

THE EISENHOWER ADMINISTRATION'S ROAD TO SPACE MILITARIZATION

by

Peter Pindjak

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Thesis Committee

Mr. Dennis Gormley

Chairman

Dr. William Dunn

Member

Dr. Forrest Morgan

Member

Dr. Phil Williams

Member

Defended on April 14, 2011

ABSTRACT

The thesis examines the Eisenhower administration's decisions to use space for intelligence and military purposes. The first two chapters cover historical developments spanning the period from 1945 to 1952 as well as the first two years of the Eisenhower presidency (1953-1954). The third chapter provides a detailed analysis of U.S. space policies from 1955 to 1961. In particular, Chapter III takes a close look at the U.S. military space program as well as the prospect for space arms control. Organized chronologically, the thesis draws on publicly available documents, including declassified documents deposited at the Dwight D. Eisenhower Library in Abilene, Kansas.

By examining significant National Security Council (NSC) documents, including reports and meeting notes, the thesis presents an argument that since the very beginning, U.S. space policy included a provision for intelligence and military applications of satellites as a matter of national security. Throughout the Eisenhower presidency, the concept of "peaceful" use of outer space, which did not preclude satellites from having certain military applications, was never questioned at the NSC.

The thesis concludes that space militarization could have hardly been avoided. While the Eisenhower administration initiated a space arms control debate in early 1957, the Soviet Union gradually tied the issue of space arms control to other military issues, including nuclear disarmament and the elimination of military bases on foreign territories, which turned out entirely unacceptable to the United States.

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INTRODUCTION

During the Eisenhower administration, air and space became important domains in which the President had to show mastery in balancing risks and embracing opportunities. The thesis closely examines U.S. Space policy from 1955 to 1961 with a particular emphasis on the military space program as well as the prospect of space arms control. By analyzing similarities and differences between the U.S and Soviet space programs as well as dissimilar national security priorities stemming from asymmetric strengths of forces, the thesis concludes that the militarization of outer space could have hardly been avoided. Furthermore, given each side's vulnerabilities, fears, and suspicion during the early phase of the Cold War, neither the United States nor the Soviet Union could have truly offered a feasible and mutually-beneficial proposal with regard to a code of conduct or confidence-building measure in outer space during the Eisenhower presidency.

The first chapter focuses on historical background spanning the period of 1945-1952, primarily looking at the Eisenhower's view of the Soviet Union and the communist regime as well as some important technological developments that eventually set the stage for space exploration. Chapter I further examines Eisenhower's perception of the security environment of the early Cold War and also his decision to run for presidency in 1952.

The second chapter analyses the first two years of the Eisenhower presidency, which were essential in formulating a new national security policy. It also takes a look at specific threats and opportunities the administration faced. Finally, Chapter II provides an

important political and security context, within which the decision to use outer space for intelligence and military purposes took place in 1955.

Chapter III examines U.S. space policy from 1955 to 1961, including U.S. military space programs conducted by the Air Force and the Navy, and also the space arms control debate within the United Nations. It comes to a conclusion that from 1955, U.S. military space program as well as the concept of “peaceful” uses of outer space, which did not preclude satellites from having certain military applications was never questioned at the National Security Council (NSC).

The need for credible intelligence on the Soviet Union outweighed any prospective risks resulting from illegal “overflights.” After NSC 162/2, approved by the President in October 1953, the United States placed a heavy reliance on intelligence capabilities. The intelligence requirements outlined in NSC 162/2 were present in all subsequent basic security policies approved by the Eisenhower administration. President Eisenhower required reliable intelligence for two principal reasons: first, to continually adjust the U.S. military posture to provide for the most effective defense of the United States, and second, to help project national defense spending in advance to avoid excessive military expenditures stemming from long-term uncertainty.

Although the Air Force and the Navy enjoyed a certain degree of freedom while pursuing U.S. space capabilities, the President retained supreme control over the launches of satellites with military capabilities as well as the prospective destruction of a satellite through NSC Actions 1956 and 2300 respectively. Ultimately, the military space program officially became an important part of U.S. national security policy in 1959, when President Eisenhower approved NSC 5906/1 in August 1959.

Due to different national security requirements, the early U.S. and Soviet space programs differed considerably. While the primary objectives of U.S. space program comprised the enhancement of scientific knowledge, military strength, economic capabilities and also political position, the Soviet Union initially devoted its space program to scientific research and manned exploration that would earn the Soviet communist regime substantial world-wide political and psychological gain. According to NSC documents, military considerations had little significance on the development of specific Soviet spacecraft.

In the end, the arms control debate at the United Nations came to a stalemate due to different national security requirements. While the Soviet Union did not choose the same path as the United States when formulating its space policy objectives, the Soviets carefully calculated risks and opportunities when pursuing space arms control negotiations vis-à-vis the United States. Above all, the Soviets feared prospective inspections of their space launch vehicles, which also comprised their existing ICBM force. Inspections of the R-7 rocket would have provided U.S. scientists and military commanders with significant information, including the considerable limitations of the missile for large-scale military deployment. What is more, after the Soviet leadership decided to tie space arms control to military issues ranging from nuclear disarmament to the elimination of military bases on foreign territories, the space arms control debate virtually ended. The United States would have never given up nuclear weapons that formed an indispensable pillar of U.S. security strategy, nor would the Eisenhower administration have agreed to withdraw U.S. armed forces from foreign territories, which represented an integral part of the policy of containment.

After the end of the Eisenhower presidency, the United States and the Soviet Union eventually found a middle ground and the UN Committee on the Peaceful Uses of Outer Space (COPUOS) gradually became an important platform for space arms control. Not only did the concept of peaceful use of outer space come to fruition, but reconnaissance satellites ultimately paved the way for strategic arms control agreements and helped usher the United States and the Soviet Union into an era of détente.

CHAPTER I
HISTORICAL BACKGROUND

Dwight David Eisenhower first appeared on the international scene at a time, when the United States and the Soviet Union formed an alliance. The two ideological adversaries overcame their differences in order to fight against the Nazi regime and restore the balance of power on the European continent. World War II brought the USA and the USSR together with Eisenhower standing at the epicenter of this convenient relationship. As the Supreme Allied Commander of the Allied Expeditionary Force, he had an opportunity to interact not only with allied military commanders, but also with high-ranking policy-makers, including the Soviet General Secretary Joseph Stalin. On March 25, 1945, as the allies advanced close to Berlin, Eisenhower read a note from Soviet Foreign Minister Molotov accusing the West of dealing “behind the backs of the Soviet Union,” while conducting surrender negotiations with the German military command in Italy.¹ Eisenhower became much displeased by the Soviet charges, while insisting that he would accept surrenders whenever offered with no regard to political matters. While British Prime Minister Churchill pressed him to “make a definite effort to beat the Russians to Berlin,” Eisenhower thought otherwise. Advised by General Omar Bradley, Eisenhower knew that taking over Berlin might yield “about 100,000 casualties.” After all, Berlin was a part of the occupation zone assigned to the Soviets at the Yalta Conference that had taken place in February.² On March 28, 1945, to Churchill’s disappointment, Eisenhower took initiative and sent a cable directly to Stalin

¹ Ambrose, E. Stephen. *Eisenhower: Soldier, General of the Army, President-Elect 1890-1952*. Simon and Schuster, 1983, pp. 390-391.

² *Ibid.*, 393.

suggesting that the allied forces meet at a rally point near Dresden. Stalin initially agreed to link-up with the U.S. forces near Dresden, although at last minute he ordered his major force comprising of more than a million soldiers to capture Berlin. Consequently, the Soviets were the first to launch a final attack on Berlin on April 16, 1945.³ By taking into account Soviet concerns, Eisenhower demonstrated that despite political pressure, he could preserve calm judgment and make pragmatic decisions that accommodated interests of both sides. He believed at the time that “an alliance with the Russians was both possible and necessary” for the peaceful settlement in postwar Europe.⁴ While Germany surrendered on May 7, 1945, a peaceful arrangement in Europe remained elusive. Eisenhower became the most celebrated hero of the war. Yet by 1952, when running for the presidency, he “felt embarrassed by his 1945 pronouncements on the Soviets and by his failure to take Berlin.”⁵

Shortly after the war ended, Eisenhower considered Soviet-American relations based on “an honest desire on both sides to strive for mutual understanding” as “absolutely essential to world tranquility.”⁶ But it was the mutual distrust rather than understanding that soon started to pervade U.S.-Soviet affairs. At first, however, Eisenhower and Stalin enjoyed an unusually fine relationship. In August 1945, Eisenhower accepted Stalin’s invitation and flew to Moscow. The Soviet leader honored Eisenhower in several ways, including by letting him stand on Lenin’s Tomb. What is more, Stalin apologized to Eisenhower for the actions of the Red Army in April 1945, when it marched towards Berlin rather than Dresden. Eisenhower noted in his diary that

³ Bullock, Alan. *Hitler and Stalin: Parallel Lives*. Alfred A. Knopf, 1992, p. 884.

⁴ Ambrose, E. Stephen. *Eisenhower: Soldier, General of the Army, President-Elect 1890-1952*, 401.

⁵ *Ibid.*, 403.

⁶ *Ibid.*, 427.

“Stalin explained in detail the military reasons for the last-minute change.” After their meeting, both men were impressed by each other.⁷ The idea of a peaceful coexistence between the USA and the USSR seemed more and more feasible. While Eisenhower conversed with Stalin in Moscow, however, the United States dropped two atomic bombs on Japan. Although Eisenhower had opposed using the bomb in World War II, he could not have prevented it. Ultimately, it was “the bomb” that began to change everything. Immediately after the bombing of Hiroshima and Nagasaki, the sense of global security as well as the certainty of U.S.-Soviet relations started to fall apart.

The destructive power of nuclear fission was not the only technological breakthrough that figured in the Second World War. Significant advancements in the science of rocketry allowed the Germans to develop and deploy the first modern ballistic missile called the V-2. Developed by a team led by Walter Dornberger and Wernher von Braun, the V-2 represented a weapon, against which at the time no active defense could be employed. Between 1942 and 1945, Germany produced over 6,000 V-2s, of which more than a half were launched at allied targets, mostly in Great Britain.⁸ Although the missile lacked accuracy, which significantly impaired its battle effectiveness, its technology proved essential to future advances in rocketry. What is more, the V-2 was “the first man-made object to reach the edge of space.”⁹ Indeed, the German missile not only paved the way for next generations of ballistic missiles, but also for the rockets used in space exploration.

⁷ Ibid. 430.

⁸ Van Riper, A. Bowdoin. *Rockets and Missiles: The Life Story of a Technology*. The Johns Hopkins University Press, 2004, p. 55.

⁹ Neufeld, J. Michael. *Von Braun: Dreamer of Space, Engineer of War*. Alfred A. Knopf, 2007, pp. 72-73.

POLICY OF ACCOMODATION

After Japan surrendered in August 1945 and World War II came to an end, the allies delved into intense negotiations concerning the future of Europe. The diplomatic debate over the administration of Germany as well as the role of Poland in postwar Europe soon pointed out to major political differences between the American and Soviet political visions. Stalin's demands reflected his conviction that the Soviet people had carried the main burden of the war. In fact, the Soviet Union suffered many more casualties than the United States and the Great Britain combined. Yet the Soviet vision of European spheres of influence did not precisely correspond to that of the West. Initially, with President Truman in the White House and Secretary of State James Byrnes leading the U.S. foreign policy, the United States practiced the policy of accommodation based on carefully delineating spheres of influence, while granting security guarantees to both power blocks.¹⁰ By December 1945, the United States diplomatically recognized Communist regimes in Bulgaria and Romania. In exchange, Byrnes managed to gain the "Soviet acceptance of American preeminence in Japan."¹¹ Turkey, however, became a country of dispute. The Soviet Union had for a long time desired to establish a military presence on the Turkish Straits. At the Potsdam conference, Stalin argued that while America controlled the Panama Canal and Britain had the Suez Canal, the Soviets should also have the right to control a strategic waterway. After not meeting with success in Potsdam, Stalin intensified political and military pressure on Turkey. It was the Soviet policy in Turkey as well as in Iran, where the Soviets had prolonged their withdrawal

¹⁰ Trachtenberg, Marc. *A Constructed Peace: The Making of the European Settlement 1945-1963*. Princeton University Press, 1999, pp. 34-39.

¹¹ *Ibid.*, 14-15.

deadline, which eventually put an end to the policy of accommodation. By early 1946, Truman wrote to Byrnes to stop “babying the Russians.”¹² It was time to change the course of U.S. foreign policy.

Before the Truman administration had a chance to develop a new policy approach, the Soviet and British leaders took the initiative by delivering influential speeches in Moscow and Fulton, Missouri respectively. In the February 1946 pre-election speech, Stalin praised Marxism as a peace preserving system. Conversely, according to the Soviet leader, Capitalism propelled by competition for resources inevitably led to the disturbance of international equilibrium and frequent “reparation of the spheres of influence by armed force.” Stalin also emphasized that while the postwar reparations of the devastated Soviet Union deserved the fullest and immediate effort of the Communist party, other priorities also included “extensive organization of scientific research institutes of every kind.”¹³ Interestingly, three months after the Stalin’s speech, the USSR Council of Ministers “issued a decree making the development of the Soviet rocket weapons a high national priority.”¹⁴

Meanwhile, in March 1946, Churchill visited the United States and gave a speech at Westminster College in Missouri. He highlighted the value of freedom and liberty that the United States, Great Britain, and other English-speaking countries enjoyed. Then he pointed out the unpredictability of the Soviet Union with regard to its “expansive and proselytizing tendencies.” Most notably, Churchill introduced the term “iron curtain” as to depict the geopolitical split of Central and Eastern Europe into spheres of influence;

¹² Ibid., 39.

¹³ Stalin, Joseph. *Pre-election Speech*. February 9, 1946.

¹⁴ Gruntman, Mike. *Blazing the Trail: The Early History of Spacecraft and Rocketry*. American Institute of Aeronautics and Astronautics, 2004, pp. 275-277.

the Soviets, according to Churchill, not only influenced foreign governments within their spheres, but also controlled them. He went on by indirectly regretting a too favorable outcome for the Soviet Union at Yalta conference, although admitting that at the time, where there were still many unknowns, the agreement seemed sound.¹⁵ Prior to giving the speech, Churchill showed the draft to Secretary Byrnes, who responded favorably. Churchill wrote to Prime Minister Atlee afterward that there was “no doubt” that the top American policy-makers were “deeply distressed by the way they are being treated by Russia.”¹⁶ Towards the end of 1946, Byrnes himself started to lean towards adopting a tougher line on the Soviets. One of the reasons for the change was George Kennan’s “Long Telegram” that had been cabled to Byrnes from the U.S. Embassy in Moscow a few weeks before Churchill’s visit. By analyzing historical and ideological context underlying the irreconcilable differences between the Soviet Union and the West, Kennan recommended that the United States reinvigorate principles of free society and fight communism with “courage and self-confidence.” He also asserted that the two political entities could not permanently coexist and suggested that the U.S. government must study and recognize the nature of the Communist movement with utmost “detachment and objectivity.”¹⁷ One year later, Kennan published an anonymous journal article in *Foreign Affairs* that among other things for the first time introduced the term containment. Indeed, by early 1947, James Byrnes resigned from the post of Secretary of State and the Truman administration put an end to the policy of accommodation.

Looking at international affairs from the desk of the Army Chief of Staff, Eisenhower dealt with issues ranging from armed forces mobilization to defining the role

¹⁵ Churchill, Winston. *Sinews of Peace Speech*. March 5, 1946.

¹⁶ Trachtenberg, Marc. *A Constructed Peace: The Making of the European Settlement 1945-1963*, 40.

¹⁷ Kennan, George. *Long Telegram*. February 22, 1946.

of the atomic bomb within the U.S. defense establishment as well as in global strategic affairs. In 1946, public and political debate in America started to hint upon the idea of an inevitable conflict between the USA and the USSR. Eisenhower, however, called such war scares “foolish” and “vicious.”¹⁸ Yet even President Truman had changed his mind about the Soviet intentions since the Potsdam conference, when the U.S.-Soviet relations enjoyed a relative harmony. When he called for a White House conference to discuss the possibility of an imminent Soviet offensive in Europe, Eisenhower felt there was no reason for such considerations. In reply to Truman, he said he did not believe the Soviets wanted a war. Eisenhower demanded “hard evidence” that such a scenario was indeed realistic. At about the same time, an intelligence report produced by the Federal Bureau of Investigation (FBI) warned of a suspicious behavior of the Soviet government, which had ordered all of its ships in U.S. ports “to be loaded immediately and clear the ports of the United States as quickly as possible.”¹⁹ The U.S. Joint Chiefs of Staff (JCS) consequently discussed the possibility of an imminent war with the Soviet Union. In a private letter, Eisenhower confessed that he was disturbed by “the readiness of people to discuss war as a means of advancing peace.” Instead, he had high hopes for the establishment of an international peace-keeping force under the United Nations (UN) that would play a vital role in maintaining global peace and stability. Eisenhower even assigned one of his most skilled officers, General Matthew Ridgway, for such a prospective international force.²⁰ For such a security arrangement to function properly, according to Eisenhower, the Soviet Union would have to agree to an inspection system. Indeed, the idea of on-site military inspections within the Soviet Union continued to

¹⁸ Ambrose, E. Stephen. *Eisenhower: Soldier, General of the Army, President-Elect 1890-1952*, 448.

