM and IRBM programs during June: 1) ATLAS--one unsuccessful firing; 2) THOR--three successful firings, plus three firings of multi-stage, special-purpose vehicles which utilized THOR missiles for first-stage boosters; and 3) two successful POLARIS firings.
He also reported that further ATLAS flight tests had been temporarily suspended while a series of design and instrumentation changes were incorporated into the missile (see item of 27 Jun 59).
(S) "Progress of ICBM and IRBM Programs," 30 Jun 59, in files of Dir of Guided Missiles, R&E, OSD.

1 Jul 59 The Secretary of Defense announced that the Deputy Secretary of Defense would assume the position of Chairman, OSD Ballistic Missiles Committee. The former Chairman, William Holaday, would assume full-time duty as Chairman of the Civilian-Military Liaison Committee.
(U) Memo, SecDef to CJCS et al., 7 Jul 59, "Chairmanship of the OSD Ballistic Missiles Committee," JMF 5220 (7 Jul 59).

1 Jul 59 In accordance with the provisions of Section 101 of the National Security Act, a Comparative Evaluations Group was established under the National Security Council to be responsible for the preparation of comparative evaluations of US and USSR capabilities in selected weapons systems. Membership was to consist of certain specified representatives, with the Chairman, JCS, serving as chairman of the newly constituted group.
(TS) NSC 5908, 1 Jul 59, CJCS files.

2 Jul 59 After meeting with the JCS and discussing the areas of Service agreement and disagreement over the FY 1961 military budget (see item of 8 Jun 59) the Secretary of Defense issued guide lines for the preparation of the 1961 budget which was to be presented by the JCS to him in September. His guide lines emphasized among other things that: 1) the budget was to be considered as just one segment of a sustained long-range defense program; 2) considering present US economic policy and the prospective stage of missile development, the 1961 budget should not excede the general amounts requested of Congress for FY 1960; 3) planning objectives should permit a constant re-evaluation of weapons systems without regard to previous allocations to the Services, a thorough screening to assess their current necessity for continuance, and a review of priorities and realignment where necessary.
(C) Memo, Mil Asst SecDef to Director of the JS, "Guide Lines for FY 1961 Military Budget," 2 Jul 59, Circulated as JCS 1800/294, 7 Jul 59, JMF 7000 (6 Apr 59)

8 Jul 59 In a status report on Project MERCURY, the head of the project said no new scientific breakthroughs were needed to achieve the objective of sending man into space, but that a formidable engineering job remained. Some of the problems included development of a reliable missile to launch the astronaut into a 120-mile-high orbit, recovery of the space pilot in case of failure to orbit, and establishment of a sixteen-station tracking network to keep in constant touch with the satellite. Much progress had been made on certain aspects of the project, such as design of the capsule, techniques of re-entry, and an escape system to pull the capsule and astronaut away from the launching rocket in case of a misfire.
NYT, 9 Jul 59, 1.

9 Jul 59 The Department of Defense announced that its projected SATURN vehicle, which would utilize the first stage rocket of the TITAN in its second stage, was expected to develop 1.5 million pounds of thrust. The first firing was scheduled for late 1960.
NYT, 10 Jul 59, 11.

13 Jul 59 The Administrator of NASA testified before the Senate Appropriations Committee that the House cut of $68 million in NASA's FY 1959 supplemental and FY 1960 budget requests would have drastic consequences for the nation's space program. He stated that current space projects would be retarded and warned that US leadership in the space race with the USSR, ordered by Congress when it set up the space agency, would be jeopardized. He therefore urged full restoration of the House cuts.

(U) US Cong, Sen, "Supplemental Appropriation Bill for 1960," Hearings before the Committee on Appropriations, 86th Cong, 1st sess (Washington, 1959) pp. 21, 23, 24.

15 Jul 59 The Operations Coordinating Board requested the Working Group on Outer Space to develop public information courses of action intended to minimize the impact of a successful Soviet effort to place a man in space.

(S) OCB Minutes (15 Jul 59) 17 Jul 59, JMF 5202 (17 Jul 59).

16 Jul 59 The Secretary of Defense was informed that, on the advice of CINCONAD, the JCS considered further development of a high-yield warhead for the IM-99B no longer appropriate under present circumstances. The JCS therefore requested the Secretary of Defense to inform the AEC that this military requirement was cancelled and that Phase III development of the XW-17 warhead for use in BOMARC should be discontinued

(S-RD) JCSM-276-59 to SecDef, "High-Yield Warhead for BOMARC (U)," 16 Jul 59, derived from JCS 2012/157, 7 Jul 59, and CSAFM-305-59, 14 Jul 59, all in JMF 4700 (7 Jul 59)

18 Jul 59 The Senate Committee on Aeronautical and Space Sciences issued its final report on the US space program. The report endorsed the basic administrative framework of the program, but suggested that the Administration make a "great deal more effort" to coordinate military and civilia space projects and policies. It criticized the lack of a well-defined space program and called for a clarification of the roles and responsibilities of the Military Services and ARPA. Effective coordination of the military space programs, the committee concluded, could only be achieved as part of a further unification of the Services within the Defense Department.

(U) US Cong, Sen, "Governmental Organization for Space Activities," Report of the Subcommittee on Governmental Organization for Space Activities of the Committee on Aeronautics and Space Sciences, 85th Cong, 1st sess (Washington, 1959).

20 Jul 59 At the request of the JCS, the Weapons Systems Evaluation Group had prepared Staff Study No. 77 regarding the advisability of providing dual runways for SAC bases. After considering several possible enemy minimum-warning attacks including ICBM and sea-launched ballistic missile attacks on SAC bases, the study concluded that little could be gained from dual runways at heavy bomber and tanker bases, although medium bomber bases could benefit by a second runway.

(TS) WSEG Staff Study No. 77, 20 Jul 59, Encl to JCS 2250/15, 21 Aug 59, JMF 4960 (22 Jul 59).

21 Jul 59 The US resumed ATLAS test launchings after a six-week suspension. The firing from Cape Canaveral was the first successful one since 5 February. The missiles covered the full range of 5,500 miles, generating 360,000 pounds of thrust and attaining an altitude of approximately 800 miles It was also the first time an ATLAS nose cone was recovered
NYT, 21 Jul 59, 58; 22 Jul, 13.

