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SECRETARY OF DEFENSE

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**INTO THE
MISSILE AGE**
1956-1960

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Atlas
FBM (Polaris)
Satellite projects determined by the secretary of defense
to have objectives of "key political, psychological or
military import"
Antimissile missile weapons systems, including both active
defense and early warning
Thor/Jupiter
Titan
IGY scientific satellite program (Vanguard and Jupiter C)

McElroy discussed this list with the president on 21 January, and the next day the NSC noted that the president had formally approved it.¹⁶¹

Another action in January 1958 brought to a close the long period of fumbling uncertainty in the scientific satellite program and helped to restore some national prestige. On the night of 31 January 1958 ABMA, firing a modified four-stage Jupiter C rocket (Juno D) at the Air Force Missile Test Center, orbited a 31-pound satellite named Explorer I. President Eisenhower announced the achievement at 12:52 a.m. on 1 February. Another six weeks elapsed before Vanguard finally succeeded, after two more failures.¹⁶²

The Advanced Research Projects Agency

Eisenhower never tired of preaching the gospel of greater unity in defense organization. In the development of radically new technologies associated with missiles, he saw an example of a function requiring centralized control. The Soviet Sputnik and the accession of McElroy, two nearly simultaneous events, provided both a stimulus and an opportunity for introducing organizational changes. Missiles already far along the road to development might continue under individual services, but newer and more esoteric projects cutting across service lines seemed to call for other organizational arrangements.

On 11 October 1957, in one of his first conferences with his new secretary of defense, the president suggested the possibility of a "fourth service" to handle the "whole missiles activity." McElroy suggested a Manhattan District project for the antimissile program, which the president had already cited as a possibility for the ICBM and IRBM programs. Eisenhower thought that the idea might be extended to the military reconnaissance satellite.¹⁶³

In the end, however, the Manhattan model was rejected, probably as too sweeping. Instead, Eisenhower and McElroy opted for the "single manager" approach, already functioning successfully in connection with inter-service supply problems, with the managerial agency operating directly under OSD. The president, as already noted, announced this decision on 7 November. DoD General Counsel Robert Dechert rendered a legal opinion that, under the National Security Act as amended, the secretary had ample

authority to establish the proposed managerial agency, subject only to a requirement to notify Congress at the time he did so.¹⁶⁴

McElroy intended that the new agency would have jurisdiction over new weapons that were "not anything like as far down the road as the missile program," such as the antimissile weapon and "perhaps some other very upstream types of weapons projects." It would develop new weapons to the point of operational capability, when they would be turned over to one of the services. It would not be a "Manhattan project." "There were things you could do in wartime to throw money into the Manhattan project that are quite different from the way this will be handled," he said.¹⁶⁵

Some service spokesmen opposed the new agency. The most prominent, Air Force Secretary Douglas, considered it unnecessary and intrusive and believed that weapons systems, from their inception, should remain under the user service. Another argument, supported by the DSB, held that it would suffice to strengthen the authority of some existing official.¹⁶⁶

McElroy and Quarles ignored these objections and moved ahead with their plans. Their draft directive for the "Special Projects Agency" was reviewed by the JCS, who did not object in principle but recommended some changes, including one to limit the agency's activities to antimissile weapons and satellites. McElroy rejected this view because, as his military assistant, General Randall, explained, he wished the new agency to be free to take on other projects if desired. It was also intended that the director of the agency would have authority to enter into contracts, although he would normally contract through the military departments.¹⁶⁷

McElroy held up the formal establishment of the new organization, eventually named Advanced Research Projects Agency (ARPA), pending the appointment of a director, who could be expected to play a key role in setting its course.¹⁶⁸ Meanwhile, as already noted, McElroy included \$10 million for ARPA's initial operating expenses in the FY 1958 budget supplemental.

The House Armed Services Committee, investigating the missile program, also evidenced much interest in ARPA, and McElroy encountered questions on the subject when he appeared before the committee on 13-14 February. Some members doubted McElroy's authority to establish by executive action an "operating" agency with power to hold property. Assurances given the committee by General Counsel Dechert failed to convince the skeptics.¹⁶⁹

This issue reached the floor of the House in connection with a bill to authorize construction of certain Air Force facilities in FY 1958, as part of the budget supplemental. The House adopted an amendment that expressly authorized the secretary to establish ARPA and allowed the agency to enter into production contracts. McElroy was willing to accept this provision provided it was so worded as to avoid any implication that the law was conferring an authority that did not exist. The Senate, however, deleted the House amendment as irrelevant to the rest of the bill. The conference committee retained its substance, but without mentioning

ARPA by name; the secretary "or his designee" was authorized to engage in advanced projects in the field of basic and applied research. In that form, the bill passed, with another provision added by the House authorizing not only military projects, but also "such advanced space projects as may be designated by the President"; this was intended to insure continuance of Vanguard. The president signed the bill on 12 February 1958.¹⁷⁰ ←

By that time McElroy had found a director for ARPA: Roy W. Johnson, a vice president of General Electric. His appointment was announced on 7 February 1958. The directive establishing ARPA, issued the same day, ← authorized it to direct or perform projects assigned to it by the secretary of defense, using existing facilities of DoD as far as practicable, although it could also acquire its own facilities. A few weeks later Herbert F York, director of the Atomic Energy Commission's Livermore Laboratory in California and a member of the Ballistic Missiles Scientific Advisory Committee, became chief scientist of ARPA.¹⁷¹

The 1958 reorganization, already in prospect by January of that year, brought about significant changes in the administration of research and development within OSD. Pending the reorganization, the relationship between the newly established director of ARPA, the director of guided missiles, and the assistant secretary for research and engineering was regulated by an agreement worked out by these officials and approved by McElroy. Under its provisions, the assistant secretary (R&E) acted as a staff adviser responsible for recommendations concerning the soundness and feasibility of all research and engineering programs and their consonance with DoD policies. The DGM had specific responsibility for advice of similar scope concerning guided missiles, but he also held delegated line authority in his field. The director of ARPA was primarily a line official, responsible for planning and directing assigned projects. All three officials were enjoined to cooperate closely and to keep one another fully informed.¹⁷²

From the beginning, it had been understood that ARPA would take over responsibility for development of antimissile defense and for military satellite projects. The first of these involved an area of rivalry between the Army and the Air Force, owing to the difficulty of distinguishing clearly between "point" and "area" defense. On 10 January 1958 Holaday informed McElroy that the Air Force had diverted some FY 1958 money to a full-fledged anti-missile project (known as Wizard), which overlapped the Army's work. Holaday recommended immediate action, without awaiting the organization of ARPA, to reaffirm the division of responsibilities prescribed earlier: the Air Force to limit its effort to long-range detection, the Army to develop the actual weapon. McElroy agreed. On 16 January he informed both service secretaries that the direction of the anti-ICBM program would eventually be assigned to ARPA, but in the meantime the two services were to continue their current lines of development.¹⁷³

As its first responsibility, ARPA took over coordination of a national military satellite program. The Advisory Group on Special Capabilities, in response to Holaday's directive of 6 September 1957, reviewed the satellite

programs of the services and submitted recommendations on 15 January 1958. The first step, it said, should be development of vehicles to be launched by the boosters developed for IRBMs. A longer-term project would exploit the still more powerful ICBM rocket engines. Looking beyond military satellites to exploration of space (which it was assumed would become a national objective), the group noted that unmanned explorations of the moon, Venus, and Mars appeared to be within the capabilities of presently planned systems, and recommended that a lunar probe be part of the IRBM-based satellite program. For manned space exploration, the group made no recommendations, merely observing that the X-15 hypersonic aircraft, a rocket-powered vehicle under development by the Air Force and the Navy, provided a basis for development in this field.¹⁷⁴

In response to a request from Holaday on 7 January 1958, the services submitted more specific recommendations for satellite programs. The Army on 10 January recommended a program that had been presented earlier to the advisory group, involving 16 satellite launchings between 1958 and 1960. Four days later the Army forwarded a long-range plan, beginning in January with the small satellite already scheduled for launch, followed by progressively larger and heavier satellites, then an unmanned moon landing in April 1959, manned landing and return in the spring of 1967, and a 500-man expedition to the moon by 1971.¹⁷⁵

The Navy reply on 15 January set forth, as a minimum, the goal of developing satellites with a 1,500-pound payload, followed by manned space flight. This would require extensive research experience with smaller satellites; hence the Navy recommended continuing the Vanguard program with successively larger payloads, leading logically to the use of Titan or Atlas boosters to reach the 1,500-pound goal.¹⁷⁶

The Air Force arrayed a smorgasbord of exotic projects, including the 117L satellite system, which could evolve into manned systems for orbiting the earth and the moon; the X-15, already described, and Dynasoar, a rocket-propelled supersonic glider, for manned space flight research; a nuclear-powered rocket and an ion-propulsion aircraft for actual space flight; and plans for lunar landings and probes of Mars and Venus.¹⁷⁷

The Army and Navy made further proposals in sending Holaday their comments on the report of the Advisory Group on Special Capabilities, the conclusions of which they endorsed. Brucker, in lieu of the 16-vehicle program presented earlier to the group, now recommended 12 launchings during 1958 and 1959, building up to a capability by October 1959 of a launch rate of one per month which could be continued indefinitely; he also recommended approval of the Army's longer-range program. Gates recommended that the Navy take on the following specific tasks: continuation of Vanguard, expanded through combinations with Thor or Jupiter; a television satellite system under development; a satellite tracking plan, already under study by the Navy in response to a request by Holaday; and development of a hypersonic aircraft as a basis for a manned space vehicle, to be launched by a three-stage rocket using boosters from Titan and Polaris.¹⁷⁸