¹⁹ *Ibid.*, 449.

²⁰ *Ibid.*, 450.

occupy a major place within later Eisenhower's political and military considerations. In May 1946, the Chief of Staff visited General MacArthur in Tokyo. It was here, where MacArthur told Eisenhower he should run for the presidency. Eisenhower responded, however, that MacArthur instead should run for the presidency. The two men eventually enjoyed a lengthy evening in the Japanese capital trying to persuade one another to become a candidate.²¹

Year 1946 also brought about an ambitious initiative in the arms control domain. The U.S. government came up with the so-called Baruch Plan that proposed the UN control of atomic energy under the condition that none of the United Nations Security Council (UNSC) members would be able to veto the potential use of nuclear weapons if the majority of the members approve of such a decision. The Soviets demanded that the United States get rid of its nuclear stockpile first as a prerequisite for international disarmament negotiations. The proposal also included a requirement for on-site inspections, to which the Soviets strongly objected in principle. Yet while giving control over fissionable material to the UN, the prospective Baruch Plan implementation would have retained the U.S. monopoly of nuclear weapons. Soviet Ambassador to the United States Andrei Gromyko countered the U.S. proposal with a demand that all existing nuclear weapons must be destroyed as well as the further manufacture and use of nuclear weapons must be internationally prohibited.²² Naturally, such an agreement would have harmed U.S. security interests while offering no credible gain, since the ban on the production of nuclear weapons would likely be violated in the long-term. After all, neither side offered a constructive, feasible, and equitable proposal, a phenomenon that

²¹ Ibid., 441-442.

²² McDougall, A. Walter. *The Heavens and the Earth: A Political History of the Space Age*. Basic Books, 1985, pp. 84-86.

would pervade throughout the early years of the Cold War. While the Western powers enjoyed majority in the UNSC and the United States would have not abandoned its monopoly on nuclear weapons at the time of the proposal, the Baruch Plan eventually failed to come to fruition.

Meanwhile, the Deputy Chief of the Air Staff for Research and Development Curtis LeMay tasked the Douglas Aircraft Company to assess the feasibility of space operations. On May 2, 1946, the Douglas Aircraft Company's Engineering Division produced its classified analysis. The report entitled *Preliminary Design of an Experimental World-Circling Spaceship* concluded that "modern technology has advanced to a point where it now appears feasible to undertake the design of a satellite vehicle."²³ The study built on the knowledge of rocketry acquired from the German V-2 missile and for the first time presented a practical outline for the use of space in pursuit of national interests by estimating the value of both civilian and military applications of satellites. The report also looked into specific military uses of satellites such as "reconnaissance, weather observation, communications relay, missile guidance, bomb impact spotting."²⁴ In addition, the satellites could also be used as a weapon; the report stated that "after observation of its trajectory, a control impulse can be applied in such direction, amount, and at such a time, that the satellite is brought down on its target."²⁵ In 1948, the Douglas Aircraft Company's Project RAND (Research and Development) separated from the company and formed an independent, non-profit organization, whose

²³ Douglas Aircraft Company. *Preliminary Design of an Experimental World-Circling Spaceship (SM-11827)*. Douglas Aircraft Company's Engineering Division, 1946,

²⁴ Preston, Bob et al. *Space Weapons Earth Wars*. RAND Corporation, 2002, p. 7.

²⁵ Douglas Aircraft Company. *Preliminary Design of an Experimental World-Circling Spaceship*.

research analyses would play an increasingly influential role on the U.S. space policies during the upcoming Eisenhower administration.

TRUMAN DOCTRINE AND MARSHALL PLAN

In 1947, President Truman set to work on his new foreign policy approach. In March, he delivered a speech that signified a major change in the U.S. attitude towards the Soviet behavior. Although the Soviet forces had meanwhile withdrawn from Iran, the Soviet leadership continued to exert a considerable pressure on Turkey. In the speech addressed to the U.S. Congress, Truman publicly pronounced that Greece and Turkey must not yield to the Soviet pressure that violated the Yalta declaration and recommended the Congress to provide economic and material aid to these countries.²⁶ The declaration signed by Roosevelt, Churchill, and Stalin in February 1945 clearly stated that political instability of liberated states in Europe should be “solved by democratic means.”²⁷ But as Secretary Byrnes, who had accompanied Roosevelt in Yalta, later revealed, the Declaration on Liberated Europe “had not to be taken at face value,” although in public, he had claimed that the document marked the end of spheres of influence. Truman, however, had not been privy to the backstage of the Yalta negotiations and, as many policy-makers in Washington, he perceived the Declaration as a definite, binding agreement.²⁸ In January 1947, Byrnes was replaced as the Secretary of State by General George Marshall, who aligned with Truman’s doctrine and the policy of containment. Yet Stalin’s view and interpretation of the Yalta declaration quite differed

²⁶ Truman, S. Harry. *Speech before a Joint Session of the U.S. Congress*. March 12, 1947.

²⁷ Yalta Declaration. *Declaration on Liberated Europe*. February, 1945.

²⁸ Trachtenberg, Marc. *A Constructed Peace: The Making of the European Settlement 1945-1963*, 7-12.

from that of the U.S. administration. He believed that the immense Soviet casualties and “sacrifices” of World War II justified the Soviet Union’s effort to establish friendly and loyal governments in the states vital to the Soviet security. Stalin stressed that these efforts were peaceful in nature and should not be interpreted as ‘expansionist tendencies’; however, he did not specify, at what point such efforts would cease.²⁹ While the Soviets deliberately aspired to achieve a military presence on the Turkish Strait, Truman’s speech was of significant importance as it sent out a clear message to the Soviet leadership that Turkey and Greece would indeed become a part of the U.S. sphere of influence.

Meanwhile, Eisenhower received several notes from both ordinary and influential people as well as groups suggesting that he becomes a Presidential candidate. He usually responded with a note, in which he explained that his citizen duty and predilection for bipartisan work in the Pentagon greatly outweighed his interest in politics.³⁰ Even President Truman called Eisenhower into the White House and asked him if “would accept the Democratic nomination;” however, Eisenhower turned his offer down. Not only did Eisenhower not show any active interest in politics, but he also kept his party affiliation strictly to himself.³¹ Similarly to President Truman, beginning in 1947, Eisenhower increasingly inclined towards a hard-line policy in U.S-Soviet affairs. In September, Eisenhower wrote in his diary that “Russia is definitely out to communize the world” and that the United States and the Soviet Union “face a battle to extinction between the two systems.” This diary entry marked a complete turnaround in Eisenhower’s attitude towards the Soviet Union. He was greatly disappointed about the

²⁹ Stalin, Joseph. *Interview with Pravda Correspondent*. Pravda, March 14, 1946.
Daniels, V. Robert. *A Documentary History of Communism and the World*. University Press of New England, 1994, pp. 103-105.

³⁰ Ambrose, E. Stephen. *Eisenhower: Soldier, General of the Army, President-Elect 1890-1952*, 459.

³¹ *Ibid.*, 460.

Soviet behavior in Greece, Turkey, and Iran, and gravely concerned about the future course of the Soviet foreign policy. Eisenhower came to the same conclusion as Kennan in his 1947 piece, agreeing that the “health of American democracy” and “unity is more necessary now than it was in Overlord.” What is more, Eisenhower hoped that American effort could eventually “win over” the countries that had already been taken by the Soviet Union.³²

During the same year, The U.S. defense and security establishment underwent a thorough and comprehensive reform initiated by the National Security Act of 1947. The act signed by President Truman entered into force on September 19, 1947 and created several new organizations, including the Department of Defense headed by the Secretary of Defense, who now directed three separate military departments: the Army, the Navy, and for the first time also an independent Air Force that took over the former role of the Army Air Forces. In addition, the law created the National Security Council (NSC) and also the Central Intelligence Agency (CIA), the first U.S. permanent peacetime intelligence agency. On September 26, 1947, the NSC met in its first session.³³ In the context of the emerging Cold War, the National Security Act of 1947 proved as an essential reorganization effort. The NSC headed by the President would play an increasingly important role in initiating and coordinating U.S. foreign and security policy. By the time Eisenhower became the President, the NSC in his words represented “the most important weekly meeting of the government.”³⁴

³² Ibid., 468-469.

³³ U.S. Department of State. *Foreign Relations of the United States 1945-1950, Emergence of the Intelligence Establishment: The National Security Act of 1947*. U.S. Government Printing Office, 1996.

³⁴ Helgerson, John. *Truman and Eisenhower: Launching the Process*. Central Intelligence Agency’s Center for the Study of Intelligence, 1996.

Although Secretary Marshall shared basic political views with President Truman, he disliked his doctrine's ideological tone and pressed forward with a more pragmatic approach in dealing with the Soviet expansive policy. In April 1947, at a foreign ministers' conference in Moscow, Marshall found the Soviets very uncooperative and criticized Soviet leadership for not answering U.S. communications.³⁵ Because of mutual distrust, the allies found themselves unable to reach a political compromise on the future of Germany. Marshall firmly believed that the United States should take the initiative in solving the stalemate situation. It also appeared clear that an economically deteriorated Germany would be increasingly susceptible to fall to a Communist rule. The unsuccessful Moscow conference provided a strong impetus for a U.S. economy recovery program in Germany and other Western European countries. In August 1947, Charles Bohlen, one of Marshall's advisers, suggested that the "three Western zones in Germany should not be regarded as a part of Germany, but as part of Western Europe." Bohlen's comment initiated a historically significant shift in the U.S. policy within the context of the early Cold War. While Marshall originally wanted the Soviets to participate in the German economic recovery, his advisers suggested otherwise. Indeed, the plan would offer the Soviets very little aid and would certainly interfere with the Soviet sphere of influence in Eastern Europe.³⁶ Eventually, when the United States announced the program officially called the European Recovery Program (ERP), the Soviets chose not to participate. The United States, Great Britain, and France started to organize into a unified political block. By the end of 1947, Europe finally stood divided into Western and Eastern spheres of influence. In September 1947, Stalin finally agreed with the 1946 Churchill's speech that

³⁵ Trachtenberg, Marc. *A Constructed Peace: The Making of the European Settlement 1945-1963*, 61-62.

³⁶ *Ibid.*, 62-63.

the world was divided into two camps.³⁷ Bedell Smith, the U.S. Ambassador to the Soviet Union, noted that since the Soviets “declared war on European recovery,” the Western powers did not really want to deal with the Soviets on the issue of German unification anymore.³⁸ Through the implementation of the Truman doctrine and the ERP, the East-West split ultimately solidified. By the end of 1947, The United States definitely rejected the early policy of accommodation and followed the more assertive policy of containment.

EARLY YEARS OF THE COLD WAR: 1948-1950

By early 1948, the Soviets suspected that the West intended to turn its occupational zones in Germany into a German state. In a response to the Western conduct, in June, the Soviets decided to cut off ground access to Berlin. While the Soviets enjoyed conventional force superiority over the Western bloc, the United States had a nuclear monopoly that held back the crisis from a possible escalation into an armed conflict. The United States, Great Britain, and France united in an increasingly resilient political alliance that strived to implement “Western strategy” in Germany.³⁹ Only an economically sound Germany aligned with the West could hold the Soviets at bay. The domestic political debate in France proved most energetic among those of Western powers, particularly because of historically positive Franco-Russian relations. Yet even the French leadership now stood on the other side. Furthermore, the French demanded security guarantees in a fear that the United States would eventually withdraw its forces

³⁷ McDougall, A. Walter. *The Heavens and the Earth: A Political History of the Space Age*, 52.

³⁸ Trachtenberg, Marc. *A Constructed Peace: The Making of the European Settlement 1945-1963*, 64-65.

³⁹ *Ibid.*, 74.

from Germany and called for a long-term military-political plan. The Soviets, in protest to Western policies, continued to block West Berlin. The Western allies responded with an airlift that supplied West Berlin until May 1949. The Berlin crisis represented the first major clash between the two blocks during the Cold War, while neither side was willing to initiate an armed confrontation; for instance, the Soviets chose not to interfere with airlift operations, not even by nonviolent means such as radar jamming.⁴⁰ In another theater, the United States likewise did not interfere with the Soviet Communist coup in Czechoslovakia in 1948. For the first time in a major crisis of potentially global proportions, nuclear deterrence seemed to work well. Whereas none of the European allies truly reconciled with the possibility of even a limited nuclear air campaign in Europe precipitated by a possible conflict with the Soviet Union, the West continued to strive for a more pragmatic as well as prospectively more stable solution. The Western security system ultimately took the form of a collective security alliance. On April 4, 1949, ten Western European countries, the United States, and Canada signed the Washington Treaty that established the North Atlantic Treaty Organization (NATO). Four months later, the United States lost its nuclear monopoly as the Soviet Union detonated its first nuclear device in August 1949. The uncertainty over the future of nuclear deterrence immediately commenced the true arms race between the East and West.

In February 1948, Eisenhower retired from active duty in the Army. By the time he handed over the position of Chief of Staff to General Omar Bradley, Eisenhower was frustrated. Until mid-1947, he had hoped for a cooperative relationship with the Soviets. Those expectations did not come to fruition. Quite the contrary, by early 1948, U.S.-

⁴⁰ Ibid., 87.

Soviet relations had reached their nadir. Eisenhower decided take some time for reflection and started to write his memoirs. Gathering together various documents, including “wartime letters, reports, diary entries, and other documents,” Eisenhower began writing *Crusade in Europe*.⁴¹ Published in November 1948, the book received almost universal acclaim. Despite Eisenhower’s increasing public reputation, he remained adamant in refusing to run as a Presidential candidate of either party.⁴² Meanwhile, in October 1948, Eisenhower became the thirteenth President of Columbia University, the position he would hold for the next two years until accepting the position of Commander of NATO forces in Europe in December 1950.

In the realm of space affairs, the year 1948 brought about several interesting developments. The newly established Department of Defense started for the first time to publicly discuss the issue of space exploration. Whereas the military services had an interest in space for several years already, the U.S. public remained uninformed of the sensitive debate. The existence of the influential Douglas Aircraft Company’s report from 1946, *Preliminary Design of an Experimental World-Circling Spaceship*, was first disclosed to the public in the first annual report of the Secretary of Defense, James Forrestal, in 1948. Although the public as well as some Department of Defense officials remained skeptical regarding the technological feasibility of launching satellites, the annual report quickly provoked responses from American journalists, who wrote pieces such as “Will America possess moons of war?”⁴³ Meanwhile, the Navy and the Air Force engaged in an inter-service rivalry campaigning for their future role in space. In January 1948, General Hoyt Vandenberg, the Air Force Chief of Staff, declared that the Air Force

⁴¹ Ambrose, E. Stephen. *Eisenhower: Soldier, General of the Army, President-Elect 1890-1952*, 475.

⁴² Vexler, Robert. *Dwight D. Eisenhower: 1890-1969*, 10.

⁴³ Preston, Bob et al. *Space Weapons Earth Wars*, 8.

sought no less than “exclusive rights in space,” seeing as it had already been in charge of strategic air weapons.⁴⁴ Facing the budget cuts of 1948, the Navy eventually reallocated its funding for satellite research to “more pressing projects,” while the Air Force assigned RAND to continue studying space satellites.⁴⁵ Meanwhile, all of the three U.S. military services were involved in missile-related projects. Interestingly, the Navy devoted more funds to missile projects than the other services in the period from 1945 to 1950.⁴⁶

With the loss of the U.S. nuclear monopoly in August 1949, the newly established North-Atlantic alliance started to ponder over the prospect of lasting stability on the European continent. The uncertainty over the use of nuclear weapons in a potential confrontation drove both sides to gain an advantage in the nuclear domain. Furthermore, it now made ever-increasing sense to consider preventive and preemptive strikes targeted at the adversary’s nuclear capabilities, such as air bases and aircraft production facilities.⁴⁷ Neither the United States nor the Soviet Union could confidently claim an edge in a potential war. In 1950, Chairman of the JCS, Omar Bradley, told the NSC that if a global war broke out, the United States “might be in danger of losing.”⁴⁸ Various U.S. intelligence reports indicated that the Soviet Union had intensified its industrial production and increased its armed forces readiness. Yet the conflict broke out in quite a different theater. The North Korean attack on South Korea on June 25, 1950 caught everyone by surprise. America and other NATO member states reacted with a significant

⁴⁴ Lambeth, S. Benjamin. *Mastering the Ultimate High Ground*. RAND Corporation, 2003, pp.10-13.