21 Jul 59 A National Intelligence Estimate on Soviet science and technology concluded that the USSR guided missile and space vehicle programs continued to press ahead with an extensive research and development program which enjoyed extremely high priority. As a result, the USSR possessed the necessary scientific knowledge to develop guidance and control components, propulsion systems, airframes, warheads, and fuzes for advanced missile and space systems. A major Soviet effort in the next few years, it was expecte would be to achieve manned space flight ahead of the US.
(TS) NIE 11-6-59, "Soviet Science and Technology," 21 Jul 59, J-2 Files.

24 Jul 59 In reply to a request from the Secretary of Defense for the views of the JCS concerning operational control of military space systems, the divergent views of the Chiefs of Services were forwarded for resolution. The CSA and CNO recommended the establishment of a Joint Military Astronautical Command, responsible to the JCS for the exercise of military direction, coordination, and control over space systems and activities. The CSAF, however, recommended that satellite and space vehicle operations should continue under the control of the unified and specified commands.
(S) JCSM-283-59 to SecDef, 24 Jul 59, "Coordination of Satellite and Space Vehicle Operations," derived from JCS 2283/45, 9 Jul 59 and JCS 2283/46, 10 Jul 59. All in JMF 8670 (22 Apr 59).

26 Jul 59 The Secretary of Defense, in a television interview, said that the USSR had probably won the race to get an ICBM into the hands of operational units, but said that the number was only a few--less than ten at the most--and was offset by the retaliatory capacity of the US.
NYT, 27 Jul 59, 6.

27 Jul 59 The Secretary of Defense circulated a draft directive designating a DOD representative for Project MERCURY support operations. His duties were to prepare and submit to the Secretary of Defense plans and requirements for DOD support for MERCURY, direct and control forces and facilities assigned to support the project, and assume responsibility for the performance of the specific support missions assigned.
(U) Memo, SecDef to CJCS et al., (AFPC), "Assignment of Responsibility for DOD Support of Project MERCURY," 27 July 59, circulated as enclosure "C" to JCS 2283/54, 5 Aug 59, JMF 8670 (15 Jul 59).

31 Jul 59 The Director of Guided Missiles announced the following progress in the ICBM and IRBM programs: 1) ATLAS--two successful firings (see item of 21 Jul 59), one a 4,385 n.m. test to meet guidance systems requirements, and the second, the 27th ATLAS flight achieving a CEP of 1 n.m.; 2) THOR--

one successful 1,300 n.m. flight, the first fully stabilized re-entry vehicle flight, and one unsuccessful firing; 3) JUPITER--a successful 1,302 n.m., high accuracy flight, the 19th JUPITER firing; and 4) POLARIS--one partially successful firing.

(S) "Program of ICBM and IRBM Programs," 31 Jul 59, in files of Dir of Guided Missiles, R&E, OSD.

3 Aug 59 The Chairman, JCS, in response to a request for comment on proposed terms of reference for the DOD representative for Project MERCURY, recommended to the Secretary of Defense that the JCS be established as the normal channel of communication from the DOD representative to the Secretary of Defense, the Chairman stated that JCS participation in the chain of command was required because the unified and specified commands would be involved in the operational support of project MERCURY.

On 10 August the Deputy Secretary of Defense, concurring in the JCS recommendation, announced that the DOD representative for Project MERCURY would be responsible to the Secretary of Defense through the JCS.

(U) CM-374-59 to Dep SecDef, "Assignment of Responsibility for DOD Support of Project MERCURY," encl "A" to JCS 2283/54, 5 Aug 59, JMF 867C (15 Jul 59). (U) Memo, Dep SecDef to CJCS et al, 10 Aug 59, same subj, Encl to JCS 2283/56, 14 Aug 59, JMF 8670 (10 Aug 59).

5 Aug 59 The President approved a National Security Council policy paper (NSC 5906/1, "Basic National Security Policy") that provided for, among other things, the positioning of IRBM's only in those NATO and other Free-World nations which demonstrated a desire to have them and officially requested them. Proposals for positioning of IRBM's outside the NATO area would be subject to approval by the President.

The paper also called for the development and exploitation of outer space for scientific, military, and political purposes and to insure that the US be recognized as a leader in the space field. The paper further defined US objectives as: 1) a broad based scientific and technological program in space flight and planetary-interplanetary exploration which would extend human knowledge and understanding; 2) a military space program designed to extend US military capabilities through application of advancing space technology without invading the responsibilities of the NASA; 3) a civil space program designed to promote the peaceful uses of outer space; and 4) as consistent with US security, achievement of international cooperation in the uses of and activities related to outer space for peaceful purposes, and with selected allies, for military purposes. The paper also noted that due consideration should be given to the psychological values of solid technical and scientific achievement in the space field (see item of 9 Jul 59).

(TS) NSC 5906/1 "Basic National Security Policy," 5 Aug 59, JMF 3001 (5 Aug 59).

6 Aug 59 The JCS informed the Secretary of Defense that an operational requirement for a nuclear warhead for the MINUTEMAN-ICBM had been established. The Secretary therefore was requested to notify the Chairman, AEC of this operational requirement and to request his cooperation with the Air Force in developing the warhead.

(TS-RD) JCSM 316-59 to SecDef, 5 Aug 59, "Warhead for MINUTEMAN-ICBM (U)," derived from JCS 2019/405, 5 Aug 59, JMF 4730 (17 Jun 59).

7 Aug 59 The Air Force announced that EXPLORER VI, weighing a total of 142 pounds (including a 94 pound instrumental payload), was launched into elliptical orbit by a THOR-ABLE four-stage missile vehicle. The 26-inch sphere, the most

sophisticated yet launched, was equipped with four paddle-wheels containing cells to utilize the sun's energy in communications apparatus. With its apogee of 22,000 miles, the longest orbit of all the satellites, EXPLORER VI was expected to provide information on the earth's magnetic field, the energy of the atomic particles in the two Van Allen radiation belts, the effects of the ionosphere on radio waves, the feasibility of television scanning of the earth, the size and speed of micrometeorites (cosmic dust), and the use of solar energy as a source of power for space vehicles.

