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A Three-Pronged Analysis of the Proposal for a United States Space Force

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Cover Page Footnote
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I. Introduction

A. Background

On June 18, 2018, at a meeting of the National Space Council, President Trump announced that the Department of Defense and the Pentagon were "to immediately begin the process necessary to establish a space force as the sixth branch of the armed forces."[1] This was an unexpected announcement because the meeting agenda was the signing of a national directive on space traffic management, not a discussion on the armed forces.[2] Nonetheless, calls for organizational changes to the nation's national space security system have been made before at the federal level. The "Commission to Assess United States National Security Space Management and Organization" recommended in its report of January 11, 2001, that "the United States must develop, deploy, and maintain the means to deter attack on and to defend vulnerable space capabilities."[3] Representative Mike Rogers of Alabama proposed and staunchly supported a "Space Corps" in 2017, and the proposal was included in a late draft of the *National Defense Authorization Act for Fiscal Year 2018*, but was cut before the bill was signed by President Trump.[4] To give historical context for these proposals, a brief history of the U.S. military presence in outer space up to 2019 will be provided below.

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1. "Remarks by President Trump at a Meeting with the National Space Council and Signing of Space Policy Directive-3," the White House, June 18, 2018, https://www.whitehouse.gov/briefings-statements/remarks-president-trump-meeting-national-space-council-signing-space-policy-directive-3/.

2. "Space Policy Directive-3, National Space Traffic Management Policy," the White House, June 18, 2018, https://www.whitehouse.gov/presidential-actions/space-policy-directive-3-national-space-traffic-management-policy/.

3. *Report of the Commission to Assess United States National Security Space Management and Organization* (Washington, D.C.), Commission to Assess United States National Security Space Management and Organization, 2001, xvi.

4. "National Defense Authorization Act for Fiscal Year 2018," H.R. 2810 (Report No. 115-200), July 6, 2017, https://www.congress.gov/115/bills/hr2810/BILLS-115hr2810rh.pdf.

The first satellite launched into orbit by the United States was Explorer 1 in January 1958. Explorer 1 was launched on the Juno I rocket, the satellite-launching variant of the Jupiter C sounding rocket, both of which were designed and manufactured by the U.S. Army Ballistic Missile Agency.[5] These two rockets were part of the Redstone rocket family, which was developed from the PGM-11 Redstone ballistic missile in 1950.[6] In fact, Alan Shepard, the first American astronaut in space, flew on a suborbital trajectory on the Mercury-Redstone Launch Vehicle in 1961, which was a human-rated combination of the Jupiter C rocket and the PGM-11 missile.[7] This means that Alan Shepard flew to space on a rocket designed, manufactured, and tested by the U.S. Army and government contractors. Significantly, conversion of ballistic missiles for both uncrewed and crewed flight during the 1950s and 1960s was largely conducted by the U.S. Army Ballistic Missile Agency, and military involvement in outer space activities continued to expand and evolve as the decades wore on, now primarily focused on supporting launches and designing space-based systems for military communications, missile warning, and GPS.

The most public example of the U.S. military's role in outer space can be seen in the Air Force's Global Positioning System (GPS) satellite constellation. The GPS commenced with the first satellite launch on February 22, 1978, after more than a decade of research and development led by the Air Force and the Naval Research Laboratory. On February 14, 1989, the first upgraded Block II satellite of the constellation launched and was the first to be controlled by a

5. Jon Nelson, "About Explorer 1," Jet Propulsion Laboratory (NASA), accessed October 16, 2018, https://explorer1.jpl.nasa.gov/about/#the_launch.

6. Mark Wade, "Redstone," Encyclopedia Astronautica, accessed October 16, 2018, http://www.astronautix.com/r/redstone.html.

7. Lee Mohon, "Mercury-Redstone Launch Vehicle," NASA, August 3, 2017, https://www.nasa.gov/centers/marshall/history/mercury-redstone.html.

dedicated Air Force space operations center. In the buildup to Operation Desert Storm in the Middle East in early 1991, the Air Force launched and activated two GPS satellites on an unprecedented time scale to support coalition forces in the Middle East. The use of GPS during the operation was a major contributor to the Iraqi army's defeat. The legacy of GPS continues to this day, as ATM transactions, international banking, digital navigation tools, and gas station prices all utilize the GPS constellation.[8] The first satellite of the third GPS generation launched on December 23, 2018, and features three times greater accuracy and up to eight times improved anti-jamming capabilities compared to the second generation satellites.[9] In addition to launch vehicle development and GPS launch and operations, the Air Force maintains extensive missile warning, communications, and space-object-tracking satellites and ground systems to protect our nation and allies from foreign threats and expand our knowledge of the orbital environment.