⁴⁵ McDougall, A. Walter. *The Heavens and the Earth: A Political History of the Space Age*, 108.

⁴⁶ Gruntman, Mike. *Blazing the Trail: The Early History of Spacecraft and Rocketry*, 192.

⁴⁷ Trachtenberg, Marc. *A Constructed Peace: The Making of the European Settlement 1945-1963*, 96-98.

⁴⁸ *Ibid.*, 98.

increase in their defense spending; the United States almost doubled its defense spending from 1950 to 1951.⁴⁹

A few months before the North Korean invasion, the NSC issued NSC-68, a key policy document that evaluated forthcoming U.S. and Soviet military capabilities with a particular emphasis on nuclear weapons. The report concluded that within four years, the Soviet Union would achieve a thermonuclear bomb capability and pose an increasing threat to U.S. security. NSC-68 recommended that the United States strengthen its deterrent as to withstand a potential surprise strike from the Soviet Union by the period of 1954-1955, since such a war scenario could not be ruled out with absolute certainty. Furthermore, the report recommended that the United States fully embrace a policy of containment by “encouraging and promoting the gradual retraction of undue Russian power and influence from the present perimeter areas around traditional Russian boundaries and the emergence of the satellite countries as entities independent of the USSR.”⁵⁰ NSC-68 was approved as national policy by President Truman in September, 1950.⁵¹

While the war broke out on the Korean peninsula, Germany became ever-more important as the allies understood that in case of a conflict in Europe, NATO forces would have to fight on German territory. Yet when the U.S. JCS suggested that the current demilitarization in West Germany should be given another thought as to allow Germany integrate into the NATO defensive structure, President Truman dismissed such statements as “decidedly militaristic.”⁵² Whereas Truman’s resistance gradually declined,

⁴⁹ Budget of the United States Government. *Fiscal Year 2009: Historical Tables*. White House, 2009.

⁵⁰ NSC-68.

⁵¹ McDougall, A. Walter. *The Heavens and the Earth: A Political History of the Space Age*, 104.

⁵² Trachtenberg, Marc. *A Constructed Peace: The Making of the European Settlement 1945-1963*, 107.

the allies became more and more convinced about the importance of Germany's integration into Western defensive structures. The unified NATO force in Europe needed a supreme commander. This position would be offered to no one else than Dwight D. Eisenhower. In October 1950, President Truman called Eisenhower to the White House, where he asked him to accept the appointment. Eisenhower did not hesitate and agreed by saying: "I am a soldier and am ready to respond to whatever orders my superiors may care to issue to me."⁵³ Eisenhower assumed the post of the NATO Supreme Allied Commander, Europe (SACEUR) on December 16, 1950. On January 1, 1951, Eisenhower returned to Europe. One of the most pressing tasks sitting on his table was persuading European partners that Germans were not European adversaries, but allies, whose armed forces would be prospectively essential to drive back the Red Army, and that the German rearmament would in spite of historical concerns prove of a long-term benefit to the transatlantic community.

In 1950, as the U.S. Air Force requested earlier, RAND Corporation produced another study on space satellites. The report entitled *The Satellite Rocket Vehicle: Political and Psychological Problems* delved into political and military implications of earth satellites and implicitly stated that the eventual American space program would be much more suitable to national strategic needs than that of the Soviets, mainly because the Soviets could "with ease find out information about United States targets in other ways."⁵⁴ Further, the report dealt with the sensitive public and political nature of launching satellites, given that the launches themselves could not be kept secret. The issue of establishing freedom of space within an unstable security environment deserved

⁵³ Ambrose, E. Stephen. *Eisenhower: Soldier, General of the Army, President-Elect 1890-1952*, 495-496.

⁵⁴ McDougall, A. Walter. *The Heavens and the Earth: A Political History of the Space Age*, 108-110.

particular attention. RAND pointed out the enormous benefits of U.S. satellite reconnaissance, especially “as long as the Soviet Union remained a closed society,” and recommended that the objective of the United States should lie in “reducing the effectiveness of any Soviet counteraction that might interfere with the satellite reconnaissance operation before significant intelligence results are secured.” By pursuing such a course of action, RAND suggested that the first satellite should be solely experimental in nature and launched into the “equatorial orbit” as not to cross Soviet territory.⁵⁵ This recommendation indeed came true eight years later, when the United States successfully launched its first satellite. Although not launched into equatorial orbit, the first American satellite launched on January 31, 1958, under the codename *Explorer I*, carried exclusively scientific instrumentation to study cosmic rays, micrometeorites, and the satellite’s temperature.⁵⁶

EISENHOWER AND NATO

When Eisenhower assumed the post of NATO SACEUR, the United States was waging war on the Korean peninsula. Although the U.S. involvement in Korea was carried out under the mandate of the UN rather than NATO, Eisenhower became more and more worried about the threat of international Communism to global stability. His return to Europe gained front-page coverage around the world. At the epicenter of global security events, Eisenhower approached his work with utmost importance; on one occasion, he stated that the fight against the Red Army and Communism represented the

⁵⁵ Ibid., 110.

⁵⁶ National Aeronautics and Space Administration. *National Space Science Data Center: Master Catalog*. Available at NASA official website, 2011.

“last remaining chance for the survival of Western civilization.”⁵⁷ He had a very good understanding of the importance of German rearmament for the stability and balance of power in the European theater. Yet Germany was not a member of NATO and some Western European states that were still recovering from the German occupation were not keen on the idea of revitalizing the German war machinery. Eisenhower faced a very difficult task of convincing NATO allies that a strong Germany would be of a long-term benefit to the entire Alliance. While the European situation came into a political stalemate, the military developments in Korea provided a strong impulse to act. By the end of 1950, the Chinese assembled their armed forces by the Yalu River and launched a massive counteroffensive against the UN front. The Chinese intervention ultimately initiated “the longest unbroken retreat in American military history” that ended on January 1951.⁵⁸ At the time, many politicians and generals, including the Chairman of the JCS General Bradley, feared that the Soviet leadership might take advantage of the dismal U.S. situation and make a hasty attack on Western Europe. Eisenhower was well aware of the precarious security situation, and from this point onwards, he considered the strengthening of NATO forces in Europe a top priority. What is more, around this time, Eisenhower started to reconsider running for the presidency. It was the domestic politics in the United States that prompted him to think over the Presidential candidacy he had previously resolutely declined. At first, Eisenhower had high hopes that the Republican party would nominate a strong candidate for the 1952 Presidential election, who would press forward with a pledge of support to reinforcing Western Europe, including Germany. Paradoxically, the most likely Republican candidate, Senator Robert Taft,

⁵⁷ Ambrose, E. Stephen. *Eisenhower: Soldier, General of the Army, President-Elect 1890-1952*, 496.

⁵⁸ Addington, H. Larry. *The Patterns of War since the Eighteenth Century*. Indiana University Press, 1994, p.274.

proved not to support strengthening of the transatlantic security community by sending additional troops to Europe. When Eisenhower met with Taft before going to Europe, the Senator from Ohio showed no support for the concept of NATO as an essential security arrangement of the West. After the meeting, Eisenhower felt disheartened; yet for now, he retained “an aura of mystery” about his future political plans.⁵⁹ Meanwhile, he attended top policy meetings and delivered speeches both in the United States and Europe to gather support for invigorating American and European security through strengthening NATO.

Eisenhower’s efforts soon bore fruit. By mid-1951, NATO began to take the shape of a sound military force thanks to the Congressional approval of the Mutual Security Act of 1951 as well as the dispatch of four divisions with supporting naval forces and air wings to Europe.⁶⁰ Around this time, Eisenhower also developed his concern for defense spending and signaled his future political preference for fiscal conservatism. He believed that continued deficit spending would bankrupt the United States and feared excessive spending and inflation “as much as he feared the Russians.” In January 1952, Eisenhower entered the first Republican primary in New Hampshire, which he eventually won in March, beating Taft as well as Harold Stassen.⁶¹ Later that month, President Truman announced that he would not run for reelection.⁶² After subsequent victories in other states, Eisenhower devoted much of his time to the preparations for the Party nomination, seeking advice from experts in various aspects of public policy. In April, he delivered his last NATO report and asked Truman to relieve

⁵⁹ Ambrose, E. Stephen. *Eisenhower: Soldier, General of the Army, President-Elect 1890-1952*, 498-499.

⁶⁰ *Ibid.*, 504.

⁶¹ *Ibid.*, 514-524.

⁶² Vexler, Robert. *Dwight D. Eisenhower: 1890-1969*, 11.

him from the assignment effective June 1. From July 7 to July 12, the Republican Party held the Republican National Convention in Chicago. Eisenhower won the nomination. On the other side of the political spectrum, the Democrats nominated Adlai Stevenson. In mid-August, President Truman invited both candidates to the White House to offer them weekly intelligence briefings on the situation abroad. Truman, convinced that the American President occupied the most important position in the history of the world, considered providing both candidates with privileged information essential to the successful transition of U.S. leadership.⁶³ Eisenhower, a recipient of Ultra decrypts during World War II, had a sound understanding of the value of intelligence. Yet he declined Truman's proposal adding that Presidential candidates should only receive "communications known to all the American people."⁶⁴ Eisenhower said that "no grave emergency" existed at a time that would require him to receive classified information.⁶⁵ The national Presidential elections were held on November 4, 1952. Eisenhower beat Stevenson 55.1 percent to 44.4 percent in popular votes and 442 to 89 in electoral votes.⁶⁶ As a result, President-Elect Eisenhower effectively ended the Democratic streak of five consecutive Presidential victories. Eisenhower was sworn in as the thirty-fourth President of the United States on January 20, 1953.

⁶³ Central Intelligence Agency. *Briefings of Presidential Candidates; Truman and Eisenhower: Launching the Process.*

⁶⁴ Ibid.

⁶⁵ Ambrose, E. Stephen. *Eisenhower: Soldier, General of the Army, President-Elect 1890-1952*, 549.

⁶⁶ Vexler, Robert. *Dwight D. Eisenhower: 1890-1969*, 13.

CHAPTER II

FIRST TWO YEARS OF THE EISENHOWER PRESIDENCY

Shortly after assuming office in the White House on January 20, 1953, President Eisenhower delivered his first inaugural address. Throughout the speech, Eisenhower used religious metaphors depicting the struggle for peace and freedom as a test of faith in the “deathless dignity of man” and the “inalienable rights” bestowed by “the Creator.” While only marginally touching on explicit security issues such as the threat of a nuclear war, the President made clear that every American citizen would play an important role in the “winning of the peace.”⁶⁷ Waging the Cold War necessitated the involvement of entire nations and indeed required the public to participate. Therefore, the Eisenhower administration placed a considerable importance on public diplomacy as well as domestic and foreign psychological campaigns that would help the administration to advance national security objectives. On his seventh day in the office, Eisenhower created a nine-man board to study the “problem of unifying United States psychological warfare.”⁶⁸ The President firmly believed that in order to win hearts and minds of the people in America and abroad, the administration needed to pay particular attention to psychological factors that shaped public opinion and consequently pursue broad policies as well as specific operations aimed at altering the morale and confidence of the general public.⁶⁹ *Operation Candor*, initiated in May, 1953, represented one of such information campaigns that strived to strengthen morale and raise awareness within the American public of the

⁶⁷ Vexler, Robert. *Dwight D. Eisenhower: 1890-1969*, 73-78.

⁶⁸ *Ibid.*, 14.

⁶⁹ Osgood, Kenneth. *Total Cold War: Eisenhower's Secret Propaganda Battle at Home and Abroad*. University Press of Kansas, 2006, pp. 46-55.

dangers of communism as well as the threat of nuclear weapons.⁷⁰ Psychological warfare and information campaigns formed one of the three major security pillars on which Eisenhower founded his Cold War strategy. The other two security priorities rested on a strong national defense based chiefly, although not solely, on nuclear weapons and a sound U.S. economy, which continually received high priority within the Eisenhower's policy of fiscal conservatism.

Following the Truman presidency, Eisenhower inherited an increasingly complex intelligence community that would play a vital role in all aspects of the national security policy. Yet the U.S. intelligence capabilities in the early years of the Eisenhower administration failed to meet Presidential expectations. Due to the conflict on the Korean Peninsula in the early 1950s and the resulting increase in U.S. defense spending, the Truman administration called on the CIA headed by Bedell Smith to expand its clandestine services and provide more definitive intelligence on the Soviet bloc and People's Republic of China.⁷¹ By the time Eisenhower became the prime recipient of national intelligence, the NSC report issued in February 1953 observed that the intelligence community still could not provide satisfactory intelligence, particularly a timely and adequate warning of an attack "prior to actual detection of hostile formations."⁷² Shortly after the NSC issued its assessment, Eisenhower asked Smith to resign from the post of the Director of Central Intelligence (DCI) and appointed Allen Dulles as the new DCI. This leadership change likely occurred for two reasons; not only did Eisenhower believe in the exceptional intelligence experience of Allen Dulles, who

⁷⁰ Ibid., 156-159.

⁷¹ Susser, J. Mark. *Foreign Relations of the United States: The Intelligence Community 1950-1955, Preview*. U.S. Department of State, Office of the Historian, 2007.

⁷² NSC 142

had proved himself as an Office of Strategic Services (OSS) operative during World War II and whose brother served as Eisenhower's Secretary of State, but Eisenhower also wanted someone more enthusiastic for covert actions. Certainly, covert actions early on became an important part of Eisenhower's Cold War strategy.⁷³ Shortly after Dulles assumed the post of DCI, he yet again admitted that the U.S. intelligence capabilities with regard to the Soviet Union suffered "shortcomings of serious nature." During his first two years in the CIA, Dulles supported Eisenhower's inclination for covert actions, but also continued to look for alternative means to collect intelligence within the borders of the Soviet Union. Besides an interest in covert actions, Eisenhower also particularly liked Signals Intelligence (SIGINT), which he learned to appreciate during World War II as a recipient of Ultra decrypts produced by British intelligence.⁷⁴ Two months before Eisenhower became the President, the United States established the National Security Agency (NSA), the first U.S. permanent peacetime SIGINT agency. Even though the U.S. intelligence community represented a growing and dynamic organization, both the CIA and NSA failed to recognize the declining health of Joseph Stalin that led to his death in March, 1953. Eisenhower's initial frustration somewhat alleviated when NSA started to provide him with valuable decrypts of diplomatic cables "concerning the reactions of Western leaders and a number of foreign communist party chiefs to the death of Stalin."⁷⁵

Stalin's death represented the first major foreign affairs challenge for the Eisenhower administration. Charles Douglas Jackson, whom the President appointed to

⁷³ Andrew, Christopher. *For the President's Eyes Only*. HarperCollins, 1996, p. 201.

⁷⁴ *Ibid.*, 199.

⁷⁵ Aid, M. Matthew. *The Secret Sentry: The Untold History of the National Security Agency*. Bloomsbury Press, 2009, pp. 45-46.

serve as Special Assistant for handling Cold War operations with a particular emphasis on psychological warfare, suggested the United States seize the moment of Soviet weakness and launch an aggressive propaganda campaign against the communists. Secretary of State John Foster Dulles, on the contrary, recommended that America exercise caution, although he believed that Soviet “unremitting hostility” against the West as well as the Soviet position towards the stalemate situation in Korea would not lose on intensity.⁷⁶ Eisenhower considered both ideas valuable; however, he demanded more intelligence before making a specific decision on the future course of U.S. foreign policy. Within a week, the CIA produced a classified report for the President informing him of probable consequences of Stalin’s death and on the transfer procedure of the Soviet leadership.⁷⁷ Although the report made statements only with considerable uncertainty, it concluded that the Soviet Union lost the “man, who had been built up to the status of a demi-god,” and that the new regime will take some time to consolidate. In addition, the report stated that the Soviets will exercise foreign policy with utmost caution and suspicion during the existing critical period of relative vulnerability. Both Jackson and Dulles reacted to the report with critical remarks. In spite of objections from both of his close advisers, Eisenhower eventually decided to craft his response to the newly-emerging security situation on his own. The President tasked Jackson to develop a new “psychological plan” and speech based on “a simple theme of a higher living standard for the entire world.”⁷⁸ Meanwhile, on March 15, Malenkov delivered a speech,

⁷⁶ Bowie, R. Robert and Immerman, H. Richard. *Waging Peace: How Eisenhower Shaped an Enduring Cold War Strategy*. Oxford University Press, 1998, pp. 109-116.

