



# Functional Bureau Strategy

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## Bureau of Arms Control, Verification and Compliance

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## 1. Executive Statement

The Arms Control, Verification and Compliance (AVC) Bureau focuses on countering the threat of Weapons of Mass Destruction (WMD) and their delivery systems (JSP 1.1) through rigorous verification and robust compliance enforcement of all arms control, nonproliferation, and disarmament agreements and commitments to which the United States is a party. The Bureau contributes to the Department's role in implementing the President's National Security Strategy of December 2017 and the Joint State-USAID Strategic Plan for 2018-2022, and the Bureau leads implementation by the Department of the Nuclear Posture Review of 2018, the Missile Defense Review of 2018, and the America First National Space Strategy of March 2018. AVC utilizes the most current and effective scientific and technological tools and expertise available, in coordination with the U.S. intelligence community, to bring to bear the best information and insights available to ensure stringent compliance with critical treaties, agreements, and commitments related to WMD. The Bureau recognizes that the challenges posed by the existence and proliferation of WMD and their delivery systems are multi-faceted and require a comprehensive approach. Going forward, AVC will continue to build on cooperative arrangements and strong relationships throughout the Department and the inter-agency to address the threat posed by WMD and their systems of delivery and help protect Americans and American interests world-wide.

In the introduction to his National Security Strategy, President Trump pledged to put the safety, interests, and well-being of our citizens first. Critical to the fulfillment of that pledge is ensuring that the obligations contained in arms control, nonproliferation, and disarmament agreements and commitments are clear and verifiable, that their terms are fully met and that effective steps are taken to induce countries to return to compliance when this is not the case. The Joint U.S. Department of State-U.S. Agency for International Development 2018-2022 Strategic Plan (JSP) recognizes the risk that rogue states, such as North Korea and Iran, and non-state actors, such as Al-Qaeda and ISIS, could gain access to WMD. Countering this threat is one of the highest priorities for the Department. The statutory authorities of the AVC Bureau give it a unique role in the effort to achieve this strategic goal.

Risks involved with the Bureau's strategy include diminished U.S. international influence and leadership and the need to increase expenditures associated with our national security. Failure to counter the proliferation of WMD and their delivery systems would jeopardize the security of the American people and also our allies and partners around the world. Additionally, failure to ensure compliance with arms control, nonproliferation, and disarmament treaties, agreements, and commitments weakens established global norms in these areas, and would lead to greater instability.

The Bureau's primary Goal: **Ensure that Verification of Arms Control, Nonproliferation, and Disarmament Treaties, Agreements, and Commitments Is Effective** is directly linked to Goal Number 1 of the JSP's Strategic Goals, which focuses on countering the threat of WMD to the safety and well-being of the American people and our allies. To be *effective*, verification must either confirm that countries are complying with critical treaties, agreements, and commitments, or, failing that, inform

policy choices designed to ensure that non-compliance does not seriously damage U.S. national security. Working to bar any path to nuclearization by Iran, holding Russia accountable for non-compliance with its arms control obligations, pressing for Syria's compliance with the Chemical Weapons Convention (CWC), and the eventual verification of the denuclearization of North Korea, are critical areas of focus.

AVC's second Goal: **Alignment of U.S. Regional Security Interests to U.S. WMD and Strategic Policy Objectives** supports the Joint Strategic Plan's Strategic Goal 1, in that it enables the United States with its allies and partners more effectively to deter and defend against threats in the WMD domain. AVC will strengthen consultations with allies and partners to develop shared understandings of the security environment and deterrence policies, to assure them of continuing U.S. security commitments, and to enhance cooperation. The Bureau will serve as the Department's focal point for cross-agency development and implementation of U.S. nuclear force posture and policy guidance across the WMD domain to ensure our deterrence policy takes into account both homeland and regional security requirements.

The Bureau's third goal: **Emerging Security Challenges**

Our nation's economy, society, and security depend at a fundamental level on open, interoperable, and secure information and telecommunications technologies, including across satellite and undersea fiber-optic communications networks. However, the connectedness of worldwide communications infrastructure can allow foreign actors to discover network vulnerabilities that a range of actors seek to exploit. Threats to these systems have or are increasing in frequency, scale, sophistication, and severity of impact.