The Air Force is not simply a governmental space actor; it also serves to protect the U.S. national security interests and space-based assets through their satellite and space programs. According to section three of Space Policy Directive-4, issued on February 19, 2019, one of the priorities of the newly proposed Space Force would be "deterring aggression and defending the Nation, United States allies, and United States interests from hostile acts in and from space."[10]

8. Randolph Saunders, "A short history of GPS development," 50th Space Wing History Office, Schriever Air Force Base, February 8, 2016, https://www.schriever.af.mil/News/Article-Display/Article/734934/a-short-history-of-gps-development/.

9. "First GPS III satellite successfully launched," SMC Public Affairs, Los Angeles Air Force Base, December 23, 2018, https://www.losangeles.af.mil/News/Article-Display/Article/1720821/first-gps-iii-satellite-successfully-launched/

10. "Text of Space Policy Directive-4: Establishment of the United States Space Force," The White House, February 19, 2019, https://www.whitehouse.gov/presidential-actions/text-space-policy-directive-4-establishment-united-states-space-force/.

Similar to the Air Force Space Command, the Space Force will execute its mission remotely from bases on Earth; no military soldiers are expected to be deployed to outer space. Providing historical context for the Space Force and clarifying a few items allows an analysis of the proposal and the impact the branch will have on our nation. The goal of this paper is to analyze the Space Force plans from three perspectives: legal, military, and political. Doing so will provide insight on the feasibility of a Space Force as an independent branch of the military, and whether it is in the best interest of the nation to pursue such a branch.

B. Paper Outline

This paper is divided into six sections, including this introduction. The second section analyzes the international legality of a U.S. Space Force and its consistency with current U.S. space policy. The next section explores the history of the Air Force Space Command, which has the largest presence in outer space of all the U.S. armed forces commands. The military section will also discuss the logistics of creating a new branch of the military and whether the creation of such a branch is the best option to improve space superiority. The political section of the paper discusses the legislative history of the proposal, political support and opposition to the proposal, and the effects of the proposal on the 2018 U.S. elections and the nation's budget. Finally, recommendations to the U.S. government are provided, followed by concluding remarks.

II. Legal Analysis

A. Relevant Space Law Principles

Space law incorporates numerous international agreements, treaties, conventions, and resolutions that all work together to govern activities in space. There are five international treaties and five sets of principles that contain the rules and standards of international space law.[11] Space law

came to fruition during a chaotic and tense time in history during the Cold War. Technology with immense destructive power was being invented and produced at a rapid rate, and the fate of humanity relied on government actors to come up with ways to ensure the protection of their respective States and their inhabitants. These laws were built on the common ground of endeavoring to keep the frontier of space a peaceful place where humanity does not have to fear world destruction. Space is treated similar to Antarctica and the High Seas in that it is considered a global commons and an unowned natural resource beyond sovereign jurisdiction.[12] Currently, most of the global commons are host to different militaries around the world. A State may have different military branches that protect their land, the ocean around them, and the air above them, so the next logical step would be to establish a branch that can protect a State's space assets as well. An analysis of the proposed American Space Force from a legal standpoint will be addressed below.

The Outer Space Treaty (OST) is a foundational instrument in international space law and provides the basic principles that are the basis for subsequent space treaties and agreements. As of January 1, 2018, 130 out of 193 member states of the United Nations have either signed or ratified the OST, which signifies a State's commitment to adhere to its principles.[13] Article I of the treaty begins by declaring the "space freedoms" relating directly to the use of space. The

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11. "Space Law", United Nations Office for Outer Space Affairs, 2019, http://www.unoosa.org/oosa/en/ourwork/spacelaw/index.html.

12. R. Venkata Rao, V. Gopalakrishnan, and Kumar Abhijeet, *Recent Developments in Space Law: Opportunities and Challenges* (Springer Verlag, 2017), 45.

13. United Nations, Committee on the Peaceful Uses of Outer Space, *Status of International Agreements relating to activities in outer space as at 1 January 2018* (Vienna: United Nations, 9 April 2018), http://www.unoosa.org/documents/pdf/spacelaw/treatystatus/AC105_C2_2018_CRP03E.pdf.

14. Article I, Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, Oct. 10, 1967, 18 U.S.T. 2410, T.I.A.S. 6347 [hereinafter OST].

space freedoms include the freedom of States to explore and use outer space, freedom of States to access all areas of celestial bodies, and the freedom of scientific investigation in space and on celestial bodies.[14] The space freedoms are still limited by public international law, but they establish a concept of international cooperation and encourage the exploration of outer space. Article II states that outer space, the Moon, and other celestial bodies are not subject to national appropriation, which confirms outer space as a global commons.[15] Article III solidifies the intent of the treaty to promote international cooperation by reaffirming that space activities must comply with international law in the interest of global peace and security.[16] While Articles I, II, and III do not specifically counter common misconceptions about the potential use of the Space Force as a means for war, it does provide the historical context from which previous space exploration missions were born. The overarching theme of the OST is to popularize the subject of continued peaceful uses of outer space.