Most of these ambitious proposals were clearly matters for long-term consideration. The principal exception, the Air Force 117L, gave promise in the near future of yielding a reconnaissance satellite. As early as February 1958 the Air Force planned one that would circle the earth three times, then eject a capsule containing photographs taken from aloft. McElroy and Quarles discussed this with Killian and Allen Dulles on 6 February, and the president approved it the next day with the understanding that it would come under the overall supervision of DoD and that CIA would control the intelligence aspects. On 24 February McElroy directed the Air Force to proceed with the project under the direction of ARPA.¹⁷⁹

The director of ARPA set forth his proposed method of operation in memorandums to the service secretaries on 27 March. Initially, ARPA would not acquire or operate its own laboratories, though it might do so later. Some projects might be assigned directly to military departments; those not readily identifiable with a specific weapon system would be handled by ARPA through contracts with military activities or other governmental or private agencies. Johnson forwarded copies of orders that he had sent directly to service installations the same day. ABMA was instructed to prepare four satellite launchings between August 1958 and January 1959, with successively larger payloads, using Juno I or a more advanced version (Juno II). He directed the Air Force to develop three lunar probes to be launched as soon as possible, with a three-stage launch vehicle drawing on Thor, Vanguard, and a solid-propellant rocket to be determined later. The Naval Ordnance Test Station, Inyokern, California, was to develop a ground scanning system for use in lunar probes. On the same day, after the president had approved the projects, McElroy announced them publicly.¹⁸⁰

ARPA was off to a fast start. The projects that it had set in motion would provide a basis for the program of the National Aeronautics and Space Administration and eventually, after years of patient and costly experimentation, for the nation's first moon landing in 1969.

Further Acceleration of Effort

The 1959 budget carried slightly more than \$3.8 billion in new obligational authority for procurement of missiles, exclusive of research and development and of the \$340 million requested for ARPA. However, the figures were not necessarily final; technological progress might lead to requests for more support of some programs, as McElroy told the House Appropriations Committee on 27 January 1958.¹⁸¹

Uncertainty about final budget goals stemmed not only from the state of weapons technology but also from the administration not having completed its examination of the Gaither panel recommendations. The NSC discussed these on 6 and 16 January. It directed DoD, in consultation with the White House, to report on the advisability of enlarging the Atlas and Titan programs beyond the 13 squadrons programmed and of hardening

Advisory Committee (PSAC) the task of drafting a space program and an organization to administer it. The plan that emerged in March 1958 was drawn up by the PSAC, in collaboration with the President's Advisory Committee on Government Organization (PACGO) and the Bureau of the Budget. A new National Aeronautics and Space Agency would absorb NACA and assume responsibility for space and aeronautical research. Headed by a director appointed by the president, it would have an advisory National Aeronautics and Space Board of 17 members, of whom not more than 8 would be from government agencies, including at least 1 from DoD. The agency's relationship with DoD was briefly disposed of in an introductory statement of policy, which affirmed that space activities should be under civilian direction, unless they were "peculiar to or primarily associated with weapons systems or military operations, in which case the agency may act in cooperation with, or on behalf of, the Department of Defense." Existing activities and facilities relating to space might be transferred to the new agencies from other government departments with the concurrence of the department head and the approval of the president.²²⁰

The president sent his proposal to Congress on 2 April 1958. At the same time he directed the secretary of defense and the chairman of NACA to review existing and planned DoD programs and recommend those that should be placed under the new agency, plus an operating plan to assure DoD support of the latter.²²¹

During congressional hearings, DoD officials, while supporting the bill, disagreed over whether its language would adequately protect their department from infringement by the new agency. Deputy Secretary Quarles believed that it would; Roy Johnson, director of ARPA, feared that it might not. He recommended revision of the bill to require the new agency to cooperate with DoD when appropriate, instead of leaving cooperation optional. Otherwise, the composition of the advisory board should be changed to guarantee DoD additional representation. Representatives of the military departments were inclined to agree with Johnson. McElroy, asked about apparent disagreement among his top officials, attempted to smooth it over. All agreed, he said, in supporting the establishment of the new agency, and he had no doubt that the language of the bill could be construed to protect DoD interests, though there might be "some slight modifications" for clarification.²²²

Part of the reason, at least, why witnesses from DoD failed to present a clear position on the bill was the limited time that had been allowed them for consideration. The department had only 24 hours to review the draft bill and submit comments. BoB had sent the draft to the department on 27 March with a deadline of 31 March. On the face of it, then, the department had several days, but two of them (29 and 30 March) fell on a Saturday and Sunday. As it turned out, the department did not furnish its comments to the BoB until 1 April.²²³

On 12 May General Counsel Dechert wrote to the Senate committee suggesting changes on which there was "substantial agreement" within DoD.

They would make clear the full responsibility of DoD for activities primarily associated with weapons systems or military operations and would specify that a majority (nine members) of the board must be from the government, with at least three from Defense. BoB Director Maurice H. Stans told the committee that the administration would accept these amendments.²²⁴

On 2 June the House approved a bill that incorporated the substance of the amendments requested in Dechert's letter. It also changed the title of the proposed new organization to National Aeronautics and Space Administration (rather than agency) and of its head to administrator instead of director.²²⁵

The version approved by Johnson's committee on 11 June, and passed by the full Senate five days later, introduced an important change. The proposed advisory body had now become the National Aeronautics and Space Policy Board, a cabinet-level group reporting directly to the president and including the secretaries of defense and state among its members. It would recommend to the president a program of aeronautical and space activities and assign responsibility for their execution; in other words, it would establish the demarcation between the new space agency and DoD.²²⁶

The differences between the two bills did not seem important to officials of OSD, who felt that their interests would be protected in either case. Quarles, questioned by Republican Sen. Styles Bridges of New Hampshire, replied that the department could "live with" either version. He added his understanding, however, that the White House preferred the House version.²²⁷

Quarles was correct in this latter statement. President Eisenhower took strong exception to the proposed policy board, fearing an encroachment on presidential authority. In a conference with the president on 7 July, Senator Johnson suggested a happy solution: why not make the president himself the chairman of the board? Eisenhower agreed, and the bill was accordingly rewritten with this provision, blending elements from both the House and Senate versions.²²⁸

The legislation passed on 16 July and, as signed by the president on 29 July, retained the title National Aeronautics and Space Administration (NASA). It also incorporated provision for a Civilian-Military Liaison Committee to consist of a chairman appointed by the president, with representatives from the Department of Defense and the military departments, to be assigned by the secretary of defense, and others chosen by the administrator of NASA. The National Aeronautics and Space Council, under the president as chairman, would include the secretaries of state and defense, the administrator of NASA, the chairman of the AEC, not more than one additional presidential appointee from the federal government, and not more than three others from private life. Its function was to advise the president in the performance of his duties under the act—to develop a program of space activities, to fix responsibility for their performance, and to provide for effective cooperation between NASA and DoD.²²⁹

The task of allocating existing space-related projects between DoD and NASA had already begun. As early as 9 May, ARPA and NACA had agreed

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that the initial program for the new agency would provide for major effort in three principal areas: (1) use of unmanned space vehicles to collect scientific data; (2) development of technology and equipment for manned space flight; and (3) development of components and techniques to improve space technology. Predominantly military programs were listed as reconnaissance and surveillance, countermeasures against space vehicles, effects of nuclear weapons in space, and navigation aids. Primarily civilian programs included unmanned space flights for scientific purposes. Those still under discussion embraced man-in-space programs and a proposed rocket engine developing one million pounds of thrust.²³⁰

The establishment of NASA provided a logical complement to the earlier establishment within DoD of ARPA. Together the two agencies would assure centralized and cooperative direction of the immense and costly effort to develop a capability, both military and civilian, for operating in space. A third step in the same direction, part of the president's Defense reorganization plan of 1958, was soon to be taken: upgrading the authority of the official in OSD responsible for military research and development in all fields. These steps provided the degree of centralization that President Eisenhower considered essential.

Throughout 1958 satellite programs remained under the direction of ARPA, but early in the following year it became necessary to consider transferring full responsibility to the services that would eventually operate the satellites. Air Force representatives suggested to the AFPC on 26 February 1959 that their service be assigned responsibility for the reconnaissance satellites. On 5 May 1959 the Air Force made this request in writing, following up three days later with a similar request for MIDAS.¹³⁷

The director of ARPA thought it too early to make such assignments. Premature insertion of "roles and missions" questions, he believed, had a tendency to prejudice the outcome of research. McElroy agreed in part. He did not accede to the Air Force request for an immediate assignment of responsibility; however, on 29 May 1959 he asked the JCS to designate the commands that should be given responsibility for the systems for satellite reconnaissance and detection, also for the navigation satellite.¹³⁸

The Air Force request brought to a head another intense interservice struggle, this one concerning responsibilities for operations in space—a matter of considerable future importance for all the services. Some Army and Navy partisans saw in the Air Force request an attempt to seize domination of this new military dimension. The Joint Chiefs of Staff returned a temporizing reply to McElroy on 25 June to the effect that they already had under study the question of the military direction and logistic support of space operations.¹³⁹

On 24 July the JCS, unable to agree, submitted a split report. Lemnitzer and Burke recommended establishment of a joint military astronomical command, responsible to the JCS, to exercise military direction and coordination over operational space systems and supporting activities. For the present, this should resemble a joint task force rather than a unified command, since no combatants were involved. For logistic support and management, they proposed that the Navy be responsible for the navigation and detection systems, the Air Force for the interim satellite early warning system, and the Army for the first phase of a satellite reconnaissance system.