The Bureau leads or supports other elements of the Department in policy formulation and engagement regarding these interconnected issues to enhance U.S. national and economic security. As much of this infrastructure is owned by the private sector rather than the U.S. government and many pieces exist beyond our borders, the United States must work with partners, allies, and the private sector to enhance resilience, enable the protection of, and defend this important infrastructure. The Bureau must also coordinate closely with other elements of the U.S. Government, including the National Security Council, National Space Council, Department of Defense, Department of Homeland Security, and various elements of the Intelligence Community.

The Bureau's fourth goal: **Increased Government-wide Support for Verification Activities** reflects our responsibilities as the lead in the U.S. government for articulating the need for intelligence assets and sensor programs, as well as new technologies and enhanced analytical capabilities critical to verifying compliance with arms control, nonproliferation, and disarmament agreements and commitments. As foreign denial and deception capabilities evolve, we must maintain our technical edge, to include modernizing existing verification and transparency tools, in order to continue to be able effectively to verify compliance with international arms control, nonproliferation, and disarmament agreements and commitments to which the United States is a party, including New START, INF, BWC, CWC, Open Skies, Vienna Document, the NPT, and any new agreements or commitments. Potential future agreements on the DPRK's WMD and missile programs, or agreements regarding nonstrategic nuclear weapons and non-

deployed nuclear weapons, may require extensive collection and monitoring, and will likely require the development of new approaches and utilization of new technologies. In order to maintain support for verification throughout the U.S. government, AVC partners with the Intelligence Community, the Department of Energy, the Department of Defense and others, and seeks to identify partners in academia and private industry.

AVC's fifth Goal: **Expanded Missile Defense Cooperation** addresses the threat from Iran and North Korea of enhanced ballistic missile capabilities that threaten our allies and partners in the Middle East, Asia, and the Pacific, as well as the U.S. homeland. Missile defense enhances our extended deterrence and reassurance missions, and also may deter further development of nuclear weapons by regional adversaries such as Iran and North Korea. As the missile defense policy lead within the Department, AVC is seeking to continue and strengthen missile defense cooperation with allies such as South Korea and Japan, as well as Israel and other partners in the Middle East. We will also continue our engagement on missile defense in Europe to ensure that our allies and U.S. forces stationed in Europe are protected from rogue regimes that threaten our interests in the region.

During the period covered by this Strategy, the Bureau will also pursue a critical Management Goal: **Ensure that the AVC Bureau – from both an organizational and personnel perspective – is adequately structured to address the emerging security challenges of the 21<sup>st</sup> century.** This century presents emerging new challenges to international security that add levels of complexity. As noted in the JSP, "The Department will continue to assess states' compliance with obligations and commitments, including the publication of a Congressionally mandated Compliance Report detailing noncompliant activity annually. We will continue to lead multilateral efforts to induce noncompliant states to return to compliance with their obligations. We will work with nuclear and non-nuclear weapons states alike to understand the challenges associated with future nuclear disarmament verification. The threats from nuclear, chemical, biological and radiological weapons of mass destruction in the hands of non-traditional, non-state actors require increased international coordination and cooperation to address and mitigate. The increasing reliance on the outer space environment for commerce, and security, as well as the expanding opportunities for exploration in space, creates an imperative for new efforts to enhance its sustainability through new confidence-building and transparency measures. Additionally, entirely new areas such as cyberspace and the Arctic region have opened arenas for international cooperation and competition. Achieving these goals will require a 21<sup>st</sup> century workforce. We remain challenged by the fact that nearly half of the Bureau's employees are or will become eligible for retirement during the period covered by this strategy. Transferring their skills and knowledge to a new cadre of experts is a major objective for this Management Goal.

## 2. Bureau Strategic Framework

### Strategy Outline

Goal 1 Ensure that Verification of Arms Control, Nonproliferation, and Disarmament Treaties, Agreements and Commitments is Effective

Objective 1.1 Ensure that the United States and Russia continue to comply with the New START Treaty.

Objective 1.2 Press for Syria's Compliance with the Chemical Weapons Convention.