(S) AF Weekly Summary, 7 Aug 59, in files of Dir of Guided Missiles, R&E, OSD. NYT, 8 Aug 59, 1.

7 Aug 59 The Navy announced that it had developed TEPEE, a system of detecting nuclear blasts and missile firings by a new kind of radar--high-frequency ionospheric back-scatter radar. The new device, not limited as is conventional radar to straight line-of-sight scanning, could bounce signals off the ionosphere and pick up as targets the large volumes of ionized gases formed from the back-scatter effect of missile firings at intercontinental distances. One of the potential uses of TEPEE was in the detection of surprise attacks by missiles.

NYT, 8 Aug 59, 1, 4.

10 Aug 59 The Director of Guided Missiles reported that the US Air Force (Europe)-Italian Air Force Technical Agreement, specifying particular sites and training and logistical matters for JUPITER deployment in Italy, had been signed. The Agreement also established 10 August as "M-Day" for the planned JUPITER deployment.

(S) "Progress of ICBM and IRBM Programs," 31 Jul 59, in files of Dir of Guided Missiles, R&E, OSD.

10 Aug 59 The Secretary of Defense requested JCS comments on the Long-Range Advanced Research Plan of ARPA. The Plan was based on stated military requirements as submitted by the Military Departments to ARPA in April 1959 and sought to take advantage of anticipated efforts of NASA. It was indicated that priorities on military applications were consistent, where possible, with previous recommendations of JCS. The specific projects covered by the Plan (including funds required for each annually from 1960 through 1964) were: DISCOVERER (reconnaissance satellite); SAMOS (reconnaissance satellite formerly designated SENTRY); NOTUS (communication satellite); TRANSIT (navigation satellite); Missile Mapping and Geodesy; SOMNIUM (electronic countermeasures satellite); Mrs V (maneuverable and recoverable satellite), SUZANO (space platform); SHEPHERD (space surveillance system); LONGSIGHT (missile studies and systems analysis); PRINCIPIA (solid propellant chemistry); PONTUS (study of structural and power conversion materials); DEFENDER (missile defense system); and MIDAS (missile early warning system).

(S) Memo, SecDef to CJCS, 10 Aug 59, "Long-Range Plan for Advanced Research," Encl to JCS 2283/55, 12 Aug 59. ARPA Report, "Long-Range Plan for Advanced Research," 30 Jul59, both in JMF 8670 (10 Aug 59).

12 Aug 59 In a memorandum to the JCS, CINCSAC for the second time recommended that a continuous airborne alert be undertaken, specifying that it begin on 1 July 1960. The results of HEADSTART II tests, it was pointed out, had indicated that such an alert was feasible and would provide a sizeable and secure deterrent against the Soviet ICBM threat. (see item of 6 Mar 59).

(S) Memo, CINCSAC to JCS, 12 Aug 59, "Airborne Alert (U)," Encl to JCS 1899/502, 18 Aug 59, JMF 3340 (12 Aug 59).

13 Aug 59 The Air Force announced the successful launching of DISCOVERER V from Vandenberg AFB. The purpose of the test was to attempt for the first time to recover a vehicle returned from orbit.

Plans to retrieve the orbiting capsule after 27 passes around the earth were reported unsuccessful on 21 August. The capsule, after ejection from the rocket, had failed to emit signals that would have enabled the Air Force to locate it as it parachuted to earth.

(S) AF Weekly Summary, 14 and 21 Aug 59, in files of Dir of Guided Missiles, R&E, OSD. NYT, 14 Aug 59, 1; 15 Aug 59, 6.

17 Aug 59 The CNO stated at a press conference that the USSR had submarines among its fleet of 450 that were capable of firing both air-breathing and ballistic missiles.

NYT, 18 Aug 59, 2.

18 Aug 59 The President signed the $39.2 billion defense appropriations bill for FY 1960. The Secretary of Defense, in presenting the DOD budget on 23 January 1959 to the House Preparedness Investigating Subcommittee of the Committee on Appropriations, had requested $40,850 million, of which an estimated $3,3[illegible] million in new obligational authority and $3,825 million in expenditures were for missile procurement. The budget also called for an estimated $3,384 million in expenditures for research, development, test, and evaluation programs. The missile procurement estimates were based on planned force levels as follows: Army--three Field Artillery missile groups (heavy), four Army Missile Commands, and 73½ air-defense guided missile battalions; Air Force--102 combat wings (including missile wings); Navy--missile force levels not specified.

The DOD appropriation bill which passed the House and Senate on 4 August provided more money for long-range missiles and anti-missile missile programs than DOD requested, but the total defense budget was actually less than the amount sought by the Administration. In the $2,540 million authorized for Air Force missile procurement, the ATLAS program was given an additional $85 million to enable procurement of a force of 17 instead of 10 squadrons. $455 million was also provided for ARPA.

(U) P.L. 86-166, HR 7454 (73 Stat. 366-383), 18 Aug 59; NYT, 19 Aug 59, 8; US Cong, House, "Department of Defense Appropriations for 1960," Hearings before the Preparedness Investigating Subcommittee of the Committee on Appropriations, 86th Cong, 1st sess (Washington, 1959), pt. 1, pp. 14-17.

18 Aug 59 The National Security Council noted the establishment of a new set of priorities for the Ballistic Missile and Space Program to supersede the priorities announced in NCS Action No. 2081 of 13 May 1959. The President approved the following changes. 1) addition of the MINUTEMAN and NIKE-ZEUS (research and development only) weapon systems and the Ballistic Missile Early Warning System Phase I, including Project DEW DROP, to the highest priority category, 2) the deletion of the THOR-JUPITER weapon system from the highest priority category. The other projects announced in NSC Action 2081 remained in the highest priority category. (NSC Action No. 2118 was approved by the President on 21 August 1959).
(TS) NSC Action No. 2118, 18 Aug 59.