White recommended the assignment of satellites and other space systems to existing unified and specified commands on the basis of function and mission. For example, those systems falling into the strategic area, such as reconnaissance (SAMOS), should be assigned to CINCSAC; those designed for defensive functions, such as early warning and satellite detection, should be assigned to CINCNORAD. Support for these systems should be the responsibility of the services; General White would assign to the Air Force a larger share of this responsibility than would his colleagues.¹⁴⁰

McElroy rejected both of these conflicting recommendations and instead proposed to assign responsibility to individual services. After discussion with the JCS, he drafted a memorandum along this line which Goodpaster cleared with the White House. The president approved it after being assured that McElroy's plan would avoid service duplication and

that ARPA would continue to be responsible for advanced research and development of satellite systems.¹⁴¹

On 18 September 1959 McElroy issued his assignment of service responsibilities. The Air Force would develop, produce, and launch space boosters, with payloads for space and satellite systems to be developed by the departments, which would reimburse the Air Force as necessary. Payload responsibilities were assigned as follows: satellite early warning and reconnaissance systems (MIDAS and SAMOS), Air Force; satellite navigation system, Navy; communications system (NOTUS), Army. Before assuming responsibility for a program, the appropriate department would submit detailed plans for the system, including relationships with the unified and specified commands and other agencies.¹⁴²

This directive was transmitted to the service departments on 23 September. At the same time, York and Johnson (director of ARPA) announced it at a press conference. Since the Air Force acquired the most prominent role, the press interpreted the directive as a clear victory for that service, as did some partisans of both the Air Force and the Army.¹⁴³

The Air Force moved quickly to take over MIDAS and SAMOS. On 17 November Quarles approved their transfer, as well as Discoverer, the general satellite research program. Discoverer had also become the vehicle for a photographic intelligence program (Corona) under CIA auspices; it was ultimately to replace the U-2 program.¹⁴⁴

Other transfers were delayed. On 29 February 1960 the Army requested transfer of the communication satellite program, but Secretary Gates held it up because the program remained under technical review by ODDR&E and JCS. By that time it had split into two programs, Advent, to provide instantaneous communications, and Courier, to receive and store messages for later transmission. After further delay, Brucker renewed the request, and Acting Secretary Douglas approved on 15 September. Earlier, in May 1960, the Transit program had been shifted to the Navy. York's office continued to monitor the technical aspects of all these programs.¹⁴⁵

Responsibility for tracking objects in space remained a matter of dispute between the services. It was related to management of missile test ranges, since these would perforce accomplish part of the function of tracking missiles and satellites once they were aloft. McElroy appointed Walker L. Cisler, a utility company executive, to head an OSD-NASA study of the best method of organizing and managing test ranges and tracking stations. Reporting on 30 November 1959, Cisler recommended a central office to manage all such facilities—those of both DoD and NASA—headed by an executive director reporting directly to the secretary of defense.¹⁴⁶

McElroy left office immediately thereafter, and it fell to Gates to act on Cisler's somewhat controversial recommendations. There was no objection to central control of tracking facilities, but who should exercise it? York strongly objected to being cut out of the picture. Some believed that the JCS should have the function. Cisler, recalled to discuss the matter with OSD officials, reaffirmed his recommendation for a director immediately

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indicated that he favored the transfer. He pronounced himself "completely nonplussed" by Army opposition, which he attributed to a "spirit of bureaucracy" prevailing over considerations of national interest. He hoped to settle the matter before the end of the year, when his transfer authority would expire.¹⁸³

By that time Brucker, recognizing the impossibility of "stonewalling" the proposal, had offered Glennan half a loaf. He was willing to transfer JPL to NASA, subject to an understanding that NASA would manage it through the Department of the Army as executive agent. He also offered to make the facilities of ABMA available to NASA and to allow NASA to establish a liaison group at Redstone. Brucker's concessions reflected the different status of JPL and ABMA—the one under contract, the other an integral part of the Army—as well as the fact that at least some scientists at JPL were inclined to favor transfer of control to a civilian institution.¹⁸⁴

Glennan's first reaction was that this offer was not enough. He so informed Quarles on 31 October. In further discussion, however, Glennan appeared to be open to a compromise—perhaps one that would allow NASA to assume responsibility for the space program at ABMA, with Von Braun participating in its management.¹⁸⁵

These were the lines along which the issue was settled. Brucker agreed to work out a compromise and suggested General Lemnitzer, then vice chief of staff, to negotiate with NASA officials. An agreement emerged in discussions in which Quarles represented OSD. JPL would be transferred to NASA, with the Army retaining technical direction of specific military projects. ABMA would remain under control of the Department of the Army, but a portion of its capacity would be made available to work on projects for NASA, which would install at ABMA its own technical operations group.¹⁸⁶

Formal agreements for transferring JPL and establishing the relationship between NASA and AOMC were signed by Brucker and Glennan on 3 December. McElroy at once presented them to the president, who approved them, though indicating his belief that ABMA should have been transferred along with JPL. In fact, the issue of ABMA's status had only been postponed.¹⁸⁷

Aside from friction over ABMA, NASA and Defense quickly established a pattern of cooperation. Two noteworthy areas in which the agencies worked together were the development of booster rockets for space vehicles (largely modifications of Thor, Atlas, and other missiles) and development of a satellite surveillance and tracking system using both NASA and DoD facilities. ARPA, which exercised responsibility for all military space projects, became NASA's principal collaborator in Defense; however, NASA also worked directly with the services.¹⁸⁸

The network of DoD-NASA contacts became so extensive as to raise a question of the need for CMLC. The Senate Committee on Aeronautical and Space Sciences, investigating organization for space activities between March and May 1959, focused considerable attention on the role of

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this committee. Holaday himself admitted that it might be considered "nothing more than a post office." He suggested converting it into a mechanism for pointing up disagreements, seeking to resolve them and, if unable to do so, referring them to higher authority. This would make it somewhat similar to the Military Liaison Committee of the Atomic Energy Commission, which had authority to appeal to the congressional Joint Committee on Atomic Energy. The Senate committee agreed and recommended that the CMLC receive full authority and responsibility for handling coordination between NASA and DoD.¹⁸⁹

Steps to give the CMLC a more active role were already under way. Holaday drafted revised terms of reference which were approved by McElroy and Glennan, then by the president on 1 July 1959. They authorized CMLC to consult directly with any elements of Defense or NASA as appropriate; to suggest areas for joint investigation by NASA and DoD; to assist in transfers of projects and facilities between the two agencies; to coordinate requirements for launch and other development test facilities; and as requested by either agency, to interpret and evaluate projects and programs of mutual interest. Also, the committee was to receive copies of all written communications between NASA and DoD.¹⁹⁰

In 1959 the question of transferring ABMA came up again, this time to be resolved in favor of NASA. It arose in connection with the status of Saturn, a massive rocket designed to produce 1.5 million pounds of thrust, using 8 engines built from Jupiter and Thor components. Begun by ABMA in 1958 under authorization from ARPA, it became the major project for Von Braun's Development Operations Division. McElroy included \$50 million for this project in ARPA's FY 1960 budget.¹⁹¹

A project of this size represented a considerable drain on ARPA's budget. York, when he entered the picture as DDR&E, proposed to cancel it. He did not believe that boosters of such magnitude were needed for military purposes. Any military need for large boosters could, he believed, be met by Titan C, a clustered-rocket modification of Titan that had been proposed by the Air Force.¹⁹²

After considerable discussion, York and Dryden set up a joint committee to discuss the future of Saturn. Meeting on 16-18 September 1959, the committee agreed that Saturn should be continued. However, they decided to consider, as an alternative to cancellation, a transfer of Saturn to NASA, along with the engineers and scientists under Von Braun presently engaged on the project.¹⁹³

York had in fact already approached Glennan about the possibility of this transfer. Glennan was receptive but, having been badly burned a year earlier, insisted that it be made clear that the initiative came from DoD. Glennan thought that if NASA took over ABMA he might wish to cancel Saturn, even though it would mean a delay of several years in the development of a large booster. Kistiakowsky also favored the transfer, while realizing that the attitude of some of ABMA's personnel might make it difficult.¹⁹⁴

assistant secretary level might exercise authority over them in the name of the secretary. The continual adjustment of the lines of authority between the contending civilian and military authorities of DoD has characterized the department throughout its history.

The reorganization of 1958 closed a period of almost 10 years of experimentation with the somewhat rudimentary administrative machinery established by the National Security Act of 1947. It tightened the secretary's control over the service departments and fixed his position in the chain of command, according him the status of deputy commander in chief of the armed forces. It gave him a powerful role in the control of service research and development. By the end of 1960 Secretary Gates wielded considerably more authority than had James Forrestal when the office was first established.

The most important development in OSD organization between 1956 and 1960 was the establishment of the Office of the Director of Defense Research and Engineering (ODDR&E). In authority and responsibility, this new official, third-ranking in OSD, far surpassed his predecessor, the assistant secretary for research and engineering, whose functions had been mainly advisory. ODDR&E supervised the research activities of the Department of Defense, conducted additional research as necessary, and provided another echelon for review of the defense budget. The office quickly became the largest component of OSD (see Table 10). Secretary Gates told the Jackson subcommittee in June 1960 that ODDR&E had made a "major imprint on our operations" and that its establishment was a "forward step, of significant importance."¹⁴ The creation of the Advanced Research Projects Agency (ARPA), which operated under ODDR&E, gave OSD its own research organization, supplementing those of the services.

In terms of policy influence, DDR&E ranked with two other officials in OSD, the assistant secretary (ISA) and the comptroller. The expanding role of ISA (marked by its growth in size) from the days when the function was handled by a single individual reflected the need for close integration of military and foreign policy during the Cold War. The widening range of U.S. alliances, the expansion of the military assistance program, and the rising tempo of arms control discussions all contributed to the growth and influence of ISA, as did its responsibility for liaison with NSC and the State Department.