Article IV may be the most relevant article of the OST when analyzing the proposal of the Space Force. This article covers the use of nuclear weapons and other weapons of mass destruction (WMDs) in orbit, on celestial bodies, or in space in any manner. These weapons cannot be carried or installed in our orbit by any object, must never be installed on or around the moon or other celestial bodies, and may never be tested on celestial bodies.[17] However, WMDs flying on a suborbital trajectory are not technically prohibited under the OST along with the use of weapons other than nuclear weapons and WMDS. Intercontinental ballistic

15. OST, Article II.

16. OST, Article III.

17. OST, Article IV.

missiles (ICBMs) do briefly pass through space but because they never go into orbit around the Earth, they are still legal under the OST.

In addition, the intention of peaceful purposes is formally stated in Article IV along with what military actions will and will not be allowed under the law of the OST: "The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers on celestial bodies shall be forbidden."[18] This single line bars the proposed Space Force from operating on celestial bodies other than the Earth. The following lines in the OST state what a Space Force could do in space:

> "The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of equipment or facility necessary for peaceful exploration of the Moon and other celestial bodies shall also not be prohibited."[19]

Furthermore, any station that would be built on the moon or another celestial body, even if occupied by military personnel, is required to be open to representatives of other State parties at all times. Article XII again keeps the matter of international cooperation alive by notifying State parties that "all stations, installations, equipment, and space vehicles" will be open to projected visits.[20] Of course, the visits shall be within reason and notice will be given, but the chance of a covert military base operation on the moon or another celestial body is silenced by this "open-door" policy.

B. Environmental Considerations

18. OST, Article IV.

19. OST, Article IV.

20. OST, Article XII.

Article IV ensures that the use of a Space Force will primarily be for peaceful research, but what about the branch being used as a means of deterrence? Concerns have been raised as to what entity will protect our satellite assets in the overcrowded domain of Low Earth Orbit (LEO) and Geostationary Earth Orbit (GEO). LEO and GEO are limited resources in which satellites that control everything ranging from a car's GPS to the signal in cell phones are placed. These resources are becoming overcrowded, and the fear of satellites colliding has become a dangerous reality. Course corrections are the current mitigation technique used to prevent satellite collisions, but what about anti-satellite technology? In 2007, China launched a ballistic missile from Earth that destroyed one of their dead satellites in LEO.[21] Regardless of the fact that China destroyed their own satellite, they still showed the world what that technology is capable of. A proposed Space Force would be able to have its own anti-satellite technology and still be in compliance with the OST since anti-satellite missiles are not considered WMDs and do not go into orbit around the Earth.

China's stunt created 3,000 pieces of space debris, which made a significant contribution to the space debris problem. The debris caused by this event will interfere with and possibly destroy satellites in orbit for years to come. Another large debris-creating event could render portions of the Earth's orbits unusable due to the amount of debris and the danger to satellites. Article IX requires that States avoid harmful contamination and unreasonable interference when exercising their right to use space, the Moon, or other celestial bodies, so using anti-satellite technology with a physical interceptor violates this Article.[22] As a passive

21. Brian Weeden, "2007 Chinese Anti-Satellite Test Fact Sheet," Secure World Foundation, November 23, 2010, https://swfound.org/media/9550/chinese_asat_fact_sheet_updated_2012.pdf.

22. OST, Article XI.

means of reciprocating anti-satellite weapon operations, the proposed Space Force could undertake debris mitigation procedures as recommended in the IADC Debris Mitigation Guidelines.[23]

C. Conclusion

Article XI of the OST requires that the U.S. "inform(s) the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of the nature, conduct, locations and results" of space activities.[24] The semi-transparent nature of Articles IX and XI creates a sort of checks-and-balance on activities conducted in space. State parties shall adopt appropriate measures to comply with the OST and announce how they intend to do it. The Space Force needs to be an entity that can protect the United States space assets while also adhering to all articles of the OST. A weaponized sixth branch of the military will likely not survive under the conditions outlined in the OST, which the U.S. is legally bound to. The United States needs to factor in the challenge of commencing operations while being able to subdue the disapproval of other states with its Space Force proposal. For a Space Force to be successful, it will have to meet the demands of other State Parties to the OST while creating methods to mitigate threats to satellites in space and also remaining in conformity with the laws that govern outer space.