Objective 1.3 Seek continued action at the OPCW to address the chemical terrorism threat.

Goal 2 Alignment of U.S. Regional Security Interests to U.S. WMD and Strategic Policy Objectives

Objective 2.1 Input U.S. foreign policy priorities in cross-agency development of nuclear force posture and policy guidance across the WMD domain.

Objective 2.2 Advance relations with Russia and China in the strategic nuclear domain that further U.S. national security interests.

Objective 2.3 Deepen coordination, consultation, and cooperation with U.S. allies on extended deterrence policies, and assure them of our will and capability to defend them.

Goal 3 Address Emerging Security Challenges

Objective 3.1 Shape the Space Domain in the Interests of the United States and its Allies.

Objective 3.2 Shape the Cyber Domain in the Interests of the United States and its Allies.

Objective 3.3 Address undersea threats to allied security.

Objective 3.4 Address implications of artificial intelligence.

Goal 4 Increased Government-Wide Support for Verification Activities

Objective 4.1 Increase the verification efficiency of the U.S. government, including through the use of new technologies and enhanced analytical capabilities, with the goal of reducing costs while enhancing verification.

## Goal 5 Expanded Missile Defense Cooperation

Objective 5.1 Enhance missile defense cooperation with partners in the Middle East to counter the growing threat of missiles in the region, and promote greater cooperation among the United States and key regional allies and partners.

Objective 5.2 Implement the European Phased Adaptive Approach to reassure our partners and strengthen the security of the United States, Europe, and U.S. forces in Europe.

Objective 5.3 Contribute to improved regional stability and security by enhancing our missile defenses in East Asia and advancing missile defense cooperation among our allies in the region.

Objective 5.4 NATO agrees to address the expanding threat posed by cruise missiles.

### 3. Goals and Objectives

#### Bureau Goals

**AVC Goal 1:** Ensure that Verification of Arms Control, Nonproliferation, and Disarmament Treaties, Agreements, and Commitments Is Effective

##### a. Description and Linkages

This Bureau Goal is directly linked to Goal Number 1 of the JSP's Strategic Goals, which focuses on countering the threat of WMD to the safety and well-being of the American people and our allies. To be *effective*, verification must either confirm that critical treaties, agreements, and commitments are being complied with, or, failing that, inform policy in a timely enough manner that non-compliance does not seriously detract from U.S. national security. Verifying Iran's compliance with its nonproliferation commitments, holding Russia accountable for non-compliance with its arms control obligations, pressing for Syria's compliance with the Chemical Weapons Convention, and the eventual verification of the denuclearization of, and removal of other WMD from, North Korea, will be critical areas of focus for AVC.

AVC is statutorily the principal policy community representative to the intelligence community for verification and compliance matters, including those relating to arms control, nonproliferation, and disarmament treaties, agreements and political commitments of which the United States is party. The Bureau prepares the annual report to Congress on Adherence To and Compliance With Arms Control, Nonproliferation, and Disarmament Agreements and Commitments. Additionally the Bureau administers the Key Verification Assets Fund (V-Fund), which helps the Department preserve critical verification assets and support efforts to retain, research, develop, or acquire technologies, or programs related to the verification of arms control, nonproliferation, and disarmament agreements or commitments.

**Objective 1.1:** Ensure the United States and Russia continue to comply with the New START Treaty.

##### a. Justification

The Treaty is a continuation of the international arms control and nonproliferation framework that the United States has worked hard to foster and strengthen for the last 50 years. It is designed to limit the threat to the United States posed by Russian strategic nuclear forces and provides ongoing transparency and predictability regarding Russia's strategic nuclear arsenal. The Treaty is a key part of our effort to show Russia the benefits of cooperating with United States objectives and the existing international order. It remains a lynchpin of strategic stability between our two countries and provides assurance to allies and partners.