The comptroller's prominence derived from his role in budgeting and in controlling funds. For more than 12 years, until November 1959, it reflected also the ability and personality of the incumbent, Wilfred J. McNeil, whose role in OSD went beyond his formally stated responsibilities. For example, he participated actively in selection of weapon systems for funding and in establishment of force levels to a degree that earned him the distinction of being targeted by legislation that would forbid him to exercise "judgment" in military matters. After McNeil left office, his successor did not serve long enough to make an impact.

The 1958 reorganization also significantly affected the status and func-

150. Memo JCS for SecDef, 17 Nov 57, w/encls (service submissions in excess of budget ceilings), fldr 110.01 Budget Guidelines for 1959 (30 Jul 57), Box 8, OSD CCS files 1957, Acc 62-A1372. For the Air Force ICBM proposal, see Rosenberg, *Plans and Policies*, 85-86, and for the breakthrough in radar detection, testimony of Lt Gen D. L. Putt, DCS/Development, USAF, in House Cte on Appros, *Supplemental Defense Appropriations for 1958: Hearings*, 90-92.
151. Memo of disc (Gleason), 346th NSC mtg, 22 Nov 56, *FRUS 1955-57*, XIX:689-95.
152. Testimony by Rear Adm Raborn, 21 Nov 57, House Cte on Appros, *Department of Defense: The Ballistic Missile Program: Hearings*, 93; memo DGM for SecNav, 9 Dec 57, fldr Polaris 1956-57, Box 3, ODDR&E (SAGM) Files, Acc 63-A1919.
153. Memrcd Goodpaster, 2 Dec 57, fldr Missiles & Satellites vol 1 (3) Sep-Dec 1957, Box 6, DoD subser, Subj Ser, OSS files, WHO, DDEL.
154. Memos DGM for SecA and SecAF, 27 Nov 57, fldr M 471.94 9 Jan 58, Box 26, OSD CCS files 1958, Acc 62-A1606; Senate Preparedness Subcte, *Satellite and Missile Programs*, 194.
155. Typewritten table headed "included in FY 1958 supplemental," 4 Dec 57, fldr FY 1959 Budget Nov-Dec 1957, ATSD & DepSecDef files, OSD Hist; memo of conf with Pres (Goodpaster), 5 Dec 57, OSD Hist; House Cte on Appros, *Supplemental Defense Appropriations for 1958: Hearings*, 2-8.
156. Memo DGM for SecAF, 12 Dec 57, fldr Atlas (SM-65/SM-68), Box 1, ODDR&E (SAGM) files, Acc 63-A1919; "Re-evaluation of the Snark Program," encl with memo SpecAsst to CSAF (Maj Gen H. C. Donnelly) for AsstGC, OSD, nd (ca Feb 58), Termination Report, Strategic Missile System SM-62 (Snark), apparently prepared by ARDC project officers, 15 Dec 60: fldr Snark (SM-62), Box 4, OASD(R&D) JCCGM files, Acc 63-A1920; Senate Preparedness Subcte, *Satellite and Missile Programs*, 1889.
157. House Cte on Appros, *Supplemental Defense Appropriations for 1958: Hearings*, 288, 302, 317. Assistant Secretary McNeil later claimed credit for obtaining money for the improved Redstone (and for its subsequent change of name to Pershing): McNeil interv, 7 Jun 76, 39-42, OSD Hist.
158. Memo JCS for SecDef, 7 Jan 58 (JCS 1620/171); memos SecDef for CJCS and for SecA, 7 Jan 58, quoted in note to holders of JCS 1620/171, 8 Jan 58: fldr CCS 471.6 (5-31-44) sec 13, Box 127, CDC file 1958, JCS files, RG 218, NARA. In testifying before a House committee on 14 January, McElroy erroneously gave the date of his approval as 2 January: House Cte on Armed Svcs, *Investigation of National Defense, Missiles*, 4040-41.
159. House Cte on Appros, *Supplemental Defense Appropriations for 1958: Hearings*, 283-84, 288-89, 302-03, 317, 388-89; ltr McNeil to Mahon, 16 Jan 58, with handwritten note reading, "At noon today the Army decided to name this the Pershing missile, per Sec. Brucker": fldr Budget FY 1958 Supplemental, ATSD & DepSecDef files, OSD Hist; PL 85-322 (11 Feb 58).
160. Memo JCS for SecDef, 16 Dec 57, fldr 471.6, Box 20, OASD(ISA) Gen files 1957, Acc 61-B1672.
161. Memo Charles A. Haskins (Ofc of DGM) for Cutler, 21 Jan 58, memo SecDef for Pres, 21 Jan 58: fldr Missiles, Box 3, OSD CCS files 1958, Acc 62-B1606; memo of conf with Pres (Goodpaster), 21 Jan 58, fldr Missiles & Satellites vol II (1) (Jan-Feb 1958), Box 6, DoD subser, Subj ser, OSS files, WHO, DDEL; NSC Action 1846, 22 Jan 58, bound fldr Record of Actions of the National Security Council 1958, Box 3, OASD(ISA) Pol Plng Staff files, Acc 68-A4024.
162. *New York Times*, 1 Feb 58; *Eisenhower Public Papers, 1958*, 140-41; Medaris, 201-26; Von Braun, 114.
163. Memo of conf with Pres (Goodpaster), 11 Oct 57, OSD Hist; ltr Pres to SecDef, 17 Oct 57, fldr Secretary of Defense (Nov 53-Jan 59), Box 11, DoD subser, Subj ser, OSS files, WHO, DDEL.
164. Memo GC for SecDef, 6 Nov 57, fldr ARPA & Space Legislation, Box 1, DepSecDef files 1957-59, Acc 63-A1769.
165. *Public Statements, SecDef McElroy, 1957-58*, 1:45, 46-47, 48-49 (quotes, 45, 47); House Cte on Appros, *Department of Defense: The Ballistic Missile Program: Hearings*, 7, 21, 25 (quote, 23).

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166. Watson, *Office of the Secretary of the Air Force*, 188; testimony of AF officials in Senate Preparedness Subcte, *Satellite and Missile Programs*, 863, 948, 976, 1001; Claude Witze, "Pentagon Girds for New Research Feud," *Aviation Week*, LXVII (23 Dec 57), 18-19 (quoting speech by former SecNav Dan A. Kimball); Medaris, 172-74; memo David Z. Beckler, White House, for Killian, 20 Dec 57, fldr Department of Defense (1957) (1), Box 6, OSAST files, WHO, DDEL, and memo ChmExecCteDSB for SecDef, both summarizing DSB actions 19 Dec 57, fldr Research and Development, Box 16, OSD Admin Sec files, Acc 65-A3078.
167. Memo JCS for SecDef, 25 Nov 57, memo Randall for SecA et al, 29 Nov 57: fldr ARPA & Space Legislation, Box 1, DepSecDef files 1957-59, Acc 63-A1769.
168. House Cte on Armed Svcs, *Investigation of National Defense, Missiles: Hearings*, 4051-52, 4083-84.
169. Ibid, 3981, 3990-91, 3998-99, 4002-03, 4021-22, 4035-36, 4046-47, 4051-52, 4056-62, 4068-69, 4073-85; memo Dechert for Rep Arends, 4 Feb 58, w/atchmt, memo Dechert for SecDef, 6 Jan 58, encls w/ltr Dechert to Bryce Harlow, 5 Feb 58: fldr Missiles—Misc Papers (1957-1958) (1), Box 2, Harlow papers, DDEL.
170. Cole et al, *Department of Defense*, 171-75; House Cte on Armed Svcs, *Sundry Legislation Affecting the Naval and Military Establishments, 1958: Hearings*, 3801-46; Senate Cte on Armed Svcs, *Fiscal Year 1958 Supplemental Military Construction Authorization (Air Force): Hearings*, 59-93; House Cte of Conference, *Supplemental Military Construction Authorization Act*, 85 Cong, 2 sess, H Rept 1329, 5 Feb 58; *Public Statements, SecDef McElroy, 1957-58*, II:499-500; PL 85-325 (12 Feb 58).
171. *New York Times*, 8 Feb 58; *Public Statements, SecDef McElroy, 1957-58*, II:488-99; DoD Dir 5105.15, 7 Feb 58; DoD NR 259-58, 18 Mar 58, OSD Hist.
172. Memo ASD(R&E), DGM, and DARPA for Secs of Mil Deps et al, 7 Apr 58, printed in Donnelly, 119-20.
173. Memo DGM for SecDef, 10 Jan 58, fldr M-373.24 Defense Against ICBM 16 Jan 58, Box 26, OSD CCS files 1958, Acc 62-A1606; memos SecDef for SecA and SecAF, 16 Jan 58, printed in House Armed Svcs Cte, *Investigation of National Defense, Missiles: Hearings*, 4196-97.
174. Memo ChmAdvGrp on Spec Capabils for DGM, 15 Jan 58, fldr Army-Navy-AF Satellite Program (Mr. Spriggs) ARPA, Box 1, ARPA files, Acc 61-A1589. For the X-15, see Kenneth S. Kleinknecht, "The Rocket Research Airplanes," 205-09.
175. Memos, DirR&D, DeptA (W. H. Martin) for DGM, 10, 14 Jan 58, fldr Army-Navy-AF Satellite Program (Mr. Spriggs) ARPA, Box 1, ARPA files, Acc 61-A1589.
176. Memo AsstSecNav(Air) (Garrison Norton) for DGM, 15 Jan 58, *ibid*.
177. Memo AsstSecAF(R&D) (Richard E. Horner) for DGM, 24 Jan 58, *ibid*. For DYNASOAR (later redesignated X-20), see Kleinknecht, 209-10.
178. Memo SecA for DGM, 19 Feb 58, memo SecNav for DGM, 18 Mar 58: *ibid*.
179. Memo of conf with Pres (Goodpaster), 7 Feb 58, fldr Intelligence Matters (4), Box 14, Alpha subser, Subj ser, OSS files, WHO, DDEL; memrcd D. R. Bowman, OASD(C), 7 Feb 58, fldr WS-117L (SAMOS and Discoverer) Historical File, Box 2, OASD(C) files, Acc 69-A4566; memo SecDef for SecAF, 24 Feb 58, fldr 110 OSD-ARPA, Box 27, OASD (R&E) files, Acc 61-A1491.
180. Memos (3) DirARPA for SecA, SecNav, and SecAF, 27 Mar 58, fldr ARPA and Space Legislation, Box 1, DepSecDef files 1957-59, Acc 63-A1769; DoD NR 288-58, 27 Mar 58, OSD Hist.
181. *The Budget of the United States Government for the Fiscal Year Ending June 30, 1959*, 431-33; House Cte on Appros, *Department of Defense Appropriations for 1959: Overall Policy Statements: Hearings*, 18.
182. NSC Actions 1841, 6 Jan 58, 1842, 16 Jan 58, 1866, 27 Feb 58: bound fldr Record of Actions of the National Security Council 1958, Box 3, OASD(ISA) Pol Plng Staff files, Acc 68-A4024.
183. Schwiebert, 123-30; Neal, 63-93.
184. Memo Douglas for McElroy, 8 Feb 58, fldr Guided Missiles 1958, Box 6, OASD(C) Files, Acc 65-A3552.
185. Rosenberg, *USAF Ballistic Missiles 1958-1959*, 15.
186. Memo Hq USAF (Brig Gen Charles M. McCorkle) for DGM, 21 Feb 58, fldr Requests