III. Military Analysis

A. History of Air Force Space Command

23. "IADC Space Debris Mitigation Guidelines," Inter-Agency Space Debris Coordination Committee, September 2007, http://www.unoosa.org/documents/pdf/spacelaw/sd/IADC-2002-01-IADC-Space_Debris-Guidelines-Revision1.pdf.

24. OST, Article XI.

"With only rare exceptions, history shows that while strategy and bravery can win a battle, the frontiers of science and technology must be exploited to win a war."[25] The previous quote is from astrophysicist Neil DeGrasse Tyson's book *Accessory to War*. While this might be the method for more technologically advanced societies to win wars, science and technology should be used to collectively benefit our species, not to exploit one another. Throughout human history, military forces have been established to serve the motives of societies around the world. An example of this is the U.S. Air Force, which was established by the National Security Act of 1947.[26] The Act became a law on July 26, 1947 and created the Department of the Air Force. Today, the Air Force's missions are divided between air and space superiority, but this paper will only focus on the space aspects of the Air Force's mission.

The United States Air Force Space Command (AFSPC) was established in 1982 and is headquartered at Peterson Air Force Base, Colorado.[27] In 1983, the Space Command assumed responsibility for the development of the MILSTAR satellite system, which is a collection of satellites that provide worldwide secure communications for the United States military. In 1984, the AFSPC took control of the Global Positioning System, commonly known as GPS.[28] The command's primary mission is to handle space operations, which encompass missile warning, launch operations, satellite control, space surveillance, and command and control for national leadership.[29]

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25. Neil deGrasse Tyson and Avis Long, *Accessory to War* (New York: W. W. Norton & Company, 2018).

26. National Security Act of 1947, P.L. 80-253 (July 26, 1947).

27. "AF Space Command Facts," Air Force Space Command, https://www.afspc.af.mil/About-Us/.

28. Tom Roeder, "Space Force: A Timeline," June 25, 2018, Colorado Politics, https://coloradopolitics.com/trumps-space-force-a-timeline/.

29. "AF Space Command Facts," Air Force Space Command.

The mission of AFSPC was validated in 1991 in Operation Desert Storm where the focus was on providing support to warfighters. With the recommendation of the Rumsfeld Space Commission[30], the Space and Missile Systems Center joined the AFSPC, and a year later the AFSPC was assigned its own four-star commander after having shared one with U.S. Space Command and NORAD. After the attacks of September 11, 2001, President Bush directed military action against terrorist regimes in Afghanistan and Iraq. In the Middle East, the AFSPC provided spaced-based support to the U.S. Central Command commander in communications; meteorology; missile warning; and position, navigation, and timing (PNT). In 2005, the Air Force expanded its mission areas to include cyberspace operations. With the inclusion of cyberspace as one of the Air Force's focus areas, AFSPC was assigned the duty of conducting military cyberspace operations. In 2018, AFSPC cyber activities were transferred to the Air Force's Air Combat Command to allow the AFSPC to focus on gaining and maintaining space superiority.[31]

Currently, the AFSPC space launch operations on both east and west coast launch sites provide services, facilities, and range safety to the Department of Defense (DoD), NASA, and commercial launch companies. Furthermore, by commanding and controlling all DoD satellites, AFSPC satellite operators help satellites provide continuous global coverage, while they remain highly secure and conduct certain operations autonomously. These satellites are responsible for providing communication, weather, navigation, and missile warning services to government and military customers. AFSPC also has ground and space-based radar systems and specific satellites

30. *Report of the Commission to Assess United States National Security Space Management and Organization*, Commission to Assess United States National Security Space Management and Organization.

31. Secretary of the Air Force Public Affairs, "Air Force transfers cyber responsibility to ACC," June 7, 2018, https://www.afspc.af.mil/News/Article-Display/Article/1544125/air-force-transfers-cyber-responsibility-to-acc/.

that monitor global ballistic missile launches. The radar systems provide information about satellites and space debris for the U.S. and the world.

B. Support, Opposition, and Organization

Arguments have been made for establishing the Space Force as its own separate branch of the military, with some justifying that the space environment has fundamentally changed in the last generation and the domain that was once peaceful and unchallenged is now crowded and adversarial. Terry Virts, a retired U.S. Air Force Colonel and a former astronaut who served as the commander of the International Space Station, believes that the United States should proactively operate and protect itself in outer space, which is why Congress should act to establish the U.S. Space Force as the sixth branch of the armed forces.[32]

On the other hand, some individuals are opposed to the idea of adding the Space Force as the sixth branch of the United States military by arguing that a "space force" authorized by President Donald Trump already exists through the mission of the Air Force Space Command discussed earlier. They argue that the AFSPC has more than 36,000 service members stationed all around the world, so there is no need to create a new branch. Furthermore, some critics say that adding the Space Force would only add bureaucracy and costs. It should be noted that the Space Force would be the first branch added to the U.S. military since 1947.