⁷⁷ Central Intelligence Agency. *SE-39: Probable Consequences of the Death of Stalin and of the Elevation of Malenkov to Leadership in the USSR*. CIA, 1953.

⁷⁸ Bowie, R. Robert and Immerman, H. Richard. *Waging Peace: How Eisenhower Shaped an Enduring Cold War Strategy*, 115.

stating that all international disputes should “be decided by peaceful means, on the basis of mutual understanding.” Yet the Eisenhower administration interpreted Malenkov’s political gesture as launching a “peace offensive” with an aim to undermine the unity of the transatlantic community.⁷⁹ Eisenhower had to once again reconsider his speech. After an intense internal debate that only featured opposing recommendations, Eisenhower felt frustrated. He decided to take charge and personally supervise final revisions of his speech entitled *The Chance for Peace*.

On April 16, 1953, Eisenhower delivered his first major foreign policy address. *The Chance for Peace* was translated into 45 languages and broadcasted through various media abroad funded by the U.S. government. In his speech, Eisenhower specifically addressed the new Soviet leadership under Georgy Malenkov and outlined specific policies that could lead to world peace. The President denounced the Soviet threat to freedom, and also stated that the new Soviet regime should “awaken, with the rest of the world, to the point of peril reached and help turn the tide of history.” The speech also featured some elements of fiscal conservatism, while Eisenhower cautioned that one heavy bomber costs “brick schools in more than thirty cities,” and that a single fighter plane costs the people “a half million bushels of wheat.” It was also on this occasion that Eisenhower for the first time hinted on the issue of arms control and disarmament by trying to revive the Baruch Plan and suggesting an international control of atomic energy to “insure the prohibition of atomic weapons,” yet adding that “the details of such disarmament programs are manifestly critical and complex.”⁸⁰ A confidential memo of Radio Free Europe, one of the government sponsored media abroad that broadcasted *The*

⁷⁹ Ibid., 116-122.

⁸⁰ Eisenhower’s *Chance for Peace* address delivered on April 16, 1953.

Chance for Peace, concluded that the speech marked the end of containment policy, while launching a new policy of liberation.⁸¹ Despite Eisenhower's intentions to deliver a speech that would call for "honest acts of peace," *The Chance for Peace* only stirred a wave of criticism from the Soviet media.⁸² Even though Eisenhower hoped to genuinely offer a chance for peace, his speech made very clear that the political *status quo* in Eastern Europe needed to change prior to alleviating tensions and reducing armaments on both sides of the Atlantic. In the end, *The Chance for Peace* was unsuccessful in initiating a constructive U.S.-Soviet dialogue.

By the time Malenkov delivered his *Speech to the Supreme Soviet of the USSR* on August 8, 1953, the global security situation had stabilized with the signing of the Korean armistice. Although not overtly involved in the conflict, the Soviets played an active role in reaching the armistice by encouraging the Chinese to accept the cease-fire. Malenkov, similar to Eisenhower, called for "preserving and consolidating peace," although Malenkov also cautioned against "aggressive elements of the North Atlantic bloc" that according to him constituted "the principal danger to peace." Additionally, the Soviet leader warned against forces "working against the policy of relaxing international tension and trying to frustrate it at any cost, all happening under the atomic blackmail."⁸³ To ease the existing international tensions, Malenkov demanded the People's Republic of China's acceptance as a "Big Five Power" represented at the UNSC and likewise called for the banning of "atomic and other arms of mass destruction."⁸⁴ Even though both American and Soviet leaders delivered speeches calling for peace, U.S.-Soviet relations did not

⁸¹ Radio Free Europe Memo: *Special Guidance No.8 on President's Speech*. April 16, 1953.

⁸² Bowie, R. Robert and Immerman, H. Richard. *Waging Peace: How Eisenhower Shaped an Enduring Cold War Strategy*, 121-122.

⁸³ Malenkov, Georgy. *Speech to the Supreme Soviet of the USSR*. August 8, 1953.

⁸⁴ Vexler, Robert. *Dwight D. Eisenhower: 1890-1969*, 16.

progress as Eisenhower had hoped. The insurmountable differences between the West and East continued to perpetuate the mutual fear, suspicion, and mistrust. A constructive dialogue leading to a permanent peaceful coexistence remained an aspiration without a concrete foundation.

On October 30, 1953, Eisenhower approved NSC 162/2, the Basic National Security Policy. The two most rudimentary goals of the United States outlined in the document lay in “meeting the Soviet threat,” while avoiding a serious “weakening of the U.S. economy or undermining [U.S.] fundamental values and institutions.” For national defense purposes, the policy demanded that America maintain a force capable of “inflicting massive retaliatory damage by offensive striking power,” a “strong and growing economy,” as well as sound “morale, free institutions, and the willingness of the U.S. people to support the measures necessary for national security.”⁸⁵ These three principles proved essential to the Eisenhower administration’s pursuit of national security strategy. Above all, Eisenhower emphasized the need to balance the national defense spending to preserve the economic health of the United States, which he considered vital to maintaining American values and the American way of life. Throughout his two terms in the White House, Eisenhower managed to keep the defense spending at a relatively stable level accounting to around ten percent of the U.S. Gross Domestic Product (GDP). At the same time, the national defense spending as a percentage of the U.S. federal outlays continued to decrease from initial 69.4% in 1953 to 50.8% in 1961.⁸⁶

NSC 162/2, however, did not specify whether the administration should pursue the policy of containment or a more progressive policy of liberation indicated in the

⁸⁵ NSC 162/2

⁸⁶ Budget of the United States Government. *Fiscal Year 2009: Historical Tables*.

Eisenhower's *Chance for Peace* address. Following a long debate between the Department of State and the Department of Defense, the NSC paper had eventually eschewed a definitive conclusion. The JCS, however, continued for over a year to push for a more aggressive policy. Even though Eisenhower himself initially leaned towards a more active U.S. policy toward the Soviet controlled states, considering that in a scenario where the United States had to choose between a total war and a dictatorial regime, the U.S. leadership might face "a duty to future generations [...] to initiate war at the most propitious moment," he eventually rejected the prospect of a rollback policy as well as rejected the concept of "a year of maximum danger" of NSC-68 approved by the Truman administration.⁸⁷ Moreover, in 1954, Eisenhower continued to bring up the question at the NSC whether the United States should get ready for a fight with the Soviets; however, he remained profoundly concerned over a third world war involving nuclear weapons that would irrevocably change the world, and thus preferred the alternative of building up a strong national defense, while reinforcing transatlantic and transpacific security alliances.

Throughout 1954, the NSC engaged in a review of national security policy that resulted in NSC 5501, the new Basic National Security. The JCS again stressed a more "aggressive" strategy towards the Soviet Union before it acquired a large nuclear arsenal. Predicting that by the period of 1956-1959 both the United States and the Soviet Union would achieve "atomic plenty," the JCS projected that while mutual deterrence might stabilize the strategic equilibrium, it might lessen "the deterrent to peripheral aggression." Secretary of State Dulles disagreed, arguing that the existing U.S. policy including

⁸⁷ Bowie, R. Robert and Immerman, H. Richard. *Waging Peace: How Eisenhower Shaped an Enduring Cold War Strategy*, 163-165.

foreign aid and covert actions sufficed to deal with the Soviet threat.⁸⁸ Similarly to Secretary Dulles, Eisenhower also preferred the more conservative policy of containment as to avoid escalating the political pressure and possibly provoking a general war. In August 1954, Eisenhower approved NSC 5422/2 entitled *Guidelines under 162/2 for Fiscal Year 1956* concluding that in the period of 1956-1959 both sides would indeed reach mutual nuclear plenty. The NSC report also explicitly stated that a total war within this period using nuclear weapons would result in such “extensive destruction as to threaten the survival of Western civilization and the Soviet regime.”⁸⁹ In the end, the NSC 5501 approved by the President in January 1955 unambiguously rejected “the concept of preventive war or acts intended to provoke war.”⁹⁰

NUCLEAR POLICY AND ARMS CONTROL

One of the most powerful statements that Eisenhower made in his inaugural address in January 1953 concerned the threat of nuclear weapons. The President cautioned that science seemed ready to confer upon the world “the power to erase human life from this planet.”⁹¹ At the time, the United States represented the only power with a hydrogen bomb, detonating a two-stage thermonuclear device in the Pacific in November 1952. Two months after the Presidential speech, CIA produced a Special National Intelligence Estimate (SNIE) that predicted the Soviets would likely acquire a hydrogen

⁸⁸ Ibid., 173-174.

⁸⁹ NSC 5422/2

⁹⁰ NSC 5501

⁹¹ Vexler, Robert. *Dwight D. Eisenhower: 1890-1969*, 74.

bomb by mid-1955.⁹² Although Eisenhower would have never sacrificed the U.S. strategic superiority that eventually evolved into the strategic parity and the condition of Mutually Assured Destruction (MAD) vis-à-vis the Soviet Union, he continued to explore the option of international nuclear arms control during his presidency. During the first years of the Eisenhower presidency, the U.S. foreign policy relied on maintaining a robust nuclear arsenal capable of inflicting a massive retaliatory strike. Yet in December 1953, Eisenhower addressed the UN General Assembly with an arms control speech known as *Atoms for Peace* that proposed the establishment of an Atomic Energy Agency (AEA) controlling an international nuclear stockpile available for peaceful uses.⁹³ In spite of the objections from the Department of Defense, and particularly the JCS, Eisenhower decided to take the initiative and try to slow down an emerging nuclear arms race. Yet in the era of U.S. strategic superiority, the Soviets demanded an actual disarmament policy rather than an arms control initiative that would require verifications and on-site inspections resembling the Baruch Plan that had been previously rejected. One of the reasons Eisenhower decided to present a plan to impose an international control on nuclear material rested on testing the new Soviet regime under Nikita Khrushchev, who had become the Soviet General Secretary in September 1953.⁹⁴ The Soviets raised their concerns shortly after the Presidential address, complaining that the U.S. proposal in no way represented a viable disarmament plan as it in no way hindered the development of nuclear and hydrogen weapons by any state. Furthermore, the plan did not intend to ban the use of such weapons, a precondition, which the Soviets continued to demand. In

⁹² CIA. *SNIE SE-36: Soviet Capabilities for Attack on the United States through mid-1955*. CIA, 1953.

⁹³ Dwight, D. Eisenhower. *Atoms for Peace Address to the UN General Assembly*. December, 1953.

⁹⁴ Appleby, A. Charles. *Eisenhower and Arms Control, 1953-1961: A Balance of Risks*. The Johns Hopkins University Press, 1987, pp. 36-49.

March 1954, after several months of a diplomatic stalemate, Eisenhower met with the Soviet representatives to discuss the idea of an AEA. He highlighted the prospective value of such an international organization in “slowing the arms race by drawing off weapons materials from each side.” The negotiations eventually broke off after a few months due to the Soviet continual insistence on banning the use of nuclear weapons, which the U.S. administration opposed, taking into account the unavailability of workable mechanisms to detect “clandestine stocks of fissionable and fusionable materials.”⁹⁵ Although Eisenhower’s proposal did not manage to slow the emerging nuclear arms race between the United States and the Soviet Union, the *Atoms for Peace* initiative eventually came to fruition as a political framework supporting peaceful uses of nuclear energy under an international control. In 1955, the Soviets finally agreed to participate in the international pool of nuclear materials. Two years later, the UN established the International Atomic Energy Agency (IAEA).

During the first two years of the Eisenhower presidency, the United States enjoyed a comparative strategic military advantage vis-à-vis the Soviet Union, both in the number of nuclear bombs and in delivery vehicles. Thus, if the U.S. accommodated the Soviet response to the *Atoms for Peace* initiative to ban the use of nuclear weapons, the Soviet Union would virtually eliminate the U.S. strategic military lead. In 1953, for instance, the U.S. nuclear arsenal accounted for 1,436 bombs, while the Soviet nuclear weapon stock comprised of only 120 nuclear bombs. In addition, the United States represented the only power capable of delivering nuclear weapons over intercontinental

⁹⁵ Ibid., 36-49.

distances onboard of the B-47 Stratojet strategic bombers.⁹⁶ Yet the intelligence estimates produced by the CIA presented the balance of strategic forces differently. The SNIE from July 1953 entitled *Soviet Capabilities for Attack on the US through mid-1955* estimated that the Soviets might have up to 200 modified Tu-4 long-range bombers with extended combat radius, possibly also with the air-to-air refueling capability, available by 1955.⁹⁷ This prediction, as well as many other strategic intelligence estimates from the early years of the Eisenhower administration, proved greatly overstretched. In August 1953, the Soviet Union successfully tested a hydrogen bomb. Next year, in 1954, the Soviets indeed launched production of their first intercontinental bombers, the Mya-4 Bison and the Tu-95 Bear, although their production rate turned out to be far slower than the U.S. intelligence reports had estimated.⁹⁸ In the same year, Secretary of State John Foster Dulles announced that the United States now officially followed a defense policy based on “massive retaliation.”⁹⁹ Furthermore, the U.S. Secretary of Defense, Charles Wilson, announced the U.S. military strategy known as New Look that placed a heavy reliance on nuclear weapons rather than manpower.¹⁰⁰ Consistent with the Eisenhower’s policy of fiscal conservatism outlined in NSC 162/2 that sought “bigger bang for a buck,” the United States used its nuclear force both for deterrence as well as a diplomatic leverage. Besides building up its nuclear stockpile comprising both strategic and tactical weapons, the Eisenhower administration also invested in continental defense, both in active measures such as the development of air defenses as well as anti-missile systems, and

⁹⁶ National Resources Defense Council (NRDC). *Archive of Nuclear Data*. NRDC Website. Accessed on March 1, 2011 at: <http://www.nrdc.org/nuclear/nudb/datainx.asp>

⁹⁷ CIA. *SNIE SE-36/1: Soviet Capabilities for Attack on the US through mid-1955*. CIA, 1955.

⁹⁸ Addington, H. Larry. *The Patterns of War since the Eighteenth Century*, 280-281.

⁹⁹ Vexler, Robert. *Dwight D. Eisenhower: 1890-1969*, 18.

¹⁰⁰ Addington, H. Larry. *The Patterns of War since the Eighteenth Century*, 280.

later also passive defense systems such as the construction of nuclear shelters. One of the most significant active defense measures of the first two years of the Eisenhower presidency represented the construction of the Distant Early Warning (DEW) radar net across the Canadian far north initiated in December 1954.¹⁰¹

Nevertheless, in 1954, the RAND Corporation issued two alarming reports that evaluated the possibility of a surprise Soviet strike on U.S. Strategic Air Command (SAC) bases. One study headed by Albert Wohlstetter concluded that the SAC bases' vulnerability presented a major strategic issue.¹⁰² The other RAND study looking at the SAC vulnerability to a Soviet first strike by 1956 came to a shocking conclusion that the Soviet bombers, particularly if approaching from the South, might be capable of destroying "two-thirds or more of SAC bomber and reconnaissance aircraft at a cost of 50 or fewer bombs and aircraft."¹⁰³ Similarly, CIA produced equally alarming estimates; for instance, the November 1954 SNIE entitled *Probable Warning of Soviet Attack on the US through mid-1957* warned against a potential Soviet full-scale attack on the United States that might involve up to 850 long-range aircraft and 500 tanker aircraft by 1957.¹⁰⁴ The CIA estimates of Soviet forces from 1954 proved particularly exaggerated, mainly due to the lack of U.S. intelligence resources that could obtain credible assessments of the Soviet military machinery. President Eisenhower required reliable intelligence for two principal reasons: first, to continually adjust the U.S. military posture as to provide for the most effective defense of the United States to a possible although unlikely surprise

¹⁰¹ Lackenbauer, P. Whitney et al. *The Distant Early Warning (DEW) Line: A Bibliography and Documentary Resource List*. The Arctic Institute of America, 2005, pp. 9-10.

¹⁰² Freedman, Lawrence. *The First Two Generations of Nuclear Strategists*. Published in *Makers of Modern Strategy* edited by Peter Paret. Princeton University Press, 1986, pp. 750-755.

¹⁰³ RAND Corporation. *Vulnerability of U.S. Strategic Air Power to a Surprise Enemy Attack in 1956*. RAND, 1954.

¹⁰⁴ CIA. *SNIE 11-8-54: Probable Warning of Soviet Attack on the US through mid-1957*. CIA, 1954.