207. Memo DepSecDef for Cutler, 22 Apr 58, fldr 334 Security Resources Panel (9 July 57), BP 334 Security Resources Panel 9 Jul 57, OSD Sensitive files 1951-66, Acc 71-A6489; presentation to NSC 24 Apr by DGM, and memo of disc (Gleason), 363rd NSC mtg. 24 Apr 58, NSC ser, PP (AWF), DDEL; statements by Quarles at AFPC mtg 29 Apr 58, fldr AFPC Apr-May 58, Box 4, OASD(C)(A) files, Acc 77-0062.
208. House Cte on Appros, *Department of Defense Appropriations for 1959: Overall Policy Statements: Hearings*, 517-52, 594-600; Baar and Howard, 149-60.
209. House Cte on Appros, *Department of Defense Appropriations for 1959: Department of the Air Force: Hearings*, 13, 31-32, 66, 179; House Cte on Appros, *Department of Defense Appropriation Bill, 1959*, 85 Cong, 2 sess (1958), H Rept 1830.
210. Monthly Repts on Progress of ICBM and IRBM Programs, Nos 26-31 (31 Jan-30 Jun 58), OSD Hist; *Semiannual Report of the Secretary of Defense, January 1 to June 30, 1958*, 11, 129-30; Rees, 166-67; Donnelly, 65; Ravenstein, 292.
211. Emme, *Aeronautics and Astronautics*, 96, 100, 140; Green and Lomask, 218-19.
212. Progress Rept No 1 on Anti-Ballistic Missile Weapon System Program, 15 May 58, Box 2, ODDR&E files, Acc 66-A3589.
213. House Cte on Appros, *Department of Defense Appropriations for 1959: Advanced Research Projects Agency, etc.: Hearings*, 289, 297-301; memo DepSecDef for ASD (R&E), DGM, and DirARPA, 12 Jun 58, fldr Reading File #2-1 Jan-30 Jun 58, Box 4, DepSecDef files 1957-59, Acc 63-A1769; memo AICBM Panel for Killian, 12 May 58, fldr AICBM (Mar-Sep 58), Box 1, OSAST files, WHO, DDEL. The Skifter Steering Group apparently replaced the ABM committee headed by Holaday, which seems to have become inactive by this time. Skifter had been a technical adviser to that committee: Senate Preparedness Subcte, *Satellite and Missile Programs*, 353.
214. Memo of conf with Pres (Goodpaster), 4 Feb 58, fldr Staff Notes Feb 58, Box 30, DDED ser, PP (AWF), DDEL; memo Kistiakowsky for Killian, 13 Feb 58, fldr M-471.94, 3 Jan 58 (Long Range Ballistic Missiles), Box 26, OSD CCS files 1958, Acc 62-A1606.
215. Tokaty, 278-82.
216. Alison Griffith, *The National Aeronautics and Space Act: A Study of the Development of Public Policy*, 8-13; Senate Preparedness Subcte, *Satellite and Missile Programs*, 600-21, 1884-85, 2089-2149; Senate Special Cte on Space and Astronautics, *Compilation of Materials on Space and Astronautics*, No 1, 27 Mar 58, 14-22, No 2, 14 Apr 58, 308-09. Johnson's role is described in Glen P. Wilson, "The Legislative Origins of NASA: The Role of Lyndon B. Johnson," *Prologue*, XXV (Winter 1993), 363-73. For Johnson's view of the importance of a national space policy, see his book, *The Vantage Point: Perspectives of the Presidency, 1963-1969*, 275-77.
217. *New York Times*, 12, 14 Dec 57; *Philadelphia Inquirer*, 13 Dec 57; Senate Preparedness Subcte, *Satellite and Missile Programs*, 413-14, 444-50; memo SecAF for DGM, 23 Dec 57, printed *ibid*, 450.
218. Robert L. Rosholt, *An Administrative History of NASA, 1958-1963*, 19-34; Swenson et al, 6-13; National Aeronautics and Space Administration, *Fifty Years of Aeronautical Research*, 3-47.
219. Rosholt, 34-36; Swenson et al, 75-77.
220. Killian, 126-32; memo President's Adv Cte on Govt Orgn for Pres, 5 Mar 58, *ibid*, 280-87; Rosholt, 8-10; Swenson et al, 82-83; Divine, *Sputnik Challenge*, 99-105; text of administration bill in Senate Special Cte on Space and Astronautics, *Compilation of Materials on Space and Astronautics*, No 2, 83-91.
221. *Eisenhower Public Papers, 1958*, 269-73; memo Pres for SecDef and ChmNACA, 2 Apr 58, printed in House Select Cte on Astronautics and Space Exploration, *Astronautics and Space Exploration: Hearings*, 967-69.
222. House Select Cte, *Astronautics and Space Exploration: Hearings*, 1102-23, 1163-1214; Senate Special Cte on Space and Astronautics, *National Aeronautics and Space Act: Hearings*, 65-96, 143-85, 188-213, 214-35, 237-45; McElroy press conf, 8 May 58, *Public Statements, SecDef McElroy, 1957-58*, III:1225-26. Griffith, 44-74, provides an analysis of all the issues that arose in consideration of the bill.
223. Senate Special Cte on Space and Astronautics, *National Aeronautics and Space Act: Hearings*, 168-69, 189-91, 213, 218-20; House Select Cte, *Astronautics and Space Exploration: Hearings*, 1522-23, 1526-27.

224. House Select Cte, *Astronautics and Space Exploration: Hearings*, 1521-42; ltr Dechert to Sen Johnson, 12 May 58, *ibid*, 1188-89; Senate Special Cte on Space and Astronautics, *National Aeronautics and Space Act: Hearings*, 279-85.
225. Griffith, 75-83; House Select Cte on Astronautics and Space Exploration, *Establishment of the National Space Program: Report on H. R. 12575*, 85 Cong, 2 sess (24 May 58), H Rept 1770.
226. Griffith, 84-89; Senate Spec Cte on Space and Aeronautics, *National Aeronautics and Space Act of 1958*, 85 Cong, 2 sess (11 Jun 58), S Rept 1701.
227. Memo D. A. Q[uarles] for McElroy, 12 Jun 58, fldr Reading File #2—1 Jan 58-30 Jun 58, Box 4, DepSecDef files 1957-59, Acc 63-A1769.
228. Johnson, *Vantage Point*, 276-77; House Cte of Conference, *National Aeronautics and Space Act of 1958*, 85 Cong, 2 sess (15 Jul 58), H Rept 2166.
229. Griffith, 90-96; PL 85-568 (29 Jul 58, National Aeronautics and Space Act of 1958). For the establishment and organization of NASA under this act, see ch XII.
230. "Statement Regarding Negotiations between National Advisory Committee for Aeronautics and Advanced Research Projects Agency," 9 May 58, submitted by Hugh L. Dryden (Director NASA) to House, printed in House Select Cte, *Astronautics and Space Exploration: Hearings*, 949-50.