Structurally, the Space Force would be mended together from other existing United States programs. Some individuals state that the AFSPC would be at the center of the Space Force, and the Space Force would be equal in presence alongside the Army and the Navy. However, its structure would depend on the enacted laws, which are still hypothetical. Costs for

32. Amanda Macias, "A former commander of the International Space Station just backed the idea of a US military space force," April 26, 2018, https://www.cnbc.com/2018/04/26/space-force-space-station-commander-endorses-trump-pitch.html.

the Space Force would vary depending upon how the branch was organized. Scott Pace, the executive secretary of the National Space Council, stated in an interview with the Washington Post that the proposed reorganization of the military should be budget neutral.[33] The Space Force would hold joint space training and military exercises with U.S. allies, and it would use systems that would degrade, deny, disrupt, destroy, and manipulate enemy capabilities. The Space Force could also mean larger research and development budgets. Physical missile defense weapons could also be developed under the Space Force. The Space Force would also likely take over the AFSPC's job of tracking the world's satellites to minimize the risk of collisions.

C. Conclusion

President Trump has asked Congress to allocate $8 billion over the next five years for space systems for national security. The goal of the Administration is to have an operational Space Force by 2020, but there is an immense amount of work ahead. Nations such as Russia and China already have their own versions of a space force, so an argument could be made that the United States needs its own version for defensive purposes. It has been said that wars have been and will be fought on all fronts, and space is no exception. With every nation growing their space capabilities, the creation of a U.S. Space Force makes sense. The U.S. has many satellites that assist in everyday critical operations such as military communications, missile warning, and GPS. There are several counteractive measures the U.S. takes to avoid satellite signals being jammed, but if a nation were to launch a projectile at one of our satellites, there would be nothing to stop it on short notice. Having an entire branch whose main focus is space would benefit the nation's security and consolidate the majority of our military space resources under one mission.

33. Michael Greshko, "Would a U.S. Space Force be Legal?," National Geographic, August 9, 2018, https://news.nationalgeographic.com/2018/06/space-force-trump-legal-military-role-satellites-science/.

IV. Political Analysis

A. Call for a Space Force

One of the most important factors when establishing a new branch of military is the support and consent of Congress. Legal support from Congress is absolutely necessary for the success of any branch of military and for the implementation of a new branch like the Space Force. The proposed budget for the branch will be a topic of discussion when Congress attempts to come to an agreement on the Space Force.

The Space Force was first announced by Vice President Mike Pence on June 18, 2018. President Trump, in his remarks at the space traffic management directive signing ceremony, said, "our destiny, beyond the Earth, is not only a matter of national identity, but a matter of national security."[34] The National Space Council met on October 23, 2018, to discuss its six recommendations that the Council will send to the President. Among those six recommendations, the most pertinent are the second and third. The second recommendation calls for establishing "the Space Force as a separate and distinct branch of the military whose mission will be to organize, train, and equip combat space forces."[35] This recommendation lays out the foundation for what the proposed Space Force is and how it will function and operate. The third recommendation is perhaps the most vital to the creation of the new Space Force as it calls on Congress "to authorize the establishment of a Space Force and provide funding for the United States Space Command."[36] This is vital because Congress is the sole decider of the proposed

34. The White House, "Remarks by President Trump at a Meeting with the National Space Council and Signing of Space Policy Directive-3."

35. "President Donald J. Trump is Launching America's Space Force," The White House, October 23, 2018, https://www.whitehouse.gov/briefings-statements/president-donald-j-trump-launching-americas-space-force/.

36. "President Donald J. Trump is Launching America's Space Force," The White House, October 23, 2018, https://www.whitehouse.gov/briefings-statements/president-donald-j-trump-launching-americas-space-force/.

Space Force's fate, as Congress will have the sole authority on whether to strike down any measure relating to the Space Force as a separate branch of the military. This issue will be fresh on the minds of Congress and will make the proposed Space Force a hotly debated topic in the 116th Congress.