Soviet attack, and second, to help project national defense spending in advance as to avoid excessive military expenditures stemming from a long-term uncertainty.

By 1954, Eisenhower not only had to tackle foreign intelligence collection, but also internal security of the United States. Peacetime intelligence and espionage represented an increasingly pressing security issue even within the U.S. borders; in June 1953, Julius and Ethel Rosenberg became the first spies sentenced to death by a U.S. civil court for passing nuclear information to the Soviets.¹⁰⁵ Eisenhower took several steps to strengthen domestic counter-intelligence and internal security. In May 1954, he ordered the Department of Justice to establish an internal security division to expedite the prosecution of spies and saboteurs. What is more, in September 1954, Eisenhower signed the *Espionage and Sabotage Act of 1954* that authorized death penalty for peacetime espionage and sabotage.¹⁰⁶ Yet Eisenhower soon faced a moral dilemma when he needed to authorize illegal overflights of the Soviet Union. On November 24, 1954, DCI Dulles addressed a memorandum to the President expressing a grave concern over “large gaps in the U.S. intelligence coverage of the Soviet Union [...], in particular, with respect to [Soviet] capabilities and intentions to launch nuclear attacks on the United States” and recommended an approval of “a national requirement for high-altitude reconnaissance flights.”¹⁰⁷ Two days later, President Eisenhower approved the secret aerial reconnaissance project, codenamed “U-2.”

¹⁰⁵ Vexler, Robert. *Dwight D. Eisenhower: 1890-1969*, 16.

¹⁰⁶ *Ibid.*, 22.

¹⁰⁷ Dulles, W. Allen. *Memorandum to the President*. CIA, Office of the Director, November 24, 1954.

SCIENCE, TECHNOLOGY, AND OVERHEAD INTELLIGENCE

Due to an increasing need for credible intelligence on the Soviet military developments, the Eisenhower administration searched for ways to obtain Imagery Intelligence (IMINT) and Electronic Intelligence (ELINT) on the assets and areas of the Soviet Union situated beyond the range of the existing Boeing RB-29 and RB-47 reconnaissance aircraft.¹⁰⁸ In July 1954, President Eisenhower established the Technological Capabilities Panel (TCP) that comprised of prominent U.S. scientists and military experts headed by James R. Killian, the President of the Massachusetts Institute of Technology (MIT). The so-called “Killian Commission” became more and more distressed with the poor state of the nation’s intelligence resources needed to estimate Soviet capabilities. After studying a proposal of the Lockheed Aircraft Corporation for the CL-282 high-altitude reconnaissance aircraft, the Commission became increasingly confident that the aircraft could photograph the Soviet Union’s bomber fleet and provide an accurate assessment of the Soviet strategic force. While the U.S. Air Force refused to build the CL-282 aircraft fearing that it would jeopardize its other aircraft projects, the new reconnaissance aircraft eventually received a green light under the joint umbrella of the CIA and the Air Force; whereas the CIA would manage the flights, the Air Force would provide operational assistance.¹⁰⁹ On November 4, 1954, Edwin H. Land, Chairman of Project Three of the TCP, addressed a report to DCI Dulles, in which he portrayed aerial reconnaissance as “urgent and presently feasible.” Land presented a convincing argument justifying prospective illegal overflights of the Soviet Union by

¹⁰⁸ Central Intelligence Agency (CIA). *The CIA and the U-2 Program, 1954-1974*. CIA, Center for the Study of Intelligence, 1998, pp. 2-4.

¹⁰⁹ *Ibid.*, 13-17.

underscoring the fundamental difference in terms of information transparency between the United States and the Soviet Union. While the Soviets had “free access to the geography of all [U.S.] bases and major nuclear facilities, as well as to entire [U.S] military and civilian economy, [the United States] has been blocked from the corresponding knowledge about Russia.” Land also cautioned that the opportunity of deep reconnaissance overflights may not last for long since the Soviets continue to improve their air defenses and will eventually be capable of intercepting the aircraft.¹¹⁰ After Dulles forwarded the TCP recommendation to Eisenhower, the CL-282 aircraft codenamed “U-2” received a Presidential “go-ahead” for research, development, and testing on November 26, 1954.

Meanwhile, both the United States and the Soviet Union made significant advances in rocketry as well as nuclear weaponry. By 1953, both sides had detonated a thermonuclear device, the predecessor of the hydrogen bomb, and deliberated whether the device could be weaponized. In the summer of 1953, the U.S. Air Force Science Advisory Board created a special committee that evaluated nuclear weapons, including a prospective hydrogen bomb, and means of their delivery.¹¹¹ The committee headed by John von Neumann concluded that both fission and fusion bombs could be eventually delivered by a ballistic missile with a sufficient throw weight. In March 1954, the United States successfully demonstrated the practicability of a hydrogen bomb with a lightweight design during a test in the Pacific. It now became clear that the Intercontinental Ballistic Missile (ICBM) would represent the ultimate delivery vehicle for nuclear weapons.

¹¹⁰ Land, H. Edwin. *A Unique Opportunity for Comprehensive Intelligence*. Technological Capabilities Panel (TCP), 1954.

¹¹¹ Gruntman, Mike. *Blazing the Trail: The Early History of Spacecraft and Rocketry*, 227-228.

Another scientific committee formed in 1953 and also led by Neumann looked at U.S. strategic missile programs. The so called “Teapot Committee” issued a report in early 1954 that evaluated the existing intelligence and inconclusively suggested the Soviet advances in rocketry might have surpassed those of the United States. By assessing the present Air Force long-range missile projects as “unsatisfactory,” the committee recommended a thorough reorganization of the ballistic missile effort giving the top priority to the prospective Atlas ICBM. At around the same time, the RAND Corporation produced a similar study that also “confirmed the feasibility of the Atlas ICBM,” estimating its initial operational capability by 1960.¹¹² Eventually, both the Air Force and President Eisenhower agreed that the development of an ICBM represented a project of major importance to national security. On September 13, 1955, Eisenhower designated the ICBM as a national program of top priority.

In March 1954, the RAND Corporation produced a comprehensive report on earth satellites that represented the culmination of the organization’s eight years experience in satellite research. The study entitled *Project Feed Back* provided a detailed analysis of the feasibility of “an unconventional reconnaissance method” using a satellite launched in Low Earth Orbit (LEO) that would feed the “television pictures” acquired in orbit back to ground stations. By estimating that such a satellite might reach an initial operational capability in about seven years, the report concluded that the resulting IMINT might eventually lead to “a major reversal of [U.S.] strategic intelligence posture with respect to the Soviets.” Finally, *Project Feed Back* recommended to the Air Force that “the program be continued on a full-scale basis.”¹¹³

¹¹² Ibid., 229-231.

¹¹³ RAND Corporation. *Project Feed Back: Summary Report*. RAND, 1954.

CHAPTER III
U.S. SPACE POLICY

While the Eisenhower administration continued to search for a way to gain credible intelligence estimates of the Soviet military developments, scientists from all over the world envisaged an international project comprised of observations of various geophysical phenomena during the period of the so-called International Geophysical Year (IGY), spanning from July 1957-December 1958.¹¹⁴ Only a few months after the RAND Corporation recommended that the Air Force develop a reconnaissance satellite, on October 1954, the Special Committee for the IGY (CSAGI) recommended that governments participating in the IGY attempt to launch an earth satellite.¹¹⁵ The CSAGI recommendation, however, did not originate from the scientific community. In fact, it was the Eisenhower administration that secretly made sure that the U.S. delegation to the CSAGI brought up the recommendation to launch a scientific satellite during the IGY. At the time, the Soviets vehemently condemned U.S. reconnaissance flights conducted only along the periphery of the Soviet borders. Some American aircraft had even been shot down by the Soviets.¹¹⁶ With the U-2 project in a developmental phase, the prospect of establishing a legal precedent for the freedom of space, which would pave the way for an eventual reconnaissance satellite, deserved the full attention of President Eisenhower. Therefore, in 1954, Assistant Secretary of Defense for Research and Development, Donald Quarles, who had been aware of the U.S. military space program, recognized the

¹¹⁴ National Academy of Sciences. *The International Geophysical Year*. NAS Website, accessed on March 15, 2011 at: <http://www.nationalacademies.org/history/igy/>

¹¹⁵ McDougall, A. Walter. *The Heavens and the Earth: A Political History of the Space Age*, 118.

¹¹⁶ Central Intelligence Agency (CIA). *The CIA and the U-2 Program, 1954-1974*, 3-4.

IGY as an ideal opportunity to establish a legal precedent for orbiting reconnaissance satellites over the Soviet Union. Quarles along with Alan Waterman, President of the National Science Foundation (NSF), worked behind the scenes and ultimately made sure that the CSAGI recommended the states participating in the IGY to launch a scientific satellite.¹¹⁷

In February 1955, the TCP headed by James Killian produced a comprehensive report entitled *Meeting the Threat of Surprise Attack* that indeed recommended that the United States embarks on a scientific satellite program that would establish a legal precedent for the freedom of space and hence allow for the prospective launch of a reconnaissance satellite.¹¹⁸ One month later, following up on the recommendations of the *Project Feed Back* study, the Air Force secretly disseminated *General Operational Requirement #90 (SA-2C)* that provided selected U.S. defense contractors with the specifics of the secret military satellite program codenamed *Project WS-117L*.¹¹⁹ In March, the NSC concluded that the existing opportunity to launch a scientific satellite into an orbit “presents an early opportunity to establish a precedent for distinguishing between ‘national air’ and ‘international space,’ a distinction which could be to our advantage at some future date when we might employ larger satellites for intelligence purposes.”¹²⁰ Even though the March NSC meeting did not approve of the development of a military satellite, it indicated that the administration early on considered using outer space for intelligence purposes.

¹¹⁷ Day, A. Dwayne. *Cover Stories and Hidden Agendas: Early American Space and National Security Policy*. In *Reconsidering Sputnik: Forty Years Since the Soviet Satellite*, ed. R. D. Launius, J. M. Logsdon, and R. W. Smith. Amsterdam: Harwood Academic Publishers, 2000, pp. 161–195.

¹¹⁸ Preston, Bob et al. *Space Weapons Earth Wars*, 8-9.

¹¹⁹ McDougall, A. Walter. *The Heavens and the Earth: A Political History of the Space Age*, 110-111.

¹²⁰ Gruntman, Mike. *Blazing the Trail: The Early History of Spacecraft and Rocketry*, 393.

On May 26, 1955, the NSC gathered for its 250th meeting. Dillon Anderson, Eisenhower's National Security Adviser, opened up the meeting by briefing the Council on the contents of NSC 5520, Statement of Policy on the U.S. Scientific Satellite Program. President Eisenhower, who had been briefed on NSC 5520 prior to the meeting, then called on Donald Quarles, Assistant Secretary of Defense for Research and Development, to provide the Council with greater details of the earth satellite project.¹²¹ NSC 5520 concluded that the United States was now "believed to have the technical capability to establish successfully a small scientific satellite of the earth in the near future." It also recommended that while emphasizing "the peaceful purposes of the launching of such a satellite," the satellite launch should take place during the IGY. From a military and intelligence perspective, the Statement of Policy stated that although a small scientific satellite will not be capable of carrying "surveillance equipment," and thus will not have "direct intelligence potential," it will "represent a technological step toward the achievement of the large surveillance satellite." Furthermore, NSC 5520 stated that the JCS agreed with the launching of a scientific satellite, but only if it did not impede on the prospective development of a large reconnaissance satellite, of which "intelligence applications," according to the JCS, "strongly warranted" its construction.¹²²

At the conclusion of the NSC 5520 presentation to the NCS, Eisenhower pointed out that "while this earth satellite was rather a minor affair, if we subsequently put up a reconnaissance satellite, then we would be getting into the 'big stuff'." After the President inquired whether any Council members perceived any objections to NSC 5520,

¹²¹ NSC Meeting Notes. *250th NSC Meeting, May 26, 1955*. Ann Whitman File, Dwight David Eisenhower Presidential Library.

¹²² NSC 5520.

none of the members raised any. Allen Dulles added that “it was very important to make this attempt.”¹²³ The President approved NSC 5520 on May 27, 1955.

The approval of NSC 5520 gave the United States its first official space policy. On July 28, 1955, the White House Press Secretary James Hagerty released a press statement announcing the Presidential approval to launch “small earth-circling satellites” as part of the U.S. participation in the IGY.¹²⁴ Shortly after, the Soviets likewise announced their plans to launch a scientific satellite within the period of the IGY. The United States and the Soviet Union now entered a space arms race; both sides understood that the first country in space would harvest significant international recognition. The U.S. satellite launching endeavor was initially comprised of three projects. The Army proposed *Project Orbiter*, the Navy presented a space launch vehicle based on *Viking* sounding rockets, and the Air Force offered the Atlas B missile for a prospective launcher. The Ad Hoc Advisory Group on Special Capabilities headed by Homer J. Steward was established to evaluate the competing proposals and choose the best project that would ensure the U.S. launch of a satellite during the IGY. Eventually, in August 1955, the so-called “Stewart Committee” selected the Navy proposal, which became known as *Project Vanguard*.¹²⁵ The Stewart Committee’s majority vote for *Project Vanguard* was likely influenced by the Navy’s impressive plans for advanced scientific components and electronics of the launch vehicle as well as the radio tracking system known as “Minitrack.”¹²⁶ While the Air Force Atlas B proposal was shelved early on by the panel as not to interfere with the ICBM development that had been designated by the

¹²³ NSC Meeting Notes. 250th NSC Meeting, May 26, 1955.

¹²⁴ McDougall, A. Walter. *The Heavens and the Earth: A Political History of the Space Age*, 121.

¹²⁵ Gruntman, Mike. *Blazing the Trail: The Early History of Spacecraft and Rocketry*, 352-353.

¹²⁶ McDougall, A. Walter. *The Heavens and the Earth: A Political History of the Space Age*, 121-123.

President as the top national priority, the Army's *Project Orbiter* based on Redstone missile seemed very promising, particularly in being able to launch the U.S. satellite earlier than *Vanguard*.¹²⁷ Even though Wernher von Braun, who led the Redstone project, tried to "sway the Committee" by promising that the *Orbiter* missile could launch a satellite within 90 days, the panel increasingly leaned towards choosing a non-military missile project. In the end, by choosing *Project Vanguard*, the Stewart Committee preferred the scientific nature of satellite launches over becoming the first country to launch an earth satellite.

OPEN SKIES PROPOSAL

Although NSC 5520 approved the development of the first U.S. satellite, the pressing need for reliable intelligence on the Soviet Union shifted the attention to the U-2 project. While Eisenhower had decided in late 1954 that the U-2 project would proceed regardless of the Soviet reactions resulting from the violation of the Soviet airspace, the upcoming summit in Geneva presented the President with a unique opportunity to propose an international agreement allowing both sides to conduct aerial photography of military installations in their countries.¹²⁸ In July 1955, Eisenhower made his "Open Skies" proposal at the Geneva summit; although, as it had been expected by the U.S. administration, the Soviet leader Nikita Khrushchev immediately rejected it calling it "nothing more than a bald espionage plot against the Soviet Union."¹²⁹ Khrushchev insisted that any arms control proposal must be accompanied by disarmament

¹²⁷ Ibid., 122-123.

¹²⁸ *The CIA and the U-2 Program, 1954-1974*, 96-100.

¹²⁹ Chernus, Ira. *Apocalypse Management*. Stanford University Press, 2008, pp. 127-145.

measures.¹³⁰ A few weeks after the summit, Chairman of the Soviet Council of Ministers Nikolai Bulganin wrote to Eisenhower criticizing his “Open Skies” proposal. Bulganin reiterated that the proposal did not seem equitable since it did not contain arms reduction provisions and that aerial overflights themselves would not be invulnerable to denial and deception measures.¹³¹ After all, the Soviets had much less to gain from the “Open Skies” proposal than the United States. In 1955, the United States had a much larger nuclear arsenal as well as a greater number of long-range nuclear delivery vehicles than the Soviet Union; therefore, if the aerial inspections indeed took place and both parties would use the information of strategic intelligence value for targeting purposes, the United States would have enjoyed a considerable strategic advantage.¹³² Conversely, the Soviets had little to gain from the prospective mutual overflights agreement as they already had a comparative advantage in the open source knowledge of U.S. strategic bases as well as nuclear facilities. In addition, the Soviets might have also wanted to deliberately preserve the secrecy over their advanced rocketry development that at the time received a high national priority.¹³³ Through bringing up the “Open Skies” proposal on the international scene, President Eisenhower publicly strengthened the U.S. commitment to the peaceful uses of not only airspace, but also eventually outer space. Before the Geneva summit, Eisenhower privately stated that if the Soviets did not accept the proposal, he would nevertheless approve the U-2 flights.¹³⁴ Although the Soviets continued to insist on actual disarmament rather than arms control, they did eventually agree to some overflights. In

¹³⁰ Appleby, A. Charles. *Eisenhower and Arms Control, 1953-1961: A Balance of Risks*, 104.