VIII. FOREIGN CRISES IN 1958: LEBANON AND TAIWAN

1. Richard P. Stebbins, *The United States in World Affairs, 1957*, 175-77; *New York Times*, 19 Jan, 10 Mar 57.
2. *New York Times*, 23 Mar 57; text of communiqué in DeptState *Bulletin*, XXXVI (8 Apr 57), 561-62.
3. *New York Times*, 23 Mar 57. For Wilson's advocacy of Baghdad Pact membership, see ch III.
4. Stebbins, 1957, 181-85; Peter Gubser, *Jordan: Crossroads of Middle Eastern Events*, 93-95; msg JCS 921766 for Unified and Specified Cmdrs, 24 Apr 57, *FRUS 1955-57*, XIII: 107-08; editorial note, *ibid*, 118.
5. Stebbins, 1957, 188-89; Patrick Seale, *The Struggle for Syria: A Study of Post-War Arab Politics, 1945-1958*, 291-95; SNIE 36.7-57, 3 Sep 57, *FRUS 1955-57*, XIII:674-80; memo ActgASD(ISA) (Irwin) for DepSecDef, 28 Aug 57, w/atchmt, memo for CJCS, ns (probably also by Irwin), fldr 091.3 Middle East 690.1, Box 21, OASD(ISA) Gen files 1957, Acc 61-B1672; msg State 737 for AmEmb Beirut, 28 Aug 57, *FRUS 1955-57*, XIII:661.
6. Joint Chiefs of Staff, Joint Secretariat, Historical Division, *1957-1960*, vol VII in *The History of the Joint Chiefs of Staff: The Joint Chiefs and National Policy*, 423-24 (hereafter cited as JCS Hist Div, *JCS and National Policy, 1957-60*).
7. *Ibid*, 408-13.
8. Stebbins, 1957, 331; msgs AmEmb London 2985 for State, 12 Nov 57, and State 1503 for AmEmb Paris, 15 Nov 57, *FRUS 1955-57*, XIII:159, 161-62; JCS Hist Div, *JCS and National Policy, 1957-60*, 426-31; ltr Irwin for Murphy, DepUnderSecState, 6 Feb 58, and reply, G. Frederick Reinhardt, State, to Irwin, 19 Mar 58, fldr 092 Lebanon TS Sensitive Chg D/NESA & ASD, Box 21, OASD(ISA) Gen files 1958, Acc 62-B1698.
9. JCS Hist Div, *JCS and National Policy, 1957-60*, 432-34; memo JCS for SecDef, 28 Mar 58, msg JCS 939174 for USCINCEUR, 281450 Mar 58, fldr CCS 381 (8-23-57) sec 6, JCS files, RG 218, NARA.
10. NSC Action 1667, 7 Feb 57, bound fldr Record of Actions by the National Security Council 1957, Box 3, OASD(ISA) Pol Plng Staff files, Acc 68-A4024; JCS Hist Div, *JCS and National Policy, 1957-60*, 399.
11. Memo JCS for SecDef, 13 Jun 57, fldr CCS 381 E. M.M.E. A. (11-19-47) sec 60, Box 5, JCS files 1957, RG 218, NARA; memo SecDef for ExecSecNSC, 26 Jun 57, fldr 091.3 Middle East 608.1, Box 21, OASD(ISA) Gen files 1957, Acc 61-B1672.
12. JCS Hist Div, *JCS and National Policy, 1957-60*, 400-01; memo of disc (Boggs), 331st NSC mtg, 18 Jul 57, NSC ser, PP (AWF), DDEL.

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120. Memo DGM for ChmArmyBMC, 2 Mar 59, fldr 209.12 Guided Missiles—OSD BMC Minutes & Agenda, 1955 thru 1959, Box 18, ODDR&E files, Acc 72-A2228; memo SecA for SecDef, 26 Apr 60, fldr Nike 471.94 26 Apr 60, Box 3, OSD CCS files 1960, Acc 64-A2093; memo DepSecDef for SecA and SecNav, 12 Feb 60, fldr Nike-Zeus (Nike II), Box 3, ODDR&E (SAGM) files, Acc 63-A1919; Progress Rept of Anti-Ballistic Missile Weapon System Program, No 9 (16 Jan-15 Apr 60), OSD Hist.
121. Memo SecA for SecDef, 26 Apr 60, memo DDR&E for SecDef, 9 May 60: fldr Nike 471.94 26 Apr 60, Box 3, OSD CCS files 1960, Acc 64-A2093; Kistiakowsky, 319-20.
122. Kistiakowsky, 323-24; ltrs Gates to Kistiakowsky, 10 May 60, and Kistiakowsky to Gates, 11 May 60, ltr Kistiakowsky to Gates, 26 May 60, w/encl, rept of ad hoc panel, same date, memo ASD(C) for SecDef, 16 Jun 60: fldr Nike 471.94 26 Apr 60, Box 3, OSD CCS files 1960, Acc 64-A2093.
123. Kistiakowsky, 357; msg Kistiakowsky (White House party Seoul) for OSD, 200236Z Jun 60, fldr Nike 471.94 26 Apr 60, Box 3, OSD CCS files, 1960, Acc 64-A2093.
124. Memo SecDef for SecA, SecNav, and SecAF, 29 Jun 60, memo of agrmt, DeptA and DeptAF, for provision of Nike-Zeus targets, signed by Brucker and Sharp 22 Sep 60, approved by Gates 28 Oct 60: fldr Nike 471.94 26 Apr 60, Box 3, OSD CCS files 1960, Acc 64-A2093.
125. Memrcd (probably by Kistiakowsky), 18 Oct 60, ltr George W. Rathjens to Wolfgang K. H. Panofsky (both members of PSAC), 23 Nov 60, fldr AICBM Jun-Dec 60 (3), Box 4, OSAST files, WHO, DDEL; Kistiakowsky, 413; msg CINCNORAD for JCS, 151512Z Dec 60, fldr NSTL/SIOP Msgs other than Exclusives and Personals (1 Aug-31 Dec 60), Burke papers, NHC; *The Budget of the United States Government for the Fiscal Year Ending June 30, 1962*, M25; memo SecDef for CJCS, 4 Jan 61, fldr 6108 Certain Aspects of Missile and Space Programs, Box 2, OASD(ISA) Pol Plng Staff files, Acc 68-A4024.
126. Progress Rpts of Anti-Ballistic Missile Weapon System Program, No 1 (15 May 58), No 2 (15 Jul 58), No 5 (15 Apr 59), No 7 (15 Oct 59), Box 2, ODDR&E files, Acc 66-A3589; *New York Times*, 18 Feb 1960.
127. House Cte on Appros, *Department of Defense Appropriations for 1961: Revisions in 1960 and 1961 Air Force Programs: Hearings*, 20-21; Progress Rpts of Anti-Ballistic Missile Weapon System Program, No 3 (15 Oct 58) and No 12 (15 Oct 60-15 Jan 61), Box 2, ODDR&E files, Acc 66-A3589.
128. Memo of disc (Boggs), 374th NSC mtg, 31 Jul 58, and atchd briefing note, NSC ser, PP (AWF), DDEL; NSC 5814, 20 Jun 58 (App B, revised 2 Jul 58), OSD Hist.
129. For these projects and their names, see House Cte on Appros, *Department of Defense Appropriations for 1960: Hearings*, pt 6:20-24; US Cong, House, *U.S. Aeronautics and Space Activities, January 1 to December 31, 1958*, 86 Cong, 1 sess (1958), H Doc 71, 5; US Cong, House, *U.S. Aeronautics and Space Activities, January 1 to December 31, 1959*, 86 Cong, 2 sess (1958), H Doc 349, 9; encls with DoD Dir 5105.15, 17 Mar 59.
130. Memo Robert O. Piland (PSAC) for Killian, 31 Jul 58, memo Killian for Goodpaster, 8 Aug 58: fldr Space (Jun-Dec 58) (5), Box 15, OSAST files, WHO, DDEL; ltr DepSecDef to Pres, 7 Aug 58, OSD Hist.
131. Emme, *Aeronautics and Astronautics*, 143; *New York Times*, 19 Dec 58; US Cong, House, *U.S. Aeronautics and Space Activities, January 1-December 31, 1958*, 7; *Eisenhower Public Papers, 1958*, 865. Available sources do not indicate when or by whom the broadcast message was suggested.
132. Encl 3 (8 Jun 59) with DoD Dir 5105.15, 17 Mar 59.
133. Ch VII; US Cong, House, *U.S. Aeronautics and Space Activities, January 1-December 31, 1958*, 5; Emme, *Aeronautics and Astronautics*, 100-105, 142-43.
134. US Cong, House, *U.S. Aeronautics and Space Activities, January 1-December 31, 1959*, 9; Emme, *Aeronautics and Astronautics*, 106-17, 143-46.
135. NSC Action 1846, 22 Jan 58, bound fldr Record of Actions of the National Security Council 1958, Box 3, OASD(ISA) Pol Plng Staff files, Acc 68-A4024.
136. Memo of disc (Boggs), 406th NSC mtg, 13 May 59, and briefing note for same, NSC ser, PP (AWF), DDEL.
137. Memo ActgSecAF (Malcolm A. MacIntyre) for SecDef, 5 May 59, memo UnderSecAF (MacIntyre) for SecDef, 8 May 59, fldr 471.96 (Coordination of Satellite and Space Vehicle Operations) (18 May 60), Box 18, OSD CCS files 1960, Acc 64-A2093.