19 Aug 59 DISCOVERER VI (THOR/AGENA) was launched into orbit from Vandenberg AFB in another attempt to recover a space capsule designed for re-entry on command. The recovery effort was unsuccessful, however, because the ejected capsule again failed to emit signals for retrieving aircraft to locate it during its descent (see item of 13 Aug 59).
(S) AF Weekly Summary, 21 Aug 59, in files of Dir of Guided Missiles, R&E, OSD. NYT, 20 Aug 59, 5; 21 Aug 59, 3.

20 Aug 59 In a memorandum to the Secretary of Defense, the JCS recommended that the Chairman, AEC, be notified of a military requirement for development of a guided air-to-air rocket capable of delivering a low-yield, small-diameter atomic warhead, and that AEC cooperation in adapting the XW-42 warhead for application with the GAR-9 missile be requested.
(TS-RD) JCSM-339-59 to SecDef, "Requirement for a Nuclear Warhead for the GAR-9 Missile (C)," 20 Aug 59, derived from JCS 2012/158, 5 Aug 59, JMF 4713 (3 Aug 59).

21 Aug 59 The planned first test of an escape device for the MERCURY project ended prematurely, NASA reported, when the 2,000-pound capsule that would carry the first astronaut into space misfired. The escape rocket had been set to go off 30 seconds after launching, but fired twenty minutes early.
NYT, 22 Aug 59, 5.

26 Aug 59 In response to a request for information on the status of project TEPEE, the JCS informed CINCSAC that, although the TEPEE system was still under development, a basic capability for ballistic missile detection had been demonstrated.
(S) Msg, JCS 964388 to CINCSAC et al., 26 Aug 59, derived from JCS 1620/269; 14 Aug 59, JMF 4700 (12 Aug 59).

27 Aug 59 The JCS, in response to a request of the Secretary of Defense for comments on the Long-Range Advanced Research Plan of ARPA (see item of 10 Aug 59), submitted the following views: 1) they were concerned over the occurrence of slippage in deadlines of some projects that had been recommended for increased emphasis; 2) the Soviet threat might require a re-examination of current cost levels; 3) it was imperative that the development of space-borne and necessary earth-based equipment be coordinated in order to expedite operational capability; 4) the status of the programs of the NASA should be reviewed, inasmuch as its

programs were not included in the ARPA plan; and 5) cost and performance figures should be provided by ARPA to permit the Services to anticipate operating costs.

(S) JCSM-352-59 to SecDef, 27 Aug 59, "Long-Range Advanced Research Plan of ARPA," derived from JCS 2283/59, 27 Aug 59, JMF 8670 (10 Aug 59).

31 Aug 59 The Director of Guided Missiles reported the following progress in the missile program for August: 1) ATLAS--two successful firings after fuel staging area modifications; 2) TITAN--one unsuccessful firing due to malfunctioning during liftoff; 3) THOR--five successful missile flights and three space flights using THOR's as boosters, including DISCOVERER V and VI (see items of 13 and 19 August); 4) POLARIS--four flights from Ship Motion Simulators and Weapons System Training Ships, two of which were only partially successful.

(S) Ltr, SecDef to Pres, 11 Sep 59, in files of Dir of Guided Missiles, R&E, OSD.

1 Sep 59 The Air Force announced that the ATLAS ICBM had passed from the experimental to the operational stage and would be turned over to the First Missile Division at Vandenberg AFB for use in training missile crews. Hitherto, the firings had been conducted by civilian employees of the manufacturer.

On 10 September the Air Force announced the first firing of an ATLAS missile by a SAC crew.

NYT, 2 Sep 59, 59; 10 Sep, 20.

2 Sep 59 In a report (Holifield Report) submitted to Congress, the House Committee on Government Operations reviewed problem areas in the military organization and management of US missile programs (including military-civil organizational arrangements, roles, and relationships in missile and space research). The conclusions reached were that serious organizational problems existed and that the indicated approach at this time was "to consider appropriate means for bringing the entire Army and Air Force missile effort together," but that the "merger of the missile effort cannot be achieved short of a merger of the Air Force and the Army." Recognizing that many preparatory studies would be required to determine whether merger of the two Services would be the best course of action, the Committee therefore recommended that "the President direct the appropriate authorities to undertake such studies."

(U) US Cong, House, "Organization and Management of Missile Programs," Eleventh Report by the Committee on Government Operations, 86th Cong, 1st sess (Washington, 1959) pp. 5, 155; NYT, 2 Sep 59, 1.

4 Sep 59 In a memorandum to the Secretary of Defense the Secretary of the Air Force recommended adoption of an Air Force-prepared airborne alert plan and an overall increase of $120 million in the Air Force FY 1960 budget to accommodate it. In the opinion of the Secretary of the Air Force, an alert on the scale proposed by CINCSAC did not appear necessary; an acceptable capability might be achieved, he felt, by a limited operation that would provide for varying the force on a combined ground and air alert configuration with specific provision for periodic peaking, particularly during periods of international tension.

On 10 September the Secretary of Defense forwarded this recommendation to the JCS and asked for their views regarding the military requirement for an air alert and the size and time of such an operation.

(S) Memo, SecAF to SecDef, 4 Sep 59, "Airborne Alert," Encl to JCS 1899/509, 10 Sep 59, JMF 3340 (10 Sep 59).

8 Sep 59 In a further refinement of the estimates of Soviet missile capabilities outlined in NIE 11-4-58 (see item for 23 Dec 58), the National Intelligence Estimate 11-5-59 added:

1) While 10 prototype ICBM's would be operational in 1959, the Soviets were not engaged in a crash program for ICBM's. Nevertheless, it was believed that the USSR had had sufficient time to turn out series-produced ICBM's. And the ICBM system would possibly have a limited capability for war tasks by 1960.

2) IRBM systems over the 1,100 n.m. range had low priority in Soviet planning. It was possible [illegible] USSR planned 1,500-2,500 n.m. range missiles, but no test firings had been detected to substantiate this.

3) The 700 n.m. range, 3,000-lb payload IRBM, operational since 1956, was still being improved and was now employed with troops in military operations.

4) The problem of mobility had been a basic consideration in the design of all Soviet missiles. The Soviet ICBM system might possibly be rail mobile, although whether the system as a whole would consist of rail mobile units, fixed installations, or a combination of the two was unknown. Whatever the ground environment, rail networks would play a vital role in the operation of Soviet ICBM's.