B. Midterm Election Impact

The fate of the Space Force was heavily reliant on the 2018 midterm elections. As the final decision will come down to Congress, the result of the midterm election will likely dictate the outcome of the establishment of a sixth branch. The midterm elections were on the forefront of most citizens' minds this election season. The 2018 midterm elections were one of the most contentious elections in recent history as the entire House of Representatives and thirty-five Senators were up for reelection. Government spending was one of the most contentious topics this election season. Although a sixth branch of the military has never been formally proposed in the past, in 2017, Mike Rogers (a member of the House Armed Services Committee and Chairman of the Subcommittee on Strategic Forces) proposed legislation to create a separate Space Corps under the Department of the Air Force.[37] The Space Corps would have been organized similarly to the way that the Marine Corps is organized under the Department of the Navy. The proposal was drafted for inclusion in the 2018 National Defense Authorization Act (NDAA). Unfortunately, the proposal did not make it to the final version of the NDAA. This put the idea of separating space into its own military department aside until 2018, further emphasizing the importance of Congress's approval.

37. Dustin L. Grant, Matthew J. Neil, *The Case For Space: A Legislative Framework for an Independent United States Space* Force (Air Command and Staff College, Air University, United States Air Force, April 2018), 9.

However, critics believed that the prospect of the United States creating a new military branch would dim if Republicans lost hold of either the House or Senate. A bipartisan compromise can still be made, including organizing a Space Corps within the Air Force or establishing a U.S. Space Command. Indeed, the U.S. Space Command was established by President Trump in December of 2018, but an independent Space Force is the goal.[38]

C. Congressional Reaction

Regardless of the result in the 2018 midterm elections, the Space Force will still face political and economic challenges. One of the biggest challenges confronting a Space Force is the potential budget implications it will have. The 2019 U.S defense budget is $674 billion.[39] Marcia Grace of SpacePolicyOnline reported that the cost of the Space Force will be as high as $12.9 billion over the next five years. The Air Force estimates that for the first year alone, the Space Force will need $3.3 billion. The budget for FY 2020 will also be under the 2011 Budget Control Act budget caps, and this will play a significant role in determining whether the Space Force can be fit into the budget.[40] This $3.3 billion is in addition to the $674 billion currently spent on the defense budget. This may not seem like much money, but it will be a tough pill to swallow for members of Congress during debate on the proposal.

On the minds of voters from both parties, however, is government spending, with the greatest attention being paid to how the government spends tax dollars and why. The

38."Text of a Memorandum from the President to the Secretary of Defense Regarding the Establishment of the United States Space Command," The White House, December 18, 2018, https://www.whitehouse.gov/briefings-statements/text-memorandum-president-secretary-defense-regarding-establishment-united-states-space-command/.

39. "Department of Defense and Labor, Health and Human Services, and Education Appropriations Act, 2019 and Continuing Appropriations Act, 2019," H.R. 6157, September 27, 2018.

40. Marcia Smith, "CSIS's Harrison Pours Cold Water On $12.9 Billion Space Force Cost Estimate," SpacePolicyOnline.com, September 20, 2018, https://spacepolicyonline.com/news/csiss-harrison-pours-cold-water-on-12-9-billion-space-force-cost-estimate/.

Republicans party is in control of the Senate for the next two years. Republican support is key for the creation of the Space Force as they are the main supporters of the President's policy on the Space Force. The House Majority Leader Kevin McCarthy (R-CA) has stated that a Space Force "would actually make a lot of good advancements for us, especially from technology."[41] Representative McCarthy also said in relation to the Republican party that "We'd support that." Other members of the Republican Party are not as supportive of the idea of a Space Force, however. Senator John Cornyn (R-TX) the second-highest ranking Republican in the Senate, stated, "Traditionally this has been a role played by the Air Force. And I have not yet heard a compelling case why we need a separate force."[42] Republican support for the Space Force is needed from both the House and Senate. At this stage, it appears that not all Republicans are fully on board with the idea of the President's idea of an independent Space Force.

The Democratic party after the 2018 midterm elections is now the majority in the House of Representatives and, as such, is vital to the creation of the Space Force. Democratic support in the Senate would still be very helpful to a new branch of the military as this would increase the public image of the branch and help dampen fears that the creation of the Space Force was solely for the sake of partisanship. The chances of Democratic support, however, is slim. Senator Jack Reed (D-RI) is the ranking Democrat on the Senate Armed Services Committee and said when asked about the proposed Space Force, "I think we have to reorganize our space forces because our threats are now in multiple dimensions. But I think creating a separate service with all of the infrastructure and the bureaucracy is not the way to go."[43] Democrat support, especially on the

41. Lisa Mascaro, Kathleen Ronayne, "GOP Divide Emerges over Trump's Space Force," Associated Press, August 16, 2018, https://apnews.com/d409ed0c5c9843538fb8a8745f30dc07.