¹³¹ *Ibid.*, 105.

¹³² Central Intelligence Agency. *National Intelligence Estimate 11-3-55: Soviet Capabilities and Probable Soviet Courses of Action through 1960*. CIA, 1955.

¹³³ Marquardt, J. James. *Transparency and Security Competition: Open Skies and America’s Cold War Statecraft*. *Journal of Cold War Studies*, 2007.

¹³⁴ *The CIA and the U-2 Program, 1954-1974*, 96.

November 1956, the Soviets agreed to aerial inspections up to 800 kilometers on either side of the line separating East from West in Europe.¹³⁵

One month after the summit in Geneva, even before Moscow had delivered its official response to “Open Skies,” the U-2 prototype took off for its first test flight. Eisenhower consequently held a meeting in the Oval Office to consider the details of the operational use of the aircraft.¹³⁶ In order to avoid committing an overt act of aggression against the Soviet Union, the U-2 project had to rely on plausible deniability. In May 1956, the CIA’s Office of Scientific Intelligence (OSI) conducted a vulnerability study, which concluded that while some of the Soviet radars might detect the aircraft, “it is doubtful that the Soviets can achieve [its] consistent tracking.”¹³⁷ Furthermore, fearing that in case of a malfunction the Soviets might seize the aircraft and also the pilot, Eisenhower was assured by DCI Dulles that due to the high operating altitude, the U-2 would disintegrate and almost certainly the pilot would not survive.¹³⁸ These findings alleviated President’s concerns about possible political repercussion resulting from the overflights of the Soviet Union. Meanwhile, in the summer of 1955, U.S. intelligence collectors in Moscow attended the Soviet Aviation Day. The flyover of the new Bison strategic bomber left a strong impression on both diplomatic and military representatives present at the show; however, as a squadron of 10 Bison aircraft conducted three continuous flyovers in large circles, U.S. collectors incorrectly assessed and reported back that the Soviet Union had 30 of these long-range bombers. Analysts consequently

¹³⁵ Appleby, A. Charles. *Eisenhower and Arms Control, 1953-1961: A Balance of Risks*, 105.

¹³⁶ Marquardt, J. James. *Transparency and Security Competition: Open Skies and America’s Cold War Statecraft*.

¹³⁷ *The CIA and the U-2 Program, 1954-1974*, 97.

¹³⁸ *Ibid.*, 97-98.

estimated that the Soviets were committed to increasing their heavy bomber force.¹³⁹ Although the number of existing Soviet bomber was far lower than the U.S. intelligence community had estimated, there was hard evidence that the Soviets indeed had the capability to produce bombers at a higher rate if they desired so.¹⁴⁰ The so-called “bomber gap” soon reverberated among the members of Congress and also the American public. Several aviation journals as well as newspapers featured articles with headlines such as: “Is U.S. Really Losing the Air?”¹⁴¹ As the public and political pressure along with intelligence and military demands mounted, President eventually decided to authorize U-2 overflights of the Soviet Union in June 1956.

MILITARY SPACE PROGRAM

On March 15, 1956, President Eisenhower approved NSC 5602/1, the new Basic National Security Policy that superseded NSC 5501 from 1955. NSC 5602/1 reiterated that the fundamental threat to the United States laid in Soviet nuclear weapons. Similarly to NSC 5501, it restated that as the Soviet Union and the United States approached nuclear parity, U.S. policy must reject the prospect of a preventive nuclear war or acts intended to provoke a nuclear confrontation. Although space capabilities did not yet play a part in the U.S. security policy, NSC 5602/1 made clear that the United States must continue to strengthen its deterrent with a particular emphasis on continental defense. With regard to intelligence capabilities, the policy stated that the United States should develop an intelligence system that would provide “maximum prior warning of possible

¹³⁹ Dulles, W. Allen. *The Craft of Intelligence*. Lyons Press, 2006, p. 145. (First edition published in 1963).

¹⁴⁰ *Ibid.*, 156-158.

¹⁴¹ *The CIA and the U-2 Program, 1954-1974*, 99.

aggression.”¹⁴² On June 5, 1956, the NSC produced NSC 5606, a comprehensive policy on continental defense. It concluded that a robust continental defense would give the United States an enhanced deterrent, lessen the prospect of a Soviet surprise strike with devastating consequences, as well as provide the United States with a capability to adapt and make timely changes to its technologies as the threat continues to change.¹⁴³ With regard to continental defense against ballistic missiles, the report noted that several studies had already indicated the technological feasibility of an early warning system. Indeed, the first such a study that looked at the infrared detection of hot plumes of an ascending ballistic missile was conducted in 1948 by Naval Research Laboratory (NRL). In 1955, the RAND Corporation also produced a similar study that suggested using earth satellites instead of patrolling aircraft to provide early warning of a ballistic missile launch.¹⁴⁴ When the U.S. Air Force disseminated its operational requirements for military satellite program *Project WS-117L* in 1955, it did not contain provisions for an infrared sensor. Yet when the Lockheed Aircraft Corporation won the Air Force contract for a reconnaissance satellite in October 1956, it proposed an additional development of “a satellite equipped with an infrared radiometer and telescope” that would detect hot plumes of an ascending ballistic missile. By 1957, Lockheed’s proposal for an infrared satellite was designated as *Subsystem G* of *WS-117L*. *Subsystem G* eventually became the Missile Defense Alarm System (MIDAS) in 1958.¹⁴⁵ Two other subsystems of *WS-117L* at the time represented the original reconnaissance satellite named *Project Corona* and the Satellite and Missile Observation System (SAMOS).

¹⁴² NSC 5602/1

¹⁴³ NSC 5606

¹⁴⁴ Gruntman, Mike. *Blazing the Trail: The Early History of Spacecraft and Rocketry*, 394.

¹⁴⁵ Richelson, T. Jeffrey. *America's Space Sentinels: DSP Satellites and National Security*. University Press of Kansas, 1999, pp. 8-9.

In 1956, however, *WS-117L* received low priority compared to the development of a scientific satellite that would be launched during the IGY and establish the principle of “a peaceful overflight.” In May 1956, one year after President Eisenhower approved NSC 5520, the NSC held a meeting to discuss the progress of the U.S. space program. Alan Waterman, briefed the Council on the status of the program and recommended that the United States launch an additional six satellites in addition to those six originally planned in NSC 5520 in order to get more complete and precise scientific information from U.S. space efforts. Although Eisenhower did not object to Waterman’s suggestion, he saw no reason at the time to earmark funds for additional satellites. There was much concern about the prospect of the mounting cost of satellite endeavors. Eisenhower admitted at the meeting that he had not been initially enthusiastic about the U.S. space program; however, he understood that after making a public announcement, the United States now could not back off from its commitment.¹⁴⁶ A few months later, the Department of Defense issued its satellite progress report that examined alternatives to the Vanguard Space Launch Vehicle (SLV), concluding that additional development programs based on Atlas or Redstone missiles would not offer a significantly better variant to the existing Vanguard. In addition, the report concluded that the launching of an additional six satellites as proposed by the NSF would not increase the probability of success of the U.S. satellite program.¹⁴⁷ Meanwhile, in April 1956, the Air Force gave a green light to the development of the U.S. military space program. Because of budget constraints, however, *WS-117L* was initially significantly underfunded. It was not until

¹⁴⁶ NSC Meeting Notes. 283rd Meeting of NSC. May 4, 1956.

¹⁴⁷ Department of Defense (DOD). *NSC Progress Report on the U.S. Scientific Satellite Program NSC 5520*. DOD, October 3, 1956.

the launch of Soviet Sputnik in 1957 that eventually resulted in more funding for the space reconnaissance project.

While the U.S. leadership debated the best approach to establish presence in outer space, the Soviets vigorously pursued their space program. Compared to the U.S. space program that comprised separate scientific and military components, the Soviets had a unified program primarily centered on the scientific exploration of outer space. Nevertheless, the Soviets devoted their space effort to a large booster, the R-7 rocket, which certainly had limited military application.¹⁴⁸ Indeed, it technically became the world's first ICBM in August 1957. Nevertheless, due to military limitations that stemmed from its bulky design that prevented the missile from emplacement into silos as well as the inefficient fueling system that hindered its operational readiness, the Soviets never deployed more than six R-7 missiles.¹⁴⁹ An NIE dated November 1956 estimated that the Soviet Union had “one of the most comprehensive and well-planned [space] programs of any of the countries participating in the IGY.” The CIA report also noted that the USSR was engaged in the development of earth satellites for research at very high altitudes, while providing no indication that the Soviets intended to develop a satellite with military or intelligence capabilities.¹⁵⁰ After Khrushchev became the First Secretary of the Communist Party, the political climate within the Soviet Union started to change considerably. In 1956, Khrushchev for the first time as the leader of the Soviet Union condemned the crimes committed by Joseph Stalin. Although the speech was secret, it eventually leaked outside of the Soviet Union. On June 4, 1956, the U.S.

¹⁴⁸ Gruntman, Mike. *Blazing the Trail: The Early History of Spacecraft and Rocketry*, 288-293.

¹⁴⁹ *Ibid.*, 289.

¹⁵⁰ CIA. *NIE 11-6-56: Capabilities and Trend of Soviet Science and Technology*. CIA, 1956.

Department of State released the text of the Khrushchev's speech.¹⁵¹ The year 1956 also brought about an important arms control measure. One year after the Soviets agreed to participate in the international pool of nuclear materials proposed by President Eisenhower, twelve nations, including the United States and the Soviet Union agreed upon a charter for the IAEA.¹⁵² The IAEA was established in 1957 as the principal international body overseeing the peaceful use of nuclear energy.

SPUTNIK AND EXPLORER

On January 21, 1957, Eisenhower officially began his second term of the presidency. Three days later, the NSC convened again to discuss the status of the U.S. satellite program. One of the most pressing issues facing the program that worried the President stemmed from the rising cost; from the original 20\$ million, the cost of launching six earth satellites had now increased to \$80 million. Yet Eisenhower agreed to proceed with the launches with the first one scheduled for October 1957. DCI Allen Dulles noted that the Soviets likely intended to become the first nation in space. Alan Waterman then added, that while the Soviets might surpass the U.S. effort in the development of an SLV, they would unlikely produce better satellite instrumentation.¹⁵³

In fact, the Soviet development of an SLV did not commence as a separate program, but rather built on the development of an ICBM. Whereas President Eisenhower designated the Atlas ICBM a national program of top priority in 1955, the Soviets had

¹⁵¹ Vexler, Robert. *Dwight D. Eisenhower: 1890-1969*, 31.

¹⁵² *Ibid.*, 31.

¹⁵³ NSC Meeting Notes. *310th Meeting of NSC*. January 24, 1957.

made their ICBM program a top priority a year earlier.¹⁵⁴ One of the Soviet ICBM projects was the large R-7 (SS-6) rocket that was designed to carry a heavy payload, possibly to accommodate a thermonuclear warhead.¹⁵⁵ One year later, the Soviets started to develop the R-16 (SS-7) ICBM that would be a missile more suitable for large-scale deployment than the R-7. While the United States relied on a scientific rocket program to launch its first satellite in space, the Soviet Union selected a military missile that had the most promising throw weight for a successful launch of the first Soviet satellite.

The development of Sputnik atop of the R-7 was strongly advocated by Sergei Korolev, the Soviet rocket scientist who headed the OKB-1, the Central Design Bureau of Experimental Machine Building. Mikhail Tikhonravov, working alongside Korolev, was the Soviet scientist in charge of the development of Sputnik. After the United States and the Soviet Union announced their plans to launch scientific satellites during the IGY in July and August 1955 respectively, the Soviets became determined to become the first nation in space. In January 1956, Korolev received a green light from the Soviet leadership to proceed with the plan to launch the first Soviet satellite using the R-7 rocket. Initially, the concept of a first Soviet satellite called *Object D* envisioned a satellite that would have a total mass of 1,000-1,400 kilograms. To speed up the prospective launch, Korolev and Tikhonravov decided to first build a much lighter satellite that would allow for an earlier launch attempt. In January 1957, Korolev addressed a memo to the USSR Council of Ministers asking for permission to prepare and launch a satellite even before the official start of the IGY in July 1957. Korolev believed at the time that the United States had already attempted to launch a satellite in

¹⁵⁴ Gruntman, Mike. *Blazing the Trail: The Early History of Spacecraft and Rocketry*, 311.

¹⁵⁵ Podvig, Pavel. *Russian Strategic Nuclear Forces*. The MIT Press, 2004, pp. 121-123.

September 1956, although unsuccessfully. One month later, the Soviet government approved Korolev's proposal. The lighter version of *Object D* was designated *Object PS* (Sputnik) and weighed less than 84 kilograms.¹⁵⁶

While the Navy worked on the Vanguard SLV, it also developed a small scientific satellite. Compared to the Soviet satellite plans, the U.S. efforts were much more modest. The first U.S. satellite that was scheduled for launch atop Vanguard weighed only 1.5 kilograms. It carried two transistorized transmitters that would send signals back to Earth. One of the transmitters was powered by six solar cells, while the other was powered by a mercury-battery.¹⁵⁷ Whereas the Navy successfully tested a Vanguard prototype in late 1956, the Army waited for its chance. The Army's ballistic missile programs were far ahead of the Navy. In fact, the Army could have placed a small satellite in orbit at an earlier date than Vanguard promised. In September 1956, the Army successfully tested the multistage Jupiter C composite vehicle that reached an altitude of 1097 kilometers and impacted the area 5336 kilometers away from the launch point. The fourth stage carried a 9 kilogram payload. Interestingly, if the fourth stage was replaced with the Army's Sergeant missile, the first U.S. satellite could have been successfully launched in orbit during the test.¹⁵⁸ Jupiter C, however, did not carry a satellite as Korolev described in his memo addressed to the USSR Council of Ministers in early 1957. Unfortunately, the Army had been banned from the satellite effort since 1955.

Prior to the Soviet launch of Sputnik in October 1957, the NSC met once again in May to talk about the progress of the U.S. satellite effort. To the President's dismay, the cost rose again to \$110 million. What is more, it became evident that the United States

¹⁵⁶ Gruntman, Mike. *Blazing the Trail: The Early History of Spacecraft and Rocketry*, 332-324.

¹⁵⁷ NASA. *National Space Science Data Center: Master Catalog*.

¹⁵⁸ Gruntman, Mike. *Blazing the Trail: The Early History of Spacecraft and Rocketry*, 360.

and the Soviet Union were now engaged in a space race. DCI Dulles noted that if the Soviets managed to launch the satellite first, they would achieve a powerful propaganda weapon. Eisenhower, much concerned about the rising cost as well as the prospect of falling behind the Soviets in the satellite effort, sadly noted that there was a lesson to be learned: “In the future, let us avoid any bragging until we know we have succeeded in accomplishing our objectives.” He then urged the Council to proceed with the simplest possible satellite with an attempted launch at an earliest date.¹⁵⁹

On October 4, 1957, the Soviet Union successfully launched the world’s first satellite. The Soviets had well planned the announcement of their accomplishment. On that day, several prominent American scientists were invited to the Soviet Embassy in Washington, D.C. to celebrate the IGY. While enjoying the celebration, Moscow radio broadcasted the astonishing news that the Soviet Union had launched Sputnik.¹⁶⁰ Although the U.S. intelligence community expected the launch, the public was caught entirely by surprise. Shortly after, the White House held a press conference. In response to the question, whether the administration was upset about losing the space race, Press Secretary James Hagerty stated that the administration never thought of the U.S. program “as one which was in a race with the Soviets.”¹⁶¹ On October 10, the NSC convened to discuss the “implications of the Soviet earth satellite for U.S. security.” DCI Dulles reaffirmed that the U.S. intelligence community predicted the launch as well as had already collected telemetric data on Sputnik even before the Soviet public announcement. Dulles also noted that the Soviets now launched a trilogy of propaganda; besides Sputnik, the Soviets bragged about their successful test of an ICBM and also the recent large-scale

¹⁵⁹ NSC Meeting Notes. 322nd Meeting of NSC. May 10, 1957.

¹⁶⁰ Divine, A. Robert. *The Sputnik Challenge*. Oxford University Press, 1993, p. xiii.