(TS) NIE 11-5-59, "Advance Portion of NIE No. 11-5-59," 8 Sep 59, J-2 Files.

9 Sep 59 — Under the direction of NASA, a successful performance test was conducted of both the 2,00-pound space capsule ("Big Joe"), which would eventually carry the first astronaut into orbit, and its vehicle, the ATLAS. The results of the test confirmed the capsule's ability to withstand the excessive heat encountered upon re-entering the atmosphere, inasmuch as its internal temperature never exceeded 100° F. However, the altitude of 100 miles and the speed of 1,500 mph achieved by the vehicle were both somewhat short of planned goals.

NYT, 10 Sep 59, 1, 12 Sep 59, 1.

10 Sep 59 — The JCS informed the Secretary of Defense that an operational requirement existed for a nuclear warhead with yields of 40 and 100-150 KT for the SERGEANT missile. They recommended that the Secretary of Defense notify the Chairman, AEC, of this requirement and request his cooperation with the Department of the Army in developing this warhead.

DOE (b)(3)

(S-RD) JCSM-379-59 to SecDef, 10 Sep 59, "Warhead for the SERGEANT Missile (U)," derived from JCS 2012/159, 10 Sep 59, JMF 4712 (28 Aug 59).

12 Sep 59 — At 6:00 A.M. eastern daylight time the USSR launched a rocket toward the moon containing an instrument package of 860 pounds that bore the coat of arms of the Soviet Union, and the inscription "September, 1959." It was scheduled to land on the moon forty-eight hours before the arrival of Premier Khrushchev in Washington. The rocket crashed into the moon 35 hours later (5:00 P.M. New York time) only 84 seconds later than Russian scientists had predicted. Radio signals ceased only upon impact with the moon's surface. The most impressive new achievement represented by the moon shot was probably the phenomenal accuracy of the guidance system. The final stage was described as a "guided rocket."

NYT, 13 Sep 59, 1 (text of Soviet announcement 52); 15 Sep, 1.

16 Sep 59 — The Air Force announced the successful firing of a full-size model of its MINUTEMAN ICBM from an underground launching pad at Edwards AFB. In order to test the underground launcher, only the first stage of the 3 stage

missile was fired. The 60-foot, solid fuel ICBM was to be operational in 1962 or 1963.
NYT, 17 Sep 59, 8.

16 Sep 59 A JUPITER IRBM, used as the vehicle for the last attempt by Project VANGUARD to orbit a satellite, misfired and had to be destroyed before it was 1,000 feet off the ground. The satellite had contained several biological specimens, including pregnant mice and live frogs.
NYT, 17 Sep 59, 8.

17 Sep 59 The JCS recommended to the Secretary of Defense that the DAVY CROCKETT program, designed to provide a new and essential capability to ground forces not offered by any other existing or planned weapon system, be established as one of highest military importance. Although assignment of top national priority was not warranted at that time, achievement of operational availability was desired at the earliest practicable date.
(S) JCSM-388-59 to SecDef, 17 Sep 59, "Top National Priority Request for DAVY CROCKETT," derived from JCS 1725/352, 17 Sep 59, JMF 4712 (3 Apr 59).

17 Sep 59 The X-15 manned rocket plane made its first powered test flight after being released from a B-52. The X-15, which is being developed to carry a man 125 miles into space, flew at 50,000 feet at a speed of 1,400 mph.
NYT, 18 Sep 59, 1.

17 Sep 59 The JCS forwarded to the Secretary of Defense their nomination for a JCS representative on the planned "Cisler Group" which had been created to study ways of improving the management of national missile ranges and space tracking systems.
On 18 September the Secretary of Defense informed the JCS that he had decided not to constitute a formal group to assist Mr. Cisler.
(U) JCSM-390-59 to SecDef, 17 Sep 59, "Nomination to the Cisler Group (U)," Memo, Mil Asst SecDef to JCS, 18 Sep 59, Encl to JCS 2283/60, 21 Sep 59, both in JMF 8670 (21 Aug 59).

18 Sep 59 In a memorandum to the Chairman, JCS, the Secretary of Defense advised that the proposed creation of a joint military organization for control of space systems did not appear desirable at that time (see item of 24 Jul 59). Utilization of the present organization of the Military Departments was preferable in order to realize full advantage from existing support capabilities, eliminate conflicting research and development interests, and simplify fiscal accounting.
Accordingly, the Secretary determined that responsibility for development, production and launching of space vehicles (except for projects of ARPA) would be assigned to the Air Force, while payloads for space projects would be assigned to the interested or competent service. Specific projects to be transferred from ARPA to the Services included: the interim satellite early warning system and Phase I of the satellite reconnaissance system, to the Air Force; the interim satellite navigation system,

to the Navy; and the interim satellite communications system, to the Army.
(C) Memo, SecDef to CJCS, "Coordination of Satellite and Space Vehicle Operations," 18 Sep 59, circulated as N/H of JCS 2283/32, 24 Sep 59, JMF 8670 (22 Apr 59).

18 Sep 59 WSEG Report No. 44 on the cost, effectiveness, and operational characteristics of GAM-87, an advanced air-to-surface missile, concluded that for the time period 1963-64 procurement of additional MINUTEMAN units would be preferable to the procurement of additional B-52's with GAM-87.
(S-RD) WSEG Rpt No. 44, "Evaluation of an Advanced Air-to-Surface Missile," 18 Sep 59, Encl to JCS 2012/161, 24 Sep 59, JMF 4711 (21 Sep 59).

18 Sep 59 The Air Force announced that VANGUARD III, a fully instrumented 50-pound satellite was launched into orbit by NASA from the Atlantic Missile Range. This final firing in the VANGUARD series, the third success in 11 tries, marked the twelfth satellite placed in orbit by the US, compared to 3 by the USSR.
(S) Memo, Asst CSAF for Guided Missiles to Dir, ARPA, 18 Sep 59, "Flash Report on Launching of VANGUARD," in files of Dir of Guided Missiles, R&E, OSD, NYT, 19 Sep 59, 5.