138. Memo DirARPA for SecDef, 29 May 59, memos (3) SecDef for CJCS, 29 May 59: *ibid.*
139. Memo JCS for SecDef, 25 Jun 59, JCSM-244-59, *ibid.* On the interservice dispute, see Medaris, *Countdown for Decision*, 253-55, and Craig Lewis, "Navy Bids to Capture Major Space Role," *Aviation Week and Space Technology*, LXXI (27 Jul 59), 26-27.
140. Memo JCS for SecDef, 24 Jul 59, JCSM-283-59, fldr 471.96 (Coordination of Satellite and Space Vehicle Operations) (18 May 60), Box 18, OSD CCS files 1960, Acc 64-A2093. According to one report, the proposal for a joint astronautical command originated with the Navy: Lewis, 26-27.
141. Memrcd Burke, 3 Sep 59, Originator file, Burke papers, NHC; memo Randall for Goodpaster, 8 Sep 59, memo Kistiakowsky for Goodpaster, 15 Sep 59, memo Goodpaster for Randall, 17 Sep 59: fldr DoD Vol. III (8) (Sep 59), Box 2, DoD subser, Subj ser, OSS files, WHO, DDEL; memo of conf with Pres (Goodpaster), 16 Sep 59, fldr Staff Notes Sep 59 (2), DDED ser, PP (AWF), DDEL.
142. Memo SecDef for CJCS, 18 Sep 59, fldr 471.96 (Coordination of Satellite and Space Vehicle Operations) (18 May 60), Box 18, OSD CCS files 1960, Acc 64-A2093; Herbert F. York, *Race to Oblivion: A Participant's View of the Arms Race*, 138-39.
143. Memo Brig Gen Brown for SecA, SecNav, and SecAF, 23 Sep 59, fldr 471.96 (Coordination of Satellite and Space Vehicle Operations) (18 May 60), Box 18, OSD CCS files 1960, Acc 64-A2093; DoD NR 1087-59, 23 Sep 59, OSD Hist; *New York Times*, 24 Sep 1959; Medaris, 254.
144. Memos (3) SecAF for SecDef, 6 Nov 59, memos DepSecDef for SecAF and for ARPA, 17 Nov 59: fldr 471.96 (Coordination of Satellite and Space Vehicle Operations) (18 May 60), Box 18, OSD CCS files 1960, Acc 64-A2093. On Corona and its relation to other satellite programs, see Kenneth E. Greer, "CORONA," in Kevin C. Ruffner, ed., *CORONA: America's First Satellite Program*, 3-24, and source documents, *ibid.*, 43-96; also Richard M. Bissell, Jr., with Jonathan E. Lewis and Francis T. Pudlo, *Reflections of a Cold Warrior: From Yalta to the Bay of Pigs*, 135-38.
145. Military Space Projects, Rpts of Progress, Jan-Feb 60 through Dec 60-Feb 61, OSD Hist; memo ActgSecDef for SecA, 25 Mar 60, memo SecA for SecDef, 24 Aug 60, memo DirR&D, DeptA, for DDR&E, 14 Sep 60, memos ActgSecDef for SecA and Actg SecDef for SecA and SecAF, 15 Sep 60: fldr 471.96 (Coordination of Satellite and Space Vehicle Operations) (18 May 60), Box 18, OSD CCS files 1960, Acc 64-A2093; memo DepSecDef for SecNav, 9 May 60, fldr 209.9 Guided Missiles—Satellites 1960 (1), Box 16, ODDR&E files, Acc 72-A2228.
146. Memo of conf with Pres (Goodpaster), 30 Jun 59, fldr Staff Notes Jun 16-30 59 (2), Box 42, DDED ser, PP (AWF), DDEL; memrcd McElroy, 15 Jul 59, memo Cisler for SecDef, 30 Nov 59, fldr 680 (Cisler Study—Mgmt of Ranges and Tracking Stations) 26 Jan 60, Box 19, OSD CCS files 1960, Acc 64-B2093.
147. Kistiakowsky, 204-05; memo A. G. Waggoner, ODDR&E, for SecDef, 1 Feb 60, ofc memo Black for Douglas, 18 Feb 60, w/atcld memo ASD(C) for SecDef, 16 Feb 60: fldr 680 (Cisler Study—Mgmt of Ranges and Tracking Stations) 26 Jan 60, Box 19, OSD CCS files 1960, Acc 64-B2093.
148. AFPC mtg notes, 31 Mar, 5 Apr 60, fldr AFPC Mar-Apr 60, Box 6, OASD(C)(A) files, Acc 77-0062; handwritten notes by Col Black on AFPC mtg, 5 Apr 60, fldr Col Black's Notes 1960, Box 4, OSD Admin Sec files, Acc 65-A3078; DoD Dir 5129.34, 7 Apr 60.
149. Memos (2) UnderSecAF for SecDef, 25 Feb 60, memo DepSecDef for CJCS, 14 Mar 60, ltr CSAF to SecDef, 10 Jun 60, ofc memo Brown for Gates, 23 May 60, atcld to memo SecA for SecDef, 18 May 60, memo SecDef for SecA et al, 16 Jun 60: fldr 471.96 (Coordination of Satellite and Space Vehicle Operations) (18 May 60), Box 18, OSD CCS files 1960, Acc 64-A2093; ltr CSAF for CINCSAC, 16 Jun 60, fldr 4-5 Missiles/Space/Nuclear, Box 36, Thomas D. White papers, LC.
150. US Cong, House, *Third Annual Report in the Fields of Aeronautics and Space* [1960], 87 Cong, 1 sess (1961), H Doc 56, x-xiii; Emme, *Aeronautics and Astronautics*, 118-35, 146-51; Gross, 21-24.
151. Emme, *Aeronautics and Astronautics*, 125-26; *Time*, LXXVI (22 Aug 60), 44-45; *Newsweek*, LVI (22 Aug 60), 78-80; *U.S. News and World Report*, XLIX (29 Aug 60), 30-33; *Christian Science Monitor*, 24 Aug 60.
152. Emme, *Aeronautics and Astronautics*, 147-51.
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- OASD(ISA) Pol Plng Staff files, Acc 65-A3500. The JCS memorandum of comment on NSC 5814 is printed in Logsdon, 359-60.
170. NSC 5814, 20 Jun 58, OSD Hist; briefing by Wade, OASD(ISA), at 24 Jun 58 AFPC mtg, fldr AFPC Jun-Jul 58, Box 4, OASD (C)(A) files, Acc 77-0062; Proposed Revisions to NSC 5814, encl with memo Boggs for NSC PB, 30 Jul 58, memo JCS for SecDef, 11 Aug 58; fldr 5814 U.S. Policy on Outer Space (3), Box 24, OASD(ISA) Pol Plng Staff files, Acc 64-A3500; memos of disc (Gleason), 371st NSC mtg, 3 Jul 58, NSC ser, PP (AWF), DDEL, and 376th NSC mtg, 14 Aug 58, cited in preceding note.
 171. Memo Killian for Pres, 7 Aug 58, fldr Memos and Letters to the President (December 1957-June 1960), Box 12, OSAST files, WHO, DDEL; Robert L. Rosholt, *An Administrative History of NASA*, 41-42; Killian, *Sputnik, Scientists, and Eisenhower*, 138-40; T. Keith Glennan, *The Birth of NASA: The Diary of T. Keith Glennan*, 2-4.
 172. Text of proclamation in *First Semiannual Report to the Congress of the National Aeronautics and Space Administration*, 86 Cong, 1 Sess (1959), H Doc 187, 66-67; Rosholt, 15.
 173. Mins of NASC mtg, 24 Sep 58, approved by Pres 30 Sep 58, fldr Space Council (1) (Sep-Oct 58), Box 23, Alpha subser, Subj ser, OSS files, WHO, DDEL; Glennan, 7-8.
 174. Memo of conv with Quarles, by T. K. G[lennan], 29 Sep 58, fldr ABMA, Box 1, DepSecDef files 1957-59, Acc 63-A1769; AFPC mtg notes, 22 Oct 58, fldr AFPC Oct 58, Box 4, OASD(C)(A) files, Acc 77-0062; AFPC Advice of Action, 22 Oct 58, OSD Hist; Terms of Reference, Civilian-Military Liaison Cmte to NASA and DoD, fldr Staff Notes Oct 58, Box 36, DDED ser, PP (AWF), DDEL.
 175. Informal memo (Personal for McElroy from Quarles), 27 Oct 58, fldr Reading File #3-1 Jul-31 Dec 58, Box 1, DepSecDef files 1957-59, Acc 63-A1769; memo of conf with Pres (Goodpaster), 30 Oct 58, fldr Staff Notes Oct 58, Box 36, DDED ser, PP (AWF), DDEL. A White House PR, 30 Oct 58, in fldr 111 NASA, Box 34, OASD(R&E) files, Acc 61-A1491, announces Holaday's appointment as chairman of the CMCL and lists the other members. On the abolition of the position of DGM, see House Cte on Appros, *Department of Defense Appropriations for 1961: Hearings*, pt 6:54 (quoting from a report by the committee staff).
 176. AFPC mtg notes, 29 Jul 58, fldr AFPC Jun-Jul 58, and 26 Aug 58, fldr AFPC Aug-Sep 58, Box 4, OASD(C)(A) files, Acc 77-0062; Rosholt, 44-45.
 177. Rosholt, 46. For the origin and background of JPL, see Clayton R. Koppes, *JPL and the American Space Program: A History of the Jet Propulsion Laboratory*, 1-93.
 178. Glennan, 9-10; memo of conv with Quarles, by T. K. G[lennan], 29 Sep 58, fldr ABMA, Box 1, DepSecDef files 1957-59, Acc 63-A1769; memo of conf with Pres (Goodpaster), 20 Sep 58, fldr Staff Notes Sep 58, Box 36, DDED ser, PP (AWF), DDEL.
 179. Glennan, 10-11; ltr AdminNASA to SecDef, 15 Oct 58, memo SecA for SecDef, 28 Oct 58, fldr ABMA, Box 1, DepSecDef files 1957-59, Acc 63-A1769; Quarles Daily Diary, 21 Oct 58, Quarles papers, DDEL.
 180. The Army position is indicated in a typewritten "Brief" and a list of "Conclusions and Recommendations," both unsigned, fldr Army Support of NASA/October 1958/(1), Box 3, Alpha subser, Subj ser, OSS files, WHO, DDEL; also in an Army "position paper" prepared for Brucker's signature, fldr ABMA, Box 1, DepSecDef files 1957-59, Acc 63-A1769. These documents are undated but were obviously prepared about this time. Further evidence of the Army attitude is given by Medaris, 243-47.
 181. Medaris, 245-46; *Baltimore Sun*, 15, 16, 17, 18 Oct 58; *New York Times*, 19 Oct 58; *Washington Star*, 19 Oct 58.
 182. Memo DGM and DirARPA for SecDef, 28 Oct 58, fldr ABMA, Box 1, DepSecDef files 1957-59, Acc 63-A1769.
 183. Memo of conf with Pres (Goodpaster), 30 Oct 58, fldr Staff Notes Oct 58, Box 36, DDED ser, PP (AWF), DDEL.
 184. Memo SecA for SecDef, 28 Oct 58, fldr ABMA, Box 1, DepSecDef files 1957-59, Acc 63-A1769. On the attitude of personnel at JPL, see Medaris, 247, and Koppes, 96, 98.
 185. Memo for disc with Sec Brucker, by D. A. Q[uarles], 31 Oct 58, fldr ABMA, Box 1, DepSecDef files 1957-59, Acc 63-A1769.
 186. Memo D. A. Q[uarles] for Glennan, 3 Oct 58, ltr W. L. Hjernevik (Asst to AdminNASA) to Gen Lemnitzer, 24 Nov 58, memo SecA for DepSecDef, 24 Nov 58, ltr GC to William F. Finan, AsstDirBoB, 26 Nov 58, ltrs Quarles to Glennan, 28 Nov 58, and Glennan to