¹⁶¹ *Ibid.*, xiv.

test of a hydrogen bomb. Secretary of the Air Force Donald Quarles then noted that the Soviets had now proven helpful at least in establishing the freedom of space. Space now became an international domain rather than national as Sputnik flew over practically every nation on Earth. Towards the end of the meeting, President Eisenhower made an interesting remark. After reading a newspaper article that featured an allegation that according to “two so-called intelligence people” Sputnik was actually taking photographs of the United States, President inquired where did such a story come from. Secretary Quarles said he did not know of anyone who would make such a claim, although he could not know with absolute certainty that the Soviet satellite could not indeed perform such a mission.¹⁶²

Facing an enormous public pressure fueled by a critical media campaign, the Eisenhower administration needed to respond and prove that the U.S. scientific establishment was not inferior to that of the Soviets. The Vanguard project seemed to progress steadily. After the initial test of the first Test Vehicle (TV) in December 1956, the Navy conducted two additional tests, TV-1 and TV-2, on May 1 and October 23, 1957 respectively. The TV-3 that would for the first time carry a satellite was scheduled for launch on December 6, 1957.¹⁶³ Meanwhile, the Soviets successfully launched their second satellite, Sputnik 2, on November 3, 1957. Sputnik 2 was a much larger satellite weighing almost 509 kilograms and for the first time also carried a “live passenger,” a dog name Laika. On December 6, broadcasted live on U.S. television stations, the U.S. attempted a public satellite launch using Vanguard TV-3. After the rocket ignited, it raised a few meters from the launch pad, but the first engine lost thrust and Vanguard

¹⁶² NSC Meeting Notes. *339th Meeting of NSC*. October 10, 1957.

¹⁶³ Gruntman, Mike. *Blazing the Trail: The Early History of Spacecraft and Rocketry*, 358-359.

TV-3 exploded. The United States sustained another great loss, perhaps even greater than losing the space race to Sputnik earlier in October. The Vanguard fiasco precipitated a sense of “national humiliation.”¹⁶⁴ Eisenhower now needed to convince the public that the United States did not represent a mere second-rate power to the Soviet Union. Yet in late 1957, the public concern over national security did not only stem from the failure to launch a satellite. On December 20, U.S. media published a leaked summary of recommendations of the top secret Gaither Report. The report, officially named *Deterrence and Survival in the Nuclear Age*, concluded that “evidence clearly indicates an increasing [Soviet] threat, which may become critical in 1959 or early 1960,” and recommended that the United States undertake a comprehensive program to strengthen its deterrent and defense, including civilian protection by initiating a nation-wide nuclear fallout shelter program.¹⁶⁵ Although Eisenhower believed that the findings of the Gaither Report greatly exaggerated the Soviet threat, the media warned that the nation faced a “cataclysmic peril.”¹⁶⁶ In the interim, after the launch of Sputnik 2, the Army Ballistic Missile Agency (ABMA) was finally authorized to develop its own satellite.¹⁶⁷ The Army intensively worked on its new satellite called *Explorer I*. It carried a cosmic ray instrument, micrometeorite instruments, and temperature sensors.¹⁶⁸ In the end, there were two U.S. satellite launches scheduled for January 1958, one for Vanguard on January 18 and one for Jupiter-C on January 29. Eisenhower had still high hopes for Vanguard and asked his aide to issue him a draft of a press release in case Vanguard

¹⁶⁴ Divine, A. Robert. *The Sputnik Challenge*, 74-76.

¹⁶⁵ Science Advisory Committee (SAC). *Deterrence and Survival in the Nuclear Age*. SAC, Security Resources Panel, 1957.

¹⁶⁶ Divine, A. Robert. *The Sputnik Challenge*, 77-78.

¹⁶⁷ California Institute of Technology. *Explore I Booklet*. California Institute of Technology, Jet Propulsion Laboratory, 2003, p.22.

¹⁶⁸ NASA. *National Space Science Data Center: Master Catalog*.

manages to successfully launch the first U.S. satellite. The Navy's Vanguard, however, experienced technical problems and the launch had to be postponed. Consequently, under the direction of Wernher von Braun, the Army took over the launch pad in Cape Canaveral and prepared for the launch of *Explorer I*. On January 31, 1958, the United States successfully launched its first satellite.

PROSPECT FOR SPACE ARMS CONTROL

Even before any country launched a satellite in space, informal correspondence between the leaders of the United States and the Soviet Union examining the prospect of space arms control commenced in early 1957. The Eisenhower administration initiated the debate with a proposal at the UN General Assembly in January, 1957. The U.S. delegation to the UN proposed that “the testing as well as inspection of outer space vehicles testing of outer space vehicles should be carried out and inspected under international auspices.” This proposal was in compliance with a broad U.S. policy on arms control seeking to ensure that the launching of satellites to outer space would be exclusively for peaceful and scientific purposes, while any military vehicles travelling through space for military purposes should be prohibited.¹⁶⁹ Within the U.S. space policy, however, the term “peaceful” did not preclude U.S. satellites from having certain military applications.¹⁷⁰ At the Four Power summit in August 1957, the U.S. slightly altered the proposal that called for “technical studies of the design of an inspection system, which would make it possible to assure that the sending of objects through outer space will be

¹⁶⁹ NSC 5814/1.

¹⁷⁰ NSC 5918

exclusively for peaceful and scientific purposes.” The U.S. proposal thus also included ballistic missiles. Bulganin responded to Eisenhower by calling for nuclear disarmament as a precondition to space arms control. In January 1958, Eisenhower replied to Bulganin stating that the United States agrees that “outer space be used only for peaceful purposes,” but did not specify whether the United States would be willing to engage in actual disarmament talks. One month later, Bulganin wrote to Eisenhower that the Soviet Union was ready to discuss an agreement to ban nuclear weapons, including their testing, a prospective ban on ballistic missiles as well as the elimination of foreign bases on other nations’ territories. Under such conditions, according to Bulganin, the Soviet Union would welcome a space arms control agreement with no difficulties. Similarly to Bulganin, Khrushchev vehemently called on the West to “ban all nuclear weapons and evacuate overseas bases before the USSR would even discuss the peaceful uses of outer space.”¹⁷¹ In June 1958, Khrushchev addressed a letter to Eisenhower, in which he demanded that any space arms control initiative must also include a ban on ballistic missiles as well as the liquidation of U.S. bases on foreign soil. The discussion ended up in a stalemate.

Within the 1958 space arms control debate, the Soviets pursued a policy of obstructionism.¹⁷² Following the successful launch of the world’s first satellite, a test of the world’s first ICBM, and a large-scale hydrogen bomb test, the Soviet Union launched a comprehensive international propaganda campaign to praise their communist regime. Yet in reality, the Soviets were truly ahead of the United States only in their space program, particularly in the development of a SLV with a much higher throw weight. The

¹⁷¹ McDougall, A. Walter. *The Heavens and the Earth: A Political History of the Space Age*, 256.

¹⁷² *Ibid.*, 255.

R-7 (SS-6) rocket, however, was not well suited for military use as an ICBM as the Soviets had publicly claimed. The R-7 had an unwieldy design that prevented it from prospective emplacement in hardened silos and used a propellant that could not be stored in the missile for an extended period of time. Nevertheless, the Soviets publicly maintained they were ahead of the United States in military rocketry. By the time the space arms control debate reached the UN Disarmament Committee in 1958, the Soviets were not ready to concede to any on-site inspections. First, Khrushchev believed that the United States would copy the design of the R-7 SLV. Second, he feared that the true military utility of the R-7 would be revealed, which would seriously undermine the Soviet deterrent at the time and make the Soviet Union vulnerable.¹⁷³

The Eisenhower administration pursued space arms control negotiations within the framework of NSC 5814/1, the Preliminary U.S. Policy in Outer Space, issued on August 1958. NSC 5814/1 stated that international cooperation agreements could have the effect of “enhancing the position of the United States as a leader in advocating the uses of outer space for peaceful purposes” as well as provide an opportunity to “open up the Soviet Bloc.” The policy concluded that the United States had to retain the leading position in advocating the peaceful uses of outer space in the UN. Most importantly, NSC 5814/1 made clear that the priority of the U.S. space program remained “the achievement of scientific, military, and political objectives.” Within military objectives, the priority was given to reconnaissance satellites, stating that such a satellite should be launched “at the earliest technologically practicable date.” Comparing the U.S. and Soviet space programs, the Preliminary U.S. Policy in Outer Space estimated that the Soviet Union was also capable of launching a reconnaissance satellite within the period of 1959-1961 if

¹⁷³ Ibid., 255.

they chose to do so.¹⁷⁴ While the United States genuinely strived to establish a scientific cooperation with the Soviet Union, there is no indication that the Eisenhower administration ever considered abandoning the U.S. reconnaissance program. Besides seizing the initiative to publicly advocate peaceful uses of outer space, there might have been some other benefits from the prospective U.S.-Soviet scientific cooperation. In April 1958, Maurice Stans, Director of the Bureau of the Budget, addressed a memo to Robert Cutler, the U.S. National Security Adviser at the time, in which he examined certain benefits from the U.S. “Science for Peace” initiative. Stans noted that from a military perspective, any prospective exchange of booster data with the Soviets would be in U.S. favor, especially after the Soviets had managed to launch a half-ton satellite.¹⁷⁵ Yet Khrushchev had well known about the scientific value of the R-7. At the time, the R-7 rocket remained the only triumph of the Soviet Union, which the Soviets continued to protect at all cost.

In December 1958, the U.S. delegation to the UN managed to convince the General Assembly to establish an Ad Hoc Committee on the Peaceful Uses of Outer Space (COPUOS). Yet the Soviets immediately condemned the U.S. initiative by complaining that the Ad Hoc COPUOS included preferred member states, of which two-thirds aligned with the West. Yevgeny Korovin, a prominent Soviet lawyer, accused the U.S. government of creating a “rigged preparatory group that would give the United States complete control of it.”¹⁷⁶ The Soviet Union thus refused to take part in the Ad Hoc Committee, while demanding an equal representation. In late 1959, the UN approved

¹⁷⁴ NSC 5814/1.

¹⁷⁵ Stans, H. Maurice. *Memorandum to General Cutler*. Executive Office of the President, Bureau of the Budget, April 1958. Dwight David Eisenhower Presidential Library.

¹⁷⁶ McDougall, A. Walter. *The Heavens and the Earth: A Political History of the Space Age*, 256.

Resolution 1472 that established the standing COPUOS. In a new arrangement, four Eastern Bloc countries became members; the Committee now included members from twelve Western states, seven Communist states, and five neutral states. Whereas the Soviets now showed interest in a more balanced COPUOS, the Committee failed to convene until 1961 due to bureaucratic clashes concerning the designation of officers as well as the voting and decision-making mechanism.¹⁷⁷

During 1959, the U.S. position on space arms control started to depart from the earlier diplomatic rhetoric that enthusiastically advocated peaceful uses of outer space and began to focus rather on more pragmatic aspects. The U.S. delegation to the Ad Hoc COPUOS was advised by Karl Harr, Special Assistant to the President for Security Operations Coordination, to emphasize that the Committee should not be concerned with assuring the peaceful uses of outer space, but rather identify potential legal problems in the space code of conduct. Harr also recommended that the U.S. delegation calls attention to space as a domain that countries can use for national security purposes.¹⁷⁸ While emphasizing benefits of international scientific cooperation in space affairs, the U.S. delegation to Ad Hoc COPUOS indeed made clear that there was no need for additional legal provisions, since the UN Charter had already included essential principles providing the legal framework for the code of conduct in outer space. Loftus Becker, a U.S. mission representative, pointed out that Article 51 of the UN Charter recognizes the inherent right of states to defend against an armed attack, while such a right is not restricted to the

¹⁷⁷ Ibid., 258.

¹⁷⁸ Harr, Karl. *Draft Position Paper for UN Ad Hoc Committee on the Peaceful Uses of Outer Space: Legal Problems which may Arise in the Exploration of Space*. April 22, 1959. Dwight David Eisenhower Presidential Library.

terrestrial arena. Therefore, nations could pursue any space policies aimed at strengthening their national security.¹⁷⁹

In August 1959, the NSC issued NSC 5906/1, the new Basic National Security Policy, which for the first time incorporated outer space policy into the national security strategy. The Policy stated that the United States should “continue actively to pursue programs to develop and exploit outer space as needed to achieve scientific, military, and political purposes.” Furthermore, NSC 5906/1 outlined principal objectives of the U.S. space policy, including “a military space program designed to extend U.S. military capabilities through application of advancing space technology.”¹⁸⁰ In December 1959, the NSC approved NSC 5918, the new U.S. Policy on Outer Space that superseded NSC 5814/1, the Preliminary U.S. Policy in Outer Space from August 1958. The new space policy concluded that to date, there had not been a multilateral agreement to proceed with an arms control or a disarmament initiative. The primary U.S. space policy objective outlined in the document called for the enhancement of “scientific knowledge, military strength, economic capabilities, and political position.” In the realm of military applications, the priority had been given to the reconnaissance satellite. The policy also examined Soviet space objectives, ranking manned space travel and scientific research as top priorities, while propaganda and military applications ranked as low priorities.¹⁸¹ Meanwhile, the Soviets used the deadlocked COPUOS as an international platform to accuse the United States of space militarism. While the Soviets strived to portray U.S. space policy as an aggressive initiative seeking military superiority, the United States

¹⁷⁹ Becker, Loftus. *Statement to the UN Ad Hoc Committee on the Peaceful Uses of Outer Space*. U.S. Mission to the UN, May 7, 1959. Dwight David Eisenhower Presidential Library.

¹⁸⁰ NSC 5906/1

¹⁸¹ NSC 5918/1

started to launch the first series of reconnaissance satellites in 1959. The era of space militarization had begun.

ROAD TO SPACE MILITARIZATION

By 1958, the top secret *WS-117L* project set up by the Air Force in 1955 comprised three distinct military satellite efforts: a reconnaissance satellite with a recoverable capsule (CORONA), a missile defense early warning satellite (MIDAS), and an electro-optical reconnaissance satellite (SAMOS) that had been previously identified as SENTRY. In January 1958, President Eisenhower assigned the highest national priority to Project CORONA, while pursuant to NSC Action 1956, the launch of any satellite with reconnaissance capabilities would require Presidential signature. *WS-117L* received more funds than any other space program.¹⁸² On February 2, 1958, the Department of Defense established the Advanced Research Project Agency (ARPA) that took charge of the development of military space programs. ARPA produced its first progress report on March 31, 1958, estimating the first test launch of a reconnaissance satellite to take place in late 1958.¹⁸³ The first test launch of a satellite developed by ARPA eventually took place in early 1959.

Meanwhile, at an NSC meeting in February 1958, Eisenhower tasked the President's Science Advisory Committee (PSAC) to produce a report on U.S. objectives with respect to space exploration and science.¹⁸⁴ The PSAC team headed by Edward

¹⁸² Divine, A. Robert. *The Sputnik Challenge*, 151.

¹⁸³ Advanced Research Project Agency (ARPA). *Military Reconnaissance Satellite Program: Progress Report*. ARPA, 1958.

¹⁸⁴ NSC Meeting Notes. *354th Meeting of NSC*. February 6, 1958.

Purcell produced the report within a month. On March 6, Purcell briefed the NSC outlining recommendations of his study. While the report primarily focused on the scientific applications of U.S. space program, Purcell concluded his briefing by highlighting several important military applications of space exploration, including “communications, reconnaissance (optical, radio, infrared), and early warning.”¹⁸⁵

Although the so-called Purcell Report pointed out certain military utilities of satellites, it concluded that in the near future, “the earth would appear to be after all, the best weapon carrier.” The report was approved by President Eisenhower on March 26, 1958.¹⁸⁶

In July, the NSC met to discuss the forthcoming NSC 5814/1, preliminary U.S. Policy in Outer Space. After a briefing on the draft paper, the NSC engaged in a lengthy discussion of the most controversial paragraph concerning the pursuit of U.S. military superiority in outer space vis-à-vis the Soviet Union. In the end, the Council agreed to refrain from such an objective and concluded that the primary goal of U.S. space policy should be aimed at developing and exploiting outer space capabilities “needed to achieve U.S. scientific, military, and political purposes.” On August 18, 1958, President approved NSC 5814/1 that included the aforementioned statement and also other important objectives of U.S. space program, including “assisting in ‘opening up’ the Soviet Bloc through improved intelligence.”¹⁸⁷

By the end of 1958, CORONA became separated from *WS-117L* and renamed Project Discoverer. The satellites were planned to be launched atop a modified Thor IRBM produced by the Douglas Aircraft Company, while the second stage would be

¹⁸⁵ NSC Meeting Notes. *357th Meeting of NSC*. March 4, 1958.