18 Sep 59 The CNO advised the JCS of the Navy's proposed research and development program for communication satellite relay systems, which had been submitted to ARPA for approval. The accompanying copy of the proposed program provided information on objectives, estimated time schedules, and funding requirements.
(U) Ltr, CNO to JCS, 18 Sep 59, "Proposed Research and Development Program for Communication Satellite Relay Systems, forwarding of (U)," Encl to JCS 2283/62, 29 Sep 59, JMF 8670 (18 Sep 59).

18 Sep 59 The Assistant CSAF for Guided Missiles reported to the Director of Guided Missiles that TRANSIT I, the first navigational satellite, had been successfully launched but had failed to achieve orbit.
(S) AF Weekly Summary, 18 Sep 59, in files of Dir of Guided Missiles, R&E, OSD.

20 Sep 59 The Air Force announced that it had ordered the development of a low-flying nuclear ramjet engine that could travel around the world at supersonic speeds, maneuver in flight, and penetrate enemy radar and air defenses. Sometimes called SLAM (supersonic low-altitude missile), the project had been under study by the AEC and the Air Force under the title PLUTO.
NYT, 21 Sep 59, 14.

22 Sep 59 The Navy and Air Force signed a pact designed to prevent conflicts of interest and costly duplications at the Pacific Missile Range and the nearby Vandenberg AFB, by spelling out the specific areas of responsibility for the two Services.
AP, 22 Sep 59.

22 Sep 59 The second missile-launching nuclear submarine, the Patrick Henry, was launched from Groton, Conn. The first POLARIS submarine, the George Washington, was launched in June.

NYT, 23 Sep 59, 1.

24 Sep 59 In response to the recommendations of the Weapons Systems Evaluation Group regarding the annual reviews of WSEG Report No. 23 ("The Relative Military Advantages of Missiles and Manned Aircraft"), the JCS informed the Director, WSEG that these annual reviews were to be discontinued because the Report itself was becoming outdated by events.

(S-RD) SM-950-59, to Dir WSEG, "Second Annual Review of WSEG Report No 23 (U)," 24 Sep 59, derived from (TS-RD) JCS 1812/107, 24 Sep 59, JMF 4700 (17 Aug 59).

30 Sep 59 The following progress in the ICBM and IRBM programs during September was reported by the Director of Guided Missiles: 1) ATLAS--four successful firings, including a 1,300 n.m. firing for NASA's Project MERCURY, and the vehicle for VANGUARD III (see items dated 9 and 18 September 1959), and one failure, 2) THOR--three successful launchings in the 1,300 n.m. range, 3) JUPITER--one successful 1,299 n.m. range firing achieving .9 n.m. CEP, and one failure that caused extensive damage at the Atlantic Missile Range (see item 11 Sep 59); and 4) POLARIS --a successful 950 n.m. firing.

(S) Army Weekly Fact Sheet, 16 and 30 Sep; Navy Weekly Summary, 29 Sep; AF Weekly Summary, 11, 18, and 25 Sep, in files of Dir of Guided Missiles, R&E, OSD.

2 Oct 59 NASA announced that it was inaugurating basic research into atomic-powered rocket engines up to four times more powerful than those using chemical sources of energy for space vehicles. Initial research would test the ability of rocket materials to withstand the combined effects of intense radiation and temperature extremes to which various components would be subjected in such a nuclear rocket.
AP, 2 Oct 59.

4 Oct 59 On the second anniversary of Sputnik I the USSR launched a new satellite whose orbit was expected to take it around the moon. Lunik III, as the new satellite was called, was to pass within 6,250 miles of the moon, circle it, and then continue back around the earth, passing as close as 1,250 miles. The satellite possibly carried equipment to photograph the far side of the moon, and would probably make one or more cycles around the moon and earth. The weight of the payload capsule was given as 613 pounds and of the instruments within it as 344 pounds.
NYT, 5 Oct 59, 1.

5 Oct 59 The Director of Defense Research and Engineering, at a news conference, said that the US and the USSR were roughly equal in the development of intercontinental missiles, although the Soviets were ahead in space research because of their superiority in propulsion. According to him, US chances of overtaking the USSR in space rocket propulsion depended upon the 1.5 million pound thrust SATURN.
NYT, 6 Oct 59, 1.

6 Oct 59 The Air Force announced the successful launching of an ATLAS missile carrying a new tactical-type nose cone. The 12 foot cone would eventually replace the smaller cones used on ATLAS, TITAN, and THOR missiles.
AP, 6 Oct 59.

7 Oct 59 The JCS, in a memorandum to the Service Chiefs and unified and specified commanders, delineated the responsibilities of the Services, the unified and specified commanders, and the JCS with respect to weapons systems integration, particularly where a weapon system was not exclusively the province of a single Service. In such a situation, the commander of a unified command would provide a statement of his requirements to the JCS, who would, in turn, forward their recommendations for fulfilling these requirements, including the assignment of development and equipment-operating responsibilities, to the Secretary of Defense. The Secretary would then assign the development of the weapon system to one of the Services.
(U) SM 998-59 to CSA et al, 7 Oct 59, "Responsibilities in the Area of Weapons Systems Integration (U)," derived from JCS 1478/85, 7 Oct 59, JMF 4600 (10 Aug 59)

8 Oct 59 In a memorandum for the Chairman, JCS, the Vice CSAF requested that a decision be obtained from the Assistant Secretary of Defense (ISA) on the number of THOR missiles to be authorized for Royal Air Force combat training

launches (CTL), and on the use of Mutual Assistance Program funds for procuring these missiles. Under the terms of its agreement of 22 February 1958 with the United Kingdom, the US was obliged to provide training missiles and launch facilities for 4 THOR squadrons in the UK, totaling 40 missiles and 10 launches over a period of 5 years. Although funds had been obtained for the first THOR CTL, funds for subsequent CTL's, including one due for procurement in December, had not been approved. If more funds were not made available the USAF would be forced to halt production orders and the situation would become a State Department matter, since the UK would have to be informed of these developments.

(S) Memo, Vice CSAF to CJCS, 8 Oct 59, "THOR Combat Training Launch Program," CJCS 471.94 (1959).