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- McElroy, 1 Dec 58; *ibid*; memo Quarles for Brucker and Dechert, 22 Nov 58, fldr Reading File #3—1 July-31 Dec 58, Box 1, DepSecDef files 1957-59, Acc 63-A1769; Glennan, 11.
187. Agreements regarding JPL and AOMC between NASA and DeptA, 3 Dec 58, signed by Glennan and Brucker, fldr ABMA, Box 1, DepSecDef files 1957-59, Acc 63-A1769; memo of conf with Pres (Goodpaster), 3 Dec 58, fldr Staff Notes Dec 58 (2), Box 38, DDED ser, PP (AWF), DDEL; Glennan, 12; White House PR, 3 Dec 58, OSD Hist.
 188. Senate Cte on Aeronautical and Space Sciences, *Investigation of Governmental Organization for Space Activities*, 83, 92-93, 119-20, 131-32, 591; Rosholt, 72-73, 104-05.
 189. Senate Cte on Aeronautical and Space Sciences, *Investigation of Governmental Organization for Space Activities: Hearings*, 78-80, 254-55, 277-80, 364-66, 424, 475, 498-519, 582 (quote, 504); Senate Committee on Aeronautical and Space Sciences, *Governmental Organization for Space Activities*, 86 Cong, 1 sess (25 Aug 59), S Rept 806, 48-52, 54.
 190. Holaday testimony in Senate Cte on Aeronautical and Space Sciences, *Investigation of Governmental Organization for Space Activities: Hearings*, 504-05. The revised terms of reference are printed as an appendix to Senate Cte on Aeronautical and Space Sciences, *Governmental Organization for Space Sciences*, 86 Cong, 1 sess (25 Aug 59), S Rept 806, 56-58; also, along with the original terms, in House Cte on Science and Astronautics, *To Amend the National Aeronautics and Space Act of 1958: Hearings*, 115-16, 119-20.
 191. For the origin of the Saturn project, see David S. Akens, *Historical Origins of the George C. Marshall Space Flight Center*, 58-61; Roger E. Bilstein, *Stages to Saturn: A Technological History of the Apollo/Saturn Launch Vehicles*, 25-38; and Johnson testimony in House Cte on Science and Astronautics, *To Amend the National Aeronautics and Space Act of 1958: Hearings*, 403-09.
 192. House Cte on Science and Astronautics, *To Amend the National Aeronautics and Space Act of 1958: Hearings*, 409-10; Medaris, 257-62.
 193. Bilstein, 38-40; House Cte on Science and Astronautics, *To Amend the National Aeronautics and Space Act of 1958: Hearings*, 410; Medaris, 263-64; Kistiakowsky, 75-76.
 194. Glennan statements in memo of conf with Pres (Goodpaster), 21 Sep 59, fldr Natl Aeronautics and Space Admin (Sep 1958-Jan 61) (6), Box 18, Alpha subser, Subj ser, OSS files, WHO, DDEL; Kistiakowsky, 99-100.
 195. Glennan statements in memo of conf with Pres (Goodpaster), 21 Sep 59, cited in preceding note; Medaris, 266-68.
 196. Memo of conf with Pres (Goodpaster), 21 Sep 59, cited in n 194.
 197. Memo ActgSecDef for CJCS, 8 Oct 59, memo JCS for SecDef, 13 Oct 59; fldr 471.96 (Coordination of Satellite and Space Vehicle Operations) (18 May 60), Box 18, OSD CCS files 1960, Acc 64-A2093; AFPC mtg notes, 13 Oct 59, fldr AFPC Sep-Dec 59, Box 5, OASD(C)(A) files, Acc 77-0062.
 198. AFPC mtg notes, 13 Oct 59, fldr AFPC Sep-Dec 59, Box 5, OASD(C)(A) files, Acc 77-0062; handwritten notes (presumably by Lemnitzer) of same mtg, fldr L-184-71 Meeting Notes Armed Force Policy Cmte [sic], Box 25, Lemnitzer papers, NDU; York, *Race to Oblivion*, 139. York indicates that he gave McElroy a definite recommendation in favor of the transfer, but the contemporary accounts of this 13 October meeting do not indicate that he felt as strongly as he later represented.
 199. Memo T. K. G[Glennan] for Gates, 14 Oct 59, w/encl, draft memo for Pres, 13 Oct 59, fldr 471.96 (Coordination of Satellite and Space Vehicle Operations) (18 May 60), Box 18, OSD CCS files 1960, Acc 64-A2093; memo AdminNASA and ActgSecDef for Pres, 21 Oct 59, fldr McElroy, Neil 1959 (1), Box 25, Admin ser, PP (AWF), DDEL; memo of conf with Pres (Goodpaster), 21 Oct 59, fldr Staff Notes Oct 59 (1), Box 45, DDED ser, *ibid*; Kistiakowsky, 125; York, *Race to Oblivion*, 139. York's account describes him as playing a considerably larger role than do other sources.
 200. *Eisenhower Public Papers, 1959*, 731-32.
 201. Memo JCS for SecDef, 22 Oct 59, JCSM-440-59, memo AdminNASA and ActgSecDef for Pres, 21 Oct 59, bearing signatures dated 30 Oct 59, approved by Pres 2 Nov 59; fldr 471.96 (Coordination of Satellite and Space Vehicle Operations) (18 May 60), Box 18, OSD CCS files 1960, Acc 64-A2093. The second of these documents is

3. Eisenhower statement, 9 Feb 60, quoted in Ambrose, *Eisenhower the President*, 561. On this occasion, the president may have been thinking in part of two recent speeches by General Power openly expressing unhappiness about budget decisions: see ch XI.
4. These figures, for 30 Jun 60, are from *Annual Report of the Secretary of Defense, July 1, 1959, to June 30, 1960*, 6-11. Figures for the end of 1960 have not been found; those for 30 Jun 61 show that the number of air defense battalions had declined to 77 1/4 and of air wings to 88, while the number of naval vessels had risen to 819: *Department of Defense Annual Report for Fiscal Year 1961*, 367.
5. NSC 6013, Status of National Security Programs on 3 Jun 60, 17, 20, OSD Hist.
6. 1956 figures from *Semiannual Report of the Secretary of Defense, January 1 to June 30, 1956*, 343; those for 1960 from DoD Program Data Book, compiled by OSD Directorate of Statistical Services, OSD Hist.
7. Tab A to "Research Program on Negroes in Military Service," encl/w memo Harold Wool, Director for Procurement Policy and General Research, OASD(M&RA), for DepDDR&E, 14 Feb 68, fldr Research—Negroes in Military Service, Box 3, OASD (M&RA) files, Acc 76-088.
8. Morris J. MacGregor, Jr., *Integration of the Armed Forces, 1940-1965*, 473-500.
9. DoD, Directorate for Information, Operations and Reports, *Department of Defense Selected Manpower Statistics, Fiscal Year 1987*, Table 2-19, 99.
10. Condit, *Test of War*, 494-95.
11. On the origin of the New Look, see Watson, *JCS and National Policy, 1953-54*, 1-37 (where Dulles's statement above is quoted), and, at greater length, the forthcoming volume III by Richard M. Leighton in *History of the Office of the Secretary of Defense*.
12. Figures from various official government publications in John Lewis Gaddis, *Strategies of Containment*, 359.
13. *Public Statements, SecDef Wilson, 1957*, II:605-06.
14. Senate Subcte on Natl Policy Machinery, *Organizing for National Security*, I:729.
15. On the JSSC, see JCS Hist Div, "Joint Strategic Survey Council, November 1942-July 1964," 6 Dec 74, OSD Hist.
16. In the 1961 budget, for example, the requests for NOA for the service departments were as follows (in billions): Army, \$9.546; Navy, \$12.013; Air Force, \$17.737. For the other departments, the largest request was \$10.469 billion for Treasury: *The Budget of the United States Government for the Fiscal Year Ending June 30, 1961*, 6, 440.
17. Gates interv, 16 Jul 62, 18, CUOHP.
18. According to Parmet (*Eisenhower and the American Crusades*, 189), Wilson on one occasion insisted, over the opposition of Secretary Dulles, on several minor changes in the foreign policy section of one of Eisenhower's state of the union messages, even though the section had already been approved by Dulles. The statement is attributed to a "confidential source."
19. Ambrose, *Eisenhower the President*, 198-99.
20. "Afterthoughts," in Eisenhower, *Waging Peace*, 632.
21. Telcon 7 Dec 56, fldr Dec 56 Phone Calls, Box 20, DDED Ser, PP (AWF), DDEL.
22. See the criticisms by General Ridgway, General Taylor's predecessor as Army chief of staff, in *Soldier: The Memoirs of Matthew B. Ridgway*, 272, 283, 286-87.