NASA: The Original Secret Civilian "Space Force"

Jason Campbell and Bryn Horwege

> *"The Congress hereby declares that it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind."*
>
> —National Aeronautics and Space Act of 1958, 72 Stat. 426[1]

On December 20, 2019, a new branch of the US Armed Forces was established to great fanfare and critique amongst both comedy and science fiction enthusiasts.[2,3,4] The US Space Force was established within the Department of the Air Force to protect US interests in space and to provide space-based support to the other branches of the military.

The Space Force was not as revolutionary as it might seem. The National Aeronautics and Space Administration (NASA) has been like a "Space Force" since its inception, despite its civilian nature and congressional mandate. This paper explores the close relationship between NASA and the Department of Defense (DOD) through government documents, many of which were "classified" or "secret" at the time of their creation.

This is not to say that NASA was or is an offensive military force, but instead that NASA has played a strong role in supporting DOD programs, including classified missions. The DOD and NASA budgets have long been closely related, such that increases or decreases in NASA's budget often had a direct inverse effect on the DOD's budget.

The relationship between the agencies has not always been smooth and not without competition, but there is a longstanding history of collaboration from the very earliest days of NASA.

Origin of NASA

NASA was created by the passage of Public Law 85-568 on July 29, 1958, "[to] provide for research into problems of flight within and outside the earth's atmosphere, and for other purposes."[1] Congress's declared intent was that US "activities in space should be devoted to peaceful purposes for the benefit of all mankind."[5]

Congress enumerated eight objectives for the US in Pub. L. 85-568:

- The expansion of human knowledge of phenomena in the atmosphere and space;
- The improvement of the usefulness, performance, speed, safety, and efficiency of aeronautical and space vehicles;
- The development and operation of vehicles capable of carrying instruments, equipment, supplies, and living organisms through space;
- The establishment of long-range studies of the potential benefits to be gained from, the opportunities for, and the problems involved in the utilization of aeronautical and space activities for peaceful and scientific purposes;
- The preservation of the role of the United States as a leader in aeronautical and space science and technology and in the application thereof to the conduct of peaceful activities within and outside the atmosphere;
- The making available to agencies directly concerned with national defense of discoveries that have military value or significance, and the furnishing by such agencies, to the civilian agency established to direct and control nonmilitary aeronautical and space activities, of information as to discoveries which have value or significance to that agency;
- Cooperation by the United States with other nations and groups of nations in work done pursuant to this Act and in the peaceful application of the results thereof; and
- The most effective utilization of the scientific and engineering resources of the United States, with close cooperation among all interested agencies of the United States in order to avoid unnecessary duplication of effort, facilities, and equipment.[6]

In addition to the eight enumerated objectives, however, Congress also included provisions for the general welfare and security of the United States. As NASA was intended to be a civilian organization with a high level of transparency, Congress explicitly gave NASA control of aeronautical and space activities, except those peculiar to or associated with the development of weapons systems, military operations, or defense.[7]

NASA and the Department of Defense: The Early Years

From the very beginning of the Agency, NASA had a close working relationship with the Department of Defense. An October 3, 1958, General A.J. Goodpaster Memorandum of Conference shows that President Dwight Eisenhower suggested that the Army Ballistic Missile Agency (ABMA) be transferred to NASA. This move occurred less than two years later, on July 1, 1960, with the creation of the Marshall Space Flight Center in Huntsville, Alabama.[8] More of the early relationship between NASA and the DOD was discussed in detail at a June 30, 1959, meeting of the National Aeronautics and Space Council (NASC). President Eisenhower was particularly concerned about the "unnecessary duplication of effort"[9] and he "had no objection to the National Aeronautics and Space Administration and the Department of Defense sharing this area, provided their programs are well coordinated."[10] It was also noted that "Department of Defense and the National Aeronautics and Space Administration are going to re-examine the National Space Vehicle Program" and "are currently developing a set of long-range objectives against which plans for definitive programs for the next few years are being prepared."[11]

There was also discussion on how NASA and the DOD should administer ground support facilities required by the space program. The Deputy Secretary of Defense, Thomas S. Gates, Jr., proposed that a special task force operation be created within the DOD to provide ground support facilities to NASA's project Mercury. The President "stressed his desire for coordination and the avoidance of duplication in these ground support operations and expressed his approval of the idea of a single point of management for them."[12]

David Beckler,[13] a member of President Eisenhower's President's Science Advisory Committee (PSAC) wrote a document titled *Comments on Lord's Memorandum re NSC Planning Board Briefing on DOD Space Activities*, November 4, 1960, in which he discusses NASA-DOD responsibilities and collaborations. Beckler provides background information regarding a presentation by Assistant Secretary of Defense and Deputy Director of Defense Research and Engineering, John H. Rubel.[14] Rubel had "pointed out that regardless of where the program responsibility lay, the Defense Department had a range of involvements in NASA programs from providing the astronauts and launching vehicles for Mercury and other NASA space vehicles to gaining from NASA environmental information that would assist in the design of military space vehicles."[15] Ruben went on to argue that "the interface between the agency interests could not be sharply drawn and that there needed to be the closest cooperation and communication." Beckler discussed nine special problem areas in the relationship between NASA and the DOD, including various rockets, booster technology, facilities, and communications satellites.[16]

On May 3, 1963, Secretary of Defense Robert S. McNamara authored a particularly interesting memorandum for Vice President Lyndon Johnson. Mr. McNamara attempts to measure the benefits of NASA programs by determining the increased spending the DOD would have to take on if NASA were not funding various programs. McNamara estimates that for Fiscal Year 1964, the DOD would have to increase spending on space research by $20 million; Exploratory and Advanced Development, $100 million; manned spacecraft similar to the Project Gemini program, $150–200 million; unmanned spacecraft, $0.00, but only because the DOD was already active in this area; mission applications, $25–50 million.[17] These estimated expenditures indicate the importance of NASA to the DOD as early as the mid-1960s.