12 Oct 59 The Commanding General of the Army Ordnance Missile Command stated in a news interview that the future of ABMA rested, in part, on the Administration's anticipated decision on what agency would control SATURN, the Army's 1.5 million pound booster engine that had suffered a 48 per cent budget cut and a stretched out timetable. He pointed out that NASA, since it was developing a similar engine, wanted to acquire the SATURN project, yet the military space reorganization of September had placed responsibility for development of space boosters with the Air Force.

NYT, 13 Oct 59, 18.

12 Oct 59 In a memorandum to the Secretary of Defense, the JCS reaffirmed their views that a MINUTEMAN capability was required as soon as possible but without a crash program (see item of 19 Feb 59). On the question of force objectives for the MINUTEMAN, however, the Chiefs forwarded divergent views: the CSA and CNO recommended a single facility to produce 50 missiles during the first year and a total number of 300-500; the CSAF, on the other hand, considered that a tentative objective of 150 operational missiles by the end of FY 1963 and 800 missiles by the end of FY 1964 was indicated.

The Chairman, JCS, in a separate memorandum, submitted his views on the issue to the Secretary of Defense. He considered that production planning for MINUTEMAN should insure the establishment of production facilities with a capacity for meeting the initial MINUTEMAN force objectives recommended by the Air Force, but commitments for the second and subsequent years should be made only as necessary to prevent program slippage in meeting minimum MINUTEMAN force levels agreed upon by the JCS. In his opinion the Air Force objectives for the first operational year would supply an economic and feasible production facility and a solid propellant production capability which could be applied to other missile programs if the MINUTEMAN program were terminated.

(TS-RD) JCSM-414-59 to SecDef, "MINUTEMAN Program (U)," 12 Oct 59, derived from JCS 1620/77, 12 Oct 59, JMF 4730 (29 Jun 59); (TS-RD) CM 407-59 to SecDef, 12 Oct 59, "MINUTEMAN Program," CJCS 471.94 (1959).

13 Oct 59 The US shot into orbit a 91½-pound "composite radiation" satellite, EXPLORER VII, by means of a four-stage JUNO II rocket. The scientific equipment aboard EXPLORER VII was conducting seven different experiments concerning radiation, including one that could give information on the basic weather patterns of the earth.
NYT, 14 Oct 59, 1.

13 Oct 59 The Air Force announced that BOLD ORION, a strategic air-to-surface missile, was launched from a B-47 in order that it would pass near EXPLORER VI, which was orbiting at an altitude of 145 miles and a speed of 18,000 mph. The missile then landed in the Atlantic after a 1,000 mile flight. Indications were that the performance had demonstrated extreme accuracy.
NYT, 14 Oct 59, 1.

14 Oct 59 The Army announced that it had made the first successful flight of a NIKE-ZEUS anti-missile missile. It was the forerunner of a series of critical tests to take place before next April in order to evaluate the feasibility of the controversial weapon.
NYT, 15 Oct 59, 18.

15 Oct 59 The Acting Secretary of Defense requested the views of the Joint Chief of Staff on WSEG Report No. 45, "Potential Contribution of NIKE-ZEUS to Defense of US Population and Its Industrial Base and the US Retaliatory System." Their recommendations (due 15 Nov 59) were to be based on the following assumptions: 1) the NIKE-ZEUS could be made operational; 2) the NIKE-ZEUS had a basic limitation in its rate of fire which the enemy could overwhelm by sophisticated decoys or multiple warheads; and 3) the US could produce no other system as effective as NIKE-ZEUS before 1970.
(S) Memo, Actg SecDef to JCS, "Production and Deployment of the NIKE ZEUS, 15 Oct 59, Encl to JCS 1620/276, 19 Oct 59, JMF 4714 (15 Oct 59).

15 Oct 59 The National Security Council noted the President's request that the Special Assistant to the President for Science and Technology prepare, with the participation of NASA, DOD, and CIA, a study appraising the relative capabilities of the US and USSR in the field of outer space science and technology. The study was to be presented to the NSC and NASC. (NSC Action No. 2136 was approved by the President on 29 October 1959.)
(TS) NSC Action No. 2136, 15 Oct 59.

18 Oct 59 The USSR announced that Lunik III completed a 14 day moon-earth orbit. It had come within 4,300 miles of the moon, gone out into space a distance of 292,000 miles, and returned, passing 29,500 miles from the earth. As it headed into its second cycle there was speculation whether it would circle the moon again or collide with it. At the same time, Soviet scientists revealed that Lunik III had taken pictures of the far side of the moon's surface, the 40 per cent that is always hidden from view.
NYT, 19 Oct 59, 1, 3.

20 Oct 59 In public statements, the Chief of the Army Ordnance Missile Command and the Army's chief missile scientist, Dr. Wernher von Braun, warned that the USSR had a five year lead in the missile race and blamed interservice arguments and repeated re-appraisals for keeping the US space program from closing the gap.
AP, 20 Oct 59.

21 Oct 59 After a conference with his defense and science advisers, the President announced his decision to transfer ABMA from the Army to NASA. The transfer order would have to lie before Congress for sixty days before it became effective. It was expected that military missile programs formerly assigned to the ABMA would be inherited by the Air Force.
NYT, 22 Oct 59, 1.

21 Oct 59 In a letter to JCS, CINCNORAD expressed concern over the "increasing gap between the enemy offensive and our defensive capabilities." He recommended that FY 1960 pre-production funds for NIKE-ZEUS be committed as early as possible and that adequate production and military construction funds be included in the FY 1961 Army budget to insure a minimum defense posture against the ballistic missile threat.
(S) Ltr, CINCNORAD to JCS, "Requirement for the NIKE-ZEUS System (U)," 21 Oct 59, encl to JCS 1620/278, 23 Oct 59, JMF 4714 (21 Oct 59).

22 Oct 59 At his news conference the President said that he expected the von Braun space team, which had been transferred from the Army to the jurisdiction of NASA, to develop SATURN, the booster engine needed in the US civilian space program. For this project, he would ask Congress for a significant increase in NASA's appropriation for FY 1961. He also stated that all other Army missile projects, including JUPITER, PERSHING, and NIKE-ZEUS, would be retained by the Army Ordnance Missile Command.
NYT, 23 Oct 59, 1, 12.