42. Lisa Mascaro, Kathleen Ronayne, "GOP Divide Emerges over Trump's Space Force."

43. Joe Gould, "Space Force 'not the way to go,' says key Democrat," DefenseNews, August 13, 2018, https://www.defensenews.com/congress/2018/08/13/space-force-not-the-way-to-go-says-key-democrat/.

Armed Services Committee, is crucial to the creation of the Space Force because Republicans lost the House of Representatives in the midterm elections and the proposed Space Force needs bipartisan support to move forward. Democrat support appears unlikely as the comments from Senator Reed do not indicate support from his party in the Senate, and Democrats in the House are likely to follow the Senate's lead in support for a new branch of the military.

Regardless of the support the proposal gets, the President still plays an important role in the foundational groundwork for a new Space Force. While the President must wait for congressional approval for the Space Force, nothing prevents him from laying the organizational groundwork for the Space Force and instructing the military to prepare to accommodate a new branch. The establishment of a United States Space Command on December 18, 2018, and the signing of Space Policy Directive-4 on February 19, 2019, are two examples of the President doing just that. The President must also sign the legislation that would be drafted by Congress in order to bring the Space Force into operational existence. The President, in his role as Chief Executive, would have the power to sign the legislation or veto it if the bill is not to his liking. However, the likelihood of a veto is low as the passage of legislation forming some degree of a Space Force would be seen as a key victory for the Trump Administration.

D. Conclusion

The path to the creation of a Space Force has become less clear after the recent midterm elections. The House of Representatives flipped to Democratic control with a net gain of thirty-four seats. The Senate was retained by the Republicans with a net gain of three seats. Bipartisanship will need to be the path forward for the proposed Space Force. Democrats have

been opposed to the idea of a Space Force in the past, but with a Republican-led Senate, both sides of Congress will need to reach compromises on certain issues such as the budget. The budget is one of the powers of Congress, known as the power of the purse, and with a split Congress, interesting compromises will need to be made to pass the federal budget for the upcoming Congressional year. Congress falls into the trap of partisanship more often than not, but in a matter of national security this partisanship should be avoided at all costs. Congress should look at the economic costs of a potential Space Force versus the potential benefits of it, and they should also explore other options such as the creation of a Space Corps or the bolstering of current U.S. military space assets. Congress will need to reach some form of bipartisanship on the Space Force because the issue will not go away anytime soon. With the Space Force being a Republican-supported measure, a great amount work will have to be done to establish a Space Force in any form. Nonetheless, the prospects are not dead for this new branch, and Congress should take every opportunity to discuss and debate a potential Space Force.

V. Recommendations

While the formation of a United States Space Force is feasible, there are many hurdles to overcome before it is brought into reality. These include the formation of a financial plan the country can feasibly cope with, a majority backing or approval from Congress and the general public, and most importantly, an agreeable formation of the Space Force in which the overall mission adheres to the international space laws established by the United Nations. These laws, as previously discussed in Section II, were established to maintain peace and order in outer space, and should be treated with the same respect and diligence as other international laws that the United States are parties to, such as the Geneva Conventions and the United Nations Convention

on the Law of the Sea.[44] These are the main conflicts which could cause the creation of the Space Force to falter, and in this section they will be addressed in order to give input on how to resolve them. The following findings are derived from ideas mentioned in the previous sections.

The first burden the Space Force places on the country is a financial one because creating a new branch of the military requires not only an increase in military spending but a shift in funds. However, there is a government budget set aside for the military, and this is where the shift would occur. A relocation of duties, manpower, and equipment from the Air Force to the newly founded Space Force would require an initial investment but could still operate using the same funds from its parent branch. The overall expenditures of the Space Force would only weigh heavily in its infant years as the branch comes together and infrastructure is created. Afterwards, it could maintain the same reasonable budget that it would have received under its parent branch. It is in the best interest of those who support a creation of a Space Force to move in this direction and to not increase or create unnecessary spending in order to appear more affluent and savvier than their opposition proposals. If the Space Force were to become a new branch of the military, funding might be less controversial if tightly controlled.

While finances are a large concern, a Space Force cannot be created unless a major agreement is made on a political and national level. To clarify, the majority of Congress would have to agree on the creation of a Space Force, and public support for the branch would have to be generally favorable. Unfortunately, the most recent midterm elections have resulted in a split Congress, and the recent government shutdown also demonstrates the severity of the conflict within the governing bodies of the United States. Meanwhile, the public has mixed views and understandings as to what the intentions and plans are for this new branch. Although President

44. Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397.