Secretary McNamara goes on to summarize a May 8, 1961, report he co-authored, saying:

> Clearly, then, the future of our efforts in space is going to depend on much more than this year's appropriations or tomorrow's new idea. It is going to depend in large measure upon the extent to which this country is able to establish and to direct an Integrated National Space Program. . . . . In my view, it is essential that all major space programs be integrated with military requirements in the early stages of their development.[18]

Project Gemini, one of NASA's signature programs of the 1960's, is an intriguing case of overlap with the DOD. The US Air Force (USAF) ballistic missile family of Titan rockets was utilized by every Gemini mission launch throughout the duration of the project. After the program's conclusion in 1966, Gemini's technology was assimilated by the USAF and modified for their Manned Orbital Laboratory (MOL) project. Renamed Gemini B, this spacecraft was once again launched by a member of the USAF rocket family, Titan III-M.[19]

The Space Transportation System (Space Shuttle)

The Space Transportation System (STS), later known as the Space Shuttle, is another area of intense cooperation between NASA and the DOD. In 1980, they signed a joint NASA/DOD Memorandum of Understanding on Management and Operation of the Space Transportation System. The memorandum explained that the STS was "a national asset designed to serve both civil and defense users,"[20] and, while NASA was responsible for the overall management of the STS, the DOD was "the agency within the U.S. government with the responsibility to represent national security interests in the STS and therefore is participating as a partner in the development, acquisition, and operations."[21] The memorandum delineated roles each agency would play, including the DOD "providing the requirements and funds for unique facilities and equipment required for national security space operations, and ensure their compatibility with the STS."[22]

The Space Shuttle is an example of how the collaboration between the DOD and NASA resulted in a major failure. The requirement to meet both NASA and DOD requirements greatly increased the difficulties and costs associated with the design, build, and operation of the Shuttle. But more importantly, after the Challenger disaster the Shuttle program was grounded, resulting in the DOD being unable to "launch critical national security satellites."[23]

Air Force Space Command

The Air Force established Air Force Space Command on September 1, 1982, which would become the forerunner of the US Space Force. Space Command and NASA would continue the history of collaboration between the DOD and NASA. On April 16, 1997, they announced an agreement to work together on several projects of mutual interest, including exploring the possibility "of launching defense satellites from the Shuttle; the use of the Shuttle for U.S. Air Force technology payloads; and development of a plan to meet the dual space needs of NASA and the U.S. Air Force."[24]

In spite of the long history of working together, cooperation between the agencies has not always been as intended. A US General Accounting Office Performance and Accountability Series report titled *Major Management Challenges and Program Risks: National Aeronautics and Space Administration* published January of 1999 discusses failures of a 1996 agreement to form joint work groups to coordinate aerospace test facilities to prevent duplication of investments and work. The report explains that:

> the agencies' promise of closer cooperation and the development of a national perspective on aerospace test facilities remains largely unfulfilled because NASA and DOD (1) have not convened most joint test facility working groups on a regular basis, (2) have competed with each other to test engines for new rockets, and (3) have not prepared a congressionally required joint plan on rocket propulsion test facilities.[25]

Point 2 is especially striking. Rather than cooperating, the agencies were directly competing against one another in an area specified as one to collaborate on—testing engines for new rockets.

Space Force

On February 25, 2019, the Federal Register printed a Presidential order *Establishment of the United States Space Force* (USSF).[26] The new Space Force was statutorily authorized with the passage of Public Law 116-92, the National Defense Authorization Act for Fiscal Year 2020,[27] as the United States' newest branch of the armed forces. The creation of the USSF gave notice of the United States' intent to have an overt military presence in space. It remains to be seen what level of cost-saving and efficiency-increasing collaboration NASA and the new Space Force will have, if any.

Conclusion

While NASA was a civilian organization established for peaceful purposes, it has worked closely with and supported the DOD since its inception. The relationship was grounded in the interests of efficiency, but at times conflicting requirements caused increased costs and less effective programs. Perhaps these problems will be more easily avoided with the creation of the US Space Force and a clearer delineation of their separate roles. However, there is a risk for NASA, as it has often relied heavily on funding benefits from joint programs with the DOD. If Space Force independently fulfils many of the duties NASA once performed for the DOD, it is possible that these joint funding opportunities for NASA will diminish or end entirely, risking the agency's ongoing civilian mission of discovery.

Jason Campbell (jccamp@uw.edu) and **Bryn Horwege** (brynph@uw.edu) are students at the University of Washington iSchool. This paper was written for LIS 526 Government Publications, Professor Cassandra Hartnett.

Notes

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