¹⁸⁶ Stares, B. Paul. *The Militarization of Space: U.S. Policy, 1945-1984*. Cornell University Press, 1985, pp.47-51.

¹⁸⁷ NSC Meeting Notes. *371st Meeting of NSC*. July 3, 1958.

manufactured by the Lockheed Aircraft Corporation.¹⁸⁸ While the optical reconnaissance program received top priority by Eisenhower, NSC 5814/1 also counted on other military space programs being developed by ARPA, including a satellite project that would carry infrared sensors to detect ballistic missiles in their launch phase. The Missile Defense Alert System (MIDAS) was designed as a large satellite weighing over two tons that would carry instrumentation to measure infrared background and identify infrared sources.¹⁸⁹ The other satellite system developed by ARPA, using a more advanced transmission system similar to that advocated by the Project FEED BACK study in 1954, was the Satellite and Missile Observation System (SAMOS). SAMOS represented the most ambitious satellite project among all original *WS-117L* systems.¹⁹⁰ Although ARPA experienced some delays in attempting to launch the first Discoverer satellite, on February 28, 1959, the United States successfully launched the first Discoverer in polar orbit. Discoverer 1 represented the “first man-made object ever put into a polar orbit,” although it did not yet carry a camera.¹⁹¹ During 1959, the Air Force continued with a series of Discoverer launches, almost none of them proved successful. It eventually took 14 failed attempts to successfully launch a Discoverer and recover a film capsule that was ejected by the spacecraft in outer space and caught in midair by a C-119 airplane on August 19, 1960.¹⁹² Discoverer 13 became the first U.S. reconnaissance satellite. It also marked another record of the Discoverer series as the recovered film capsule became the first-ever successfully recovered object from orbit.¹⁹³

¹⁸⁸ Snyder, Muray. *Information Plan: Discoverer Series*. Office of the Assistant Secretary of Defense, 1958. Dwight David Eisenhower Presidential Library.

¹⁸⁹ NASA. *National Space Science Data Center: Master Catalog*.

¹⁹⁰ Stares, B. Paul. *The Militarization of Space: U.S. Policy, 1945-1984*, 45-46.

¹⁹¹ NASA. *National Space Science Data Center: Master Catalog*.

¹⁹² Lambeth, S. Benjamin. *Mastering the Ultimate High Ground*, 20.

¹⁹³ NASA. *National Space Science Data Center: Master Catalog*.

In December 1960, President Eisenhower approved NSC 6021, a policy on missiles and the military space program, which for the first time featured a provision on Anti-Satellite (ASAT) weapons. The policy stated that “any test which involves destroying a satellite or space vehicle shall not proceed without specific Presidential approval.”¹⁹⁴ After the Soviet launch of Sputnik, all of the U.S. military services had come up with different ASAT proposals.¹⁹⁵ The most significant test of an ASAT system codenamed BOLD ORION was conducted by the U.S. Air Force in October 1959, when a guided missile launched from a B-47 bomber passed nearby the Explorer VI satellite in LEO. Had the missile been equipped with a nuclear warhead, the satellite would have certainly been destroyed.¹⁹⁶ While the Soviets were the first to establish the principle of the freedom of space, the United States had a green light to proceed with its satellite reconnaissance program. Similarly to the U-2 project, Corona was managed jointly by the Air Force and the CIA. In 1960, Eisenhower established the highly classified National Reconnaissance Office (NRO) that took over the responsibilities of the Air Force’s Office of Missile and Satellite Systems and became the nation’s primary agency tasked with the development and operation of U.S. reconnaissance satellites.

During Eisenhower’s presidency, 19 Corona launches took place all together, out of which only three resulted in a successful recovery of the film capsule.¹⁹⁷ The two other projects of the original *WS117L* concept, MIDAS and SAMOS, also materialized under the Eisenhower administration. With regard to MIDAS, several alternatives for establishing an effective early warning capability existed. One variant, proposed by the

¹⁹⁴ NSC 6021

¹⁹⁵ Mowthrope, Matthew. *The Militarization and Weaponization of Space*. Lexington Books, 2004, p.14.

¹⁹⁶ Temple, L. Parker. *Shades of Gray: National Security and the Evolution of Space Reconnaissance*. American Institute of Aeronautics and Astronautics (AIAA), 2005, p.111.

¹⁹⁷ NASA. *National Space Science Data Center*.

Lockheed Aircraft Corporation and studied by the PSAC in early 1959, called for an airborne heat detection system using modified U-2 aircraft. The PSAC report stated that while the Ballistic Missile Early Warning System (BMEWS) would be able to detect ballistic missiles in their mid-course phase, the U-2 infrared warning system presented a feasible option for detecting missiles in their boost phase. The plan called for 50-100 U-2 aircraft stationed in the Arctic that would have the capability to fly in neutral airspace and detect ballistic missiles prior to burnout up to about 1,100 miles. As a result, the U-2s operating from Greenland and Alaska at an altitude of 65,000 feet would cover the northern two-thirds of the Soviet Union.¹⁹⁸ Furthermore, the PSAC also concluded that the ionospheric propagation detection technique appeared increasingly promising, as it was already providing very convincing results, and recommended that research in this field continue. Interestingly, the PSAC study found the MIDAS project to be the least viable option and concluded that insufficient evidence concerning the effectiveness of MIDAS should result in the deferral of its operational implementation for at least one year.¹⁹⁹ In spite of the PSAC's recommendations, President Eisenhower gave a go-ahead signal to the Air Force to launch the first MIDAS satellite only 11 months after the PSAC's report was completed. In 1960, two MIDAS satellite launches took place from Cape Canaveral in Florida. While the first launch failed, the second one successfully placed MIDAS 2 in LEO. After one month in orbit, the satellite transmitted useful infrared radiation data to a U.S. ground station that contributed to the research in space-based detection of ballistic missiles in their boost phase.²⁰⁰

¹⁹⁸ President's Science Advisory Committee (PSAC). *Report of the Early Warning Panel*. PSAC, March 13, 1959, pp. 5-8.

¹⁹⁹ *Ibid.*, 10-11.

²⁰⁰ NASA. *National Space Science Data Center*.

SAMOS turned out to be the least matured project, partly due to advanced data transmission technologies that were not yet proven. In October 1960, only two months before President Kennedy assumed office, SAMOS 1 was launched from Vandenberg Air Force Base, but the second stage of the booster failed. By 1962, SAMOS eventually managed to radio relay images to ground stations, although only at a very poor quality. SAMOS thus represented a satellite that among *WS-117L* projects most closely resembled the spacecraft envisioned by the RAND's Project FEED BACK study issued in 1954. After the end of the Eisenhower presidency, SAMOS eventually developed to contain two different payloads, one for ELINT purposes and the other for IMINT missions.²⁰¹ Ironically, the United States was not the first nation to develop a satellite that could radio relay images from space back to earth. In 1959, the Soviet Union launched Luna 3, a satellite that for the first time radio relayed low quality pictures of the far side of the Moon back to a Soviet ground station.²⁰²

The Air Force, however, was not the only branch of U.S. armed forces that sponsored a military space program. While ARPA continued to work on the *WS-117L* project in 1958, President Eisenhower approved Project TATTLETALE, a secret satellite project initiated by the Navy. The NRL set to work on a small intelligence satellite publicly known as the Galactic Radiation and Background (GRAB). Although GRAB carried scientific instrumentation to measure solar radiation, named SOLRAD, it also hosted a highly classified payload. The secret payload contained a special radar detector capable of ELINT collection. The first GRAB satellite was successfully launched from Cape Canaveral, Florida on June 22, 1960. Its classified sensor was activated on July 5

²⁰¹ Charlston, A. Jeffery. *What we Officially Know: Fifteen Years of Satellite Declassification*. The History of Spaceflight Quarterly, Volume 17, Number 3, 2010, p. 8.

²⁰² NASA. *National Space Science Data Center*.

after the receipt of Presidential approval.²⁰³ The GRAB satellite not only represented the world's first operational intelligence satellite, but also the first dual satellite package.²⁰⁴ Overflying the Soviet Union, the GRAB satellite series eventually produced valuable intelligence on Soviet air defenses. While the Office of Naval Intelligence (ONI) shared the intelligence collected by GRAB with NSA as well as SAC, U.S. military commanders were eventually able to use the knowledge about the location of Soviet air defense and refine the Single Integrated Operating Plan (SIOP) for a potential nuclear strike.²⁰⁵

By the early 1960s, Soviet accusations of U.S. military objectives in space continued to intensify. The downing of the U-2 aircraft over the Soviet Union on May 1, 1960 greatly exacerbated U.S.-Soviet relations. Whereas Khrushchev demanded a public apology from President Eisenhower at the Four-Power summit in Paris, the President stated that the overflights of the Soviet Union had been suspended, but refused to apologize.²⁰⁶ The summit ended immediately and the U.S.-Soviet relations reached their nadir. While the Soviets continued to insist on banning "military" uses of space, in December 1961, the United States along with its allies managed to pass the UN Resolution 1721 (XVI) that approved of space exploration activities aimed at the betterment of mankind. The resolution also stated that the legal provisions of the UN Charter, including Article 51, extended to outer space and celestial bodies.²⁰⁷ Meanwhile, the Soviet Union launched its own "military space program" launching its first reconnaissance satellite, Cosmos IV, in 1962. The space race gradually shifted into a

²⁰³ Van Keuren, K. David. *Cold War Science in Black and White: U.S. Intelligence Gathering and its Scientific Cover at the Naval Research Laboratory, 1948-62*. Social Studies of Science, Volume 31, Number 2. Sage Publications, 2001, pp. 207-229.

²⁰⁴ Ibid.

²⁰⁵ Charlston, A. Jeffery. *What we Officially Know: Fifteen Years of Satellite Declassification*, pp. 8-9.

²⁰⁶ *The CIA and the U-2 Program, 1954-1974*, 177-181.

²⁰⁷ McDougall, A. Walter. *The Heavens and the Earth: A Political History of the Space Age*, 260.

higher gear. After the Soviet Union scored success in both launching the first satellite as well as placing the first man into space in 1957 and 1961 respectively, President Kennedy announced that the United States would launch a manned mission to the Moon. In 1969, U.S. astronauts for the first time set foot on the Moon. In the same year, the Strategic Arms Limitation Talks (SALT) between the United States and the Soviet Union commenced. For the first time, during SALT negotiations, both countries implicitly acknowledged and legitimized their satellite reconnaissance capabilities by agreeing to use National Technical Means (NTM) for verification purposes. By 1972, military and intelligence applications of satellites orbiting around the Earth had been ultimately accepted.

CONCLUDING REMARKS

The Eisenhower administration successfully ushered the United States into an era of space exploration. Although losing the first space race, President Eisenhower gave the United States its first space-based intelligence capability. By the end of the Eisenhower presidency, the Cold War was in full swing. U.S.-Soviet relations reached a low point especially after the Soviets eventually managed to shoot down the U-2 aircraft on May 1, 1960 and after Eisenhower refused to apologize as Khrushchev had demanded. The air and space indeed became important domains in which President Eisenhower had to show mastery in balancing risks and embracing opportunities.

Since the very beginning, the U.S. and Soviet space programs differed markedly. While the United States lacked effective mechanisms to acquire credible intelligence on

the Soviet Union, the Soviets had free access to information about the geographical location of U.S. military bases and nuclear facilities. Therefore, from the early stages, U.S. space policy included a provision for intelligence and military applications of satellites. In contrast, early Soviet space policy focused primarily on scientific research as well as manned space travel. The Soviets did not start actively working on their military space program until the U.S. had already acquired a space-based intelligence capability. Most likely, the Soviets could have matched U.S. intelligence and military space endeavors had they decided to do so. After all, while the United States continued to test the recoverable capsule of the Corona satellite in 1959, the Soviet scientific satellite Luna 3 was already taking and radio relaying low quality pictures of the far side of the Moon.

Yet U.S. space efforts did not comprise only reconnaissance satellites. MIDAS and SAMOS certainly had military applications of strategic importance. In addition, the United States successfully tested a potential ASAT system. While President Eisenhower certainly considered threats and opportunities when deciding to proceed with U.S. space endeavors that might have destabilized the strategic balance between the United States and the Soviet Union, the question whether to develop satellites with intelligence and military applications as such was never truly debated at the NSC. It became clear early on that the imminent intelligence requirement outweighed the risk of deterioration in the U.S.-Soviet relations. Nevertheless, Eisenhower made sure that the launch of an intelligence satellite or the destruction of a satellite required Presidential approval.

While the Soviets accused the United States of pursuing an aggressive military policy in space, the Eisenhower administration insisted that U.S. space efforts were of a peaceful nature. Indeed, it was the United States that first initiated a dialogue on space

arms control in early 1957. It is important to note, however, that even though President Eisenhower insisted on peaceful uses of outer space, from the very beginning of the U.S. space debate, the term “peaceful” did not preclude satellites from having “certain military applications.” The Soviets, on the other hand, tied the prospect of space arms control to other military issues, including ballistic missiles and nuclear disarmament, which turned out as unacceptable to the United States. The debate on establishing an international code of conduct in outer space soon reached an impasse. After the Soviet boycott of the UN Ad Hoc COPUOS in 1958, the UN General Assembly established a standing COPUOS. Nevertheless, the standing COPUOS met with both the United States and the Soviet Union present only in 1961, when outer space had already been militarized. Meanwhile, the U.S. delegation to the UN presented a convincing argument that the UN Charter already provided the legal framework for a code of conduct in outer space. The delegation further stated that under Article 51 of the UN Charter, nations have an inherent right to self-defense, and such a right was not restricted to the terrestrial arena. Eventually, during the Kennedy administration, COPUOS adopted Resolution 1721 (XVI) stating that international law, including the UN Charter, extended to outer space and celestial bodies.

In conclusion, the militarization of space could hardly have been avoided. While the Soviet Union did not choose the same path as the United States when formulating its space policy objectives, they carefully calculated risks and opportunities when pursuing space arms control negotiations with the United States. Above all, the Soviets feared prospective inspections of their space launch vehicles, which also comprised their existing ICBM force. Inspections of the R-7 rocket would have provided U.S. scientists

and military commanders with significant information, including the considerable limitations of the missile for large-scale military deployment. Furthermore, after the Soviet leadership decided to tie space arms control to military issues ranging from nuclear disarmament to the elimination of military bases on foreign territories, the space arms control debate virtually ended. The United States would have never given up on nuclear weapons that formed an indispensable pillar of U.S. security strategy, nor would the United States have withdrawn its armed forces from foreign territories, which represented an integral part of the policy of containment. After the end of the Eisenhower presidency, the United States and the Soviet Union eventually found a middle ground and the UN COPUOS gradually became an important platform for space arms control. Little could Eisenhower have known when approving NSC 5520 in 1955 that reconnaissance satellites would eventually pave the way for strategic arms control agreements and help usher the United States and the Soviet Union into an era of détente.

LIST OF ABBREVIATIONS

ABMA	Army Ballistic Missile Agency
AEA	Atomic Energy Agency
ARPA	Advanced Research Project Agency
ASAT	Anti-Satellite
BMEWS	Ballistic Missile Early Warning System
CIA	Central Intelligence Agency
COPUOS	Committee on the Peaceful Uses of Outer Space
CSAGI	Special Committee for the IGY
DCI	Director of Central Intelligence
DEW	Distant Early Warning
ELINT	Electronic Intelligence
ERP	European Recovery Program
FBI	Federal Bureau of Investigation
GRAB	Galactic Radiation and Background
IMINT	Imagery Intelligence
IAEA	International Atomic Energy Agency
ICBM	Intercontinental Ballistic Missile
IGY	International Geophysical Year
JCS	Joint Chiefs of Staff
LEO	Low Earth Orbit
MAD	Mutually Assured Destruction
MIDAS	Missile Defense Alarm System
NATO	North Atlantic Treaty Organization

NRO	National Reconnaissance Office
NRL	Naval Research Laboratory
NSA	National Security Agency
NSC	National Security Council
NSF	National Science Foundation
NTM	National Technical Means
ONI	Office of Naval Intelligence
OSI	Office of Scientific Intelligence
OSS	Office of Strategic Services
PSAC	President's Science Advisory Committee
SACEUR	Supreme Allied Commander, Europe
SALT	Strategic Arms Limitation Talks
SAMOS	Satellite and Missile Observation System
SIGINT	Signals Intelligence
SIOP	Single Integrated Operating Plan
SLV	Space Launch Vehicle
SNIE	Special National Intelligence Estimate
TCP	Technological Capabilities Panel
TV	Test Vehicle
UN	United Nations
UNSC	United Nations Security Council

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