Trump signed the executive order that initiated the motions and plans for the Space Force, his current lack of emphasis and involvement on the project in the face of the public has moved attention away from it, and subsequently, it has largely buried the whole topic away from national concern. The only significant audiences that the topic of the Space Force currently reach is those in the military who have concerns over how a new branch should be structured and individuals who themselves maintain direct involvement with space related topics (a relatively small group of people). The fact that the government is so divided that stalemates over presidential policies cause government shutdowns shows what people are concerned about and reveals what the nation is paying attention to—active national emergencies, and not the Space Force.

Without bipartisan efforts from Congress, the Space Force will not be created anytime soon. The only feasible solution would be for the White House to push for a bipartisan effort and publish more media-friendly material for the public that would not only give them insight as to the direction in which the branch is going, but also serve as an overview of what the Space Force will be. In a time where political views are drastically different in every party, bipartisan agreement is needed now more than ever. More specifically, an agreement has to be made between Democrats and Republicans in order to create a United States Space Force.

The last issue is ensuring the Space Force abides by international space laws, while also maintaining its role as a military defense and intelligence branch. In this regard, there is a concern with the type of defensive posture that the Space Force is taking regarding weapons systems in orbit. As explained in Section II, although the Space Force has the legal authority to station and use conventional weapons in outer space, stationing such weapons would be very controversial given the U.S.'s military competition with Russia and China and the threat of space

debris creation. The only way for the Space Force to comply with the laws enforced by the U.N. would be for the branch to focus on defensive rather than offensive systems, such as advanced missile-warning satellites.

All of these factors must be considered by Congress before any step is made towards the Space Force. While finances may not be a major issue if the Space Force becomes a branch of the military, approval from Congress and abiding by international space laws pose a difficult challenge. Even if these hurdles are overcome, there is one piece that still must be evaluated. Before a United States Space Force is created, its specific ethical purpose needs to be clarified. Will creating the Space Force be a step towards peace or towards war? While it may seem necessary to the U.S. President's administration, other countries may view a possible surge of militarization in outer space as an act of aggression. Although an all-out war in space may be an extreme proposition, it has to be considered and measures should be taken to avoid it. Humanity needs to take steps towards a peaceful future, and the Space Force should reflect that. After all, the military's main goal is to maintain the peace and security of our nation, and any proposal that threatens this ideal needs to be reconsidered.

VI. Conclusion

It has become clear that the idea of an entirely new branch of the military, especially one that will operate in the highest frontier, is a contentious issue that may provoke months of congressional debate. This is to be expected of a proposal that could reshape our nation's view of national security. The analysis of this paper has revealed a few specific issues with the proposal for a Space Force, which will be now be briefly summarized.

The first hurdle facing a Space Force is the legality of military operations conducted in outer space. Outer space has been thoroughly militarized by the United States, China, and Russia, and missile warning and reconnaissance satellites are commonplace. There are no current legal challenges for existing military space operations, but this may change depending on the specific intended operations of the Space Force. New research projects that are launched into outer space may be legally challenged, which reiterates the need for more clarity on how the Space Force will operate differently than the Air Force Space Command in outer space.

The second issue is navigating the complexity of creating a new military branch from elements of existing commands, most notably the Air Force Space Command. This effort could disrupt the normal operations of the AFSPC, which could ultimately compromise our ability to track space objects and hostile ballistic missile launches. National security must not be compromised during the establishment of any new military branch and the new branch has to be operationally compatible with the other branches from the start. Transitioning major elements of the AFSPC to a new Space Force while maintaining the operational readiness of the AFSPC is a serious challenge facing the Department of Defense, but with careful planning, disruptions can be minimized.

The third challenge is perhaps the most obvious one: creating a new military branch of the U.S. Armed Forces is an expensive endeavor. As mentioned in Section IV, the Space Force is projected to need at least $3.3 billion to sustain itself in its first year and could require $12.9 billion over five years. The Space Force will be a significant addition to the Department of Defense's financial budget, but cost-saving mechanisms are being explored. These include a "lean" headquarters organization and establishing the Space Force as a corps under the Department of the Air Force, very similar to the structure of the Marine Corps under the

Department of the Navy. Even with these mechanisms in place, the "standing-up" and operational costs for the Space Force will be remain a contentious topic within Congress.

Finally, there are a few general but critical ethical questions laying before the proposal for a Space Force, such as: Will a Space Force enhance the security of the citizens of this nation? Is this the best way to better defend our valuable space assets? What are the consequences of its establishment for national and global security? Will other nations respond to its birth respectfully or aggressively? It is the contemplation of these questions, not the challenges described above, that should keep congressional, White House, and federal government officials awake at night. Multiple groups of people from several nations will be relying on the Space Force for protection from both known and unknown threats. The importance of healthy discussion and debate on this issue both here and abroad cannot be overstated, and hopefully this work will be considered a meaningful contribution to this effort.

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