23 Oct 59 The Chairman, JCS, informed the Deputy Secretary of Defense that, as requested by him and the Secretary of Defense, the JCS had initiated a study to determine the military desirability of establishing an early warning system against submarine-launched ballistic missiles.
(TS) CM-417-59 to Dep SecDef, 23 Oct 59, "Early Warning Against Submarine-Launched Ballistic Missiles," CJCS 471.94 (23 Oct 59).

21 Oct 59 The Chairman, JCS, forwarding his views on the report by the Military Operations Subcommittee of the House Committee on Government Operations (Holifield Report) to the Secretary of Defense, disagreed with the conclusions of that report. He stated that the Subcommittee's recommendation--merger of the Army and the Air Force--was based upon a faulty premise, i.e., that military organization must be based on the logic of weapon technology exclusively. Furthermore, he did not believe such a merger would prove a panacea for the missile program, but instead would be "a step backward in the evolutionary process which is moving toward true unification."

(U) CM-409-59 to SecDef, "House Report No. 1121, 'Organization and Management of Missile Programs'," 27 Oct 59, CJCS 471.94 (1959).

27 Oct 59 The USSR released the first photographs ever taken of the far side of the moon. The pictures, taken twenty days previously when Lunik III passed the moon's then unseen surface, had been transmitted back to the USSR on October 18th as the artificial satellite neared its perigee. The Soviets were proud of their success in aiming the camera at the target and holding it there while the photographs were taken, but an even more impressive accomplishment was the automatic processing of the photographs and their transmission, presumably by radio-photo methods, to the earth.

NYT, 27 Oct 59, 1.

28 Oct 59 A preliminary summary of an engineering study on high-altitude nuclear detection systems, prepared under the direction of ARPA in response to a State Department request, was submitted by the Deputy Secretary of Defense to the Under Secretary of State to serve as guidance in formulating policy for disarmament negotiations. The findings of the study indicated that, given certain conditions, a system for detecting nuclear explosions in space out as far as the moon might be possible in five years, and, depending on the validity of certain assumptions, it might even be possible within the same period to establish a solar satellite system for detecting nuclear explosions in space out as far as the earth's orbit around the sun. The Deputy Secretary of Defense cautioned, however, that although these theoretical estimates of detection capability justified a research and development program, practical estimates of the capability and technical feasibility of such a system were as yet not reliable enough to be the basis for national policy decisions on questions concerning the control of nuclear tests in space.

(S) Ltr, Dep SecDef to Under SecState, 28 Oct 59, Encl to JCS 1731/320, 3 Nov 59, JMF 3050 (1959).

28 Oct 59 The JCS, in response to a request regarding the military requirement for establishing a SAC airborne alert, forwarded their divergent views to the Secretary of Defense.

The CSA and CNO agreed that: 1) a military requirement for SAC to possess an air alert capability existed; 2) any capability established should be limited to present AF budget resources; and 3) the timing of an emergency alert should be directed by the JCS.

The CSAF also agreed that there was a military requirement for an airborne alert capability, but felt that a greater portion of SAC resources (up to one-fourth of the heavy bomber force) should be allocated for this purpose. He therefore recommended that the "on the shelf" plan proposed by the Secretary of the Air Force (see item of 25 Sep 59) be approved.

In a separate memorandum, the Chairman, JCS, advised the Secretary of Defense that although the military requirement for an airborne alert capability was valid, he saw no way of meeting the requirement without unacceptable reductions and dislocations of other essential programs.

(TS) CM-418-59 to SecDef, 28 Oct 59, "Establishment of Airborne Alert," and JCSM-444-59 to SecDef, same date and subj, Encls to JCS 1899/527, 28 Oct 59, JMF 3340 (10 Sep 59).

28 Oct 59 NASA launched an aluminum-coated balloon, 100 feet in diameter, that was inflated 250 miles out in space. The balloon, not intended for orbit, was a prelude to the launching of similar inflatable spheres as satellites--a potential revolutionary form of space communications.

NYT, 29 Oct 59, 1.

29 Oct 59 The retiring Director of ARPA joined Dr. Wernher von Braun in an appeal for a high-priority financing plan to surpass the Soviet Union in space. Particularly urged was an expenditure of $240 million for the next fiscal year on Project SATURN, recently transferred to NASA; this was $100 million more than the amount planned by DOD. The increase was advocated in order to advance the target date of SATURN from 1965 to 1963.

NYT, 30 Oct 59, 1.

30 Oct 59 The Director of Guided Missiles, OSD, received the following Service reports of progress in ICBM and IRBM programs for October: 1) ATLAS--three successful firings in the 4,300 n.m. range (see item of 6 Oct 59); 2) THOR--four successful firings, including a 1,326 n.m. launching by an RAF crew; 3) JUPITER--a highly accurate firing of 1,600 n.m. range; and 4) POLARIS--one successful and one partially successful launching.

The Air Force also reported the fifth firing of a BOMARC-B. It was partially successful in attacking REGULUS II and drone planes.

(S) Army Weekly Fact Sheet, 21 Oct 59; Navy Weekly Summary, 7 and 22 Oct; AF Weekly Summary, 9, 16, 23, and 30 Oct, in files of Dir of Guided Missiles, R&E, OSD.

30 Oct 59 The Defense Department announced the elimination of one of the five squadrons of THOR IRBM's scheduled for European deployment. Delivery to the UK of the four remaining squadrons, each contianing 15 missiles with hydrogen warheads, was nearing completion. This decision would not affect JUPITER deployment in Europe.

AP, 30 Oct 59

31 Oct 59 The State Department confirmed that an agreement had been reached to establish a JUPITER missile base in Turkey. At the same time it was announced officially that negotiations for a base in Greece had been abandoned. Thus the deployment of IRBM's in Europe was complete, with commitments made for 7 squadrons: four THOR squadrons in England, two JUPITER squadrons in Italy, and one JUPITER squardon in Turkey. The reduction in the missile program in Europe was interpreted, in the New York Times account, as part of the general tendency of the Administration to contract US military obligations abroad.

NYT, 31 Oct 59, 1.

Dir (6)(B)