**Objective 1.2:** Press for Syria's compliance with the Chemical Weapons Convention (CWC).

**a. Justification**

Every year since Syria's accession to the CWC in 2013, Syria has used chemical weapons against the Syrian people. The OPCW-United Nations Joint Investigative Mechanism confirmed Syria was responsible for three uses of chlorine as a chemical weapon and one use of the chemical weapon sarin. Further, Syria has not provided a complete or accurate declaration of its chemical weapons program to the Organization for the Prohibition of Chemical Weapons (OPCW). The OPCW Director-General established a Declaration Assessment Team (DAT) in 2014 to work with Syria to address questions and concerns with Syria's CWC declaration, but as a result of that effort, the list of questions and concerns has grown over time rather than being reduced. Identifying tools to attribute Syrian CW use to Syria and to hold Syria accountable for its use and continued CW program will allow the United States and the international community to continue to highlight Syria's violation of the CWC and seek its return to compliance.

**Objective 1.3: Seek continued action at the OPCW to address the chemical terrorism threat.****a. Justification**

In October 2017, the OPCW unanimously adopted an Executive Council decision on practical steps the OPCW and States Parties can take to address the threat posed by non-State actors. The United States will seek effective implementation of this decision. Article X, paragraph 4 of the Chemical Weapons Convention specifies each State Party should have a national chemical protection plan. Such plans can significantly reduce the opportunities of non-State actors' acquisition of chemicals by theft and protect chemical facilities from sabotage. The OPCW Technical Secretariat (TS) has been working in Africa to produce national chemical protection plans in several sub-Saharan nations. Support technically, politically and financially will accelerate and universalize the effort.

**AVC Goal 2: Alignment of U.S. Regional Security Interests to U.S. WMD and Strategic Policy Objectives****a. Description and Linkages**

This Bureau Goal supports the Joint Strategic Plan's Strategic Goal 1, in that it enables the United States, with its allies and partners, to more effectively deter and defend against threats in the WMD domain. AVC will strengthen allied and partner consultations, such as through the U.S.-Japan Extended Deterrence Dialogue, to develop shared understandings of the security environment and deterrence policies, to assure Allies and partners of U.S. security commitments, and to enhance cooperation. The Bureau will serve as the Department's lead for cross-agency development and implementation of U.S. nuclear force posture and policy guidance across the WMD domain to ensure a credible deterrent is informed by homeland and regional security requirements.

**Objective 2.1:** Input U.S. foreign policy priorities in cross-agency development of nuclear force posture and policy guidance across the WMD domain.

**a. Justification**

The Bureau led the State Department's participation in the 2010 and 2018 Nuclear Posture Reviews (NPR). For these efforts, AVC coordinated with regional and functional counterparts in the Departments of State and Defense and the National Security Council, and held close consultations with allies and partners. AVC serves as State lead in messaging the key themes of the 2018 NPR to the U.S. public, Congress, and the international community.

**Objective 2.2:** Advance relations with Russia and China in the strategic nuclear domain that furthers U.S. national security interests.

**a. Justification**

AVC formulates and promotes efforts with China and Russia to increase cooperation and mutual understanding on strategic force postures and doctrines, while seeking to decrease or mitigate areas of potential misunderstanding, conflict, and crisis. The Bureau explores proposals to limit and reduce strategic and nonstrategic nuclear weapons, as well as the development of confidence building measures to increase transparency and predictability regarding nuclear weapons. AVC works closely with State and Defense counterparts to advance these proposals. In line with these efforts is the Bureau's dialogue with China on chemical and biological weapons-related issues

**Objective 2.3:** Deepen coordination, consultation, and cooperation with U.S. allies on extended deterrence policies, and assure them of our will and capability to defend them.

**a. Justification**

The JSP makes clear that the Department will reinforce existing regional security networks and alliances, including those with Japan, Australia, and the Republic of Korea. The Bureau has supported these missions since 2010, through regular consultations with our allies on strategic nuclear issues. Our allies place high priority on formal dialogues as vehicles for insights into U.S. nuclear policy and security strategy. AVC participates in Office of the Secretary of Defense led nuclear related consultations at NATO. AVC co-chairs with the Office of the Secretary of Defense for Policy (OSD/P) the U.S.-Japan Extended Deterrence Dialogue (EDD) and is the lead bureau for organizing the Under Secretary-level U.S.-Republic of Korea (ROK) Extended Deterrence Strategy and Consultation Group (EDSCG). AVC also plays the lead State role in the DoD-led Deterrence Strategy Committee (DSC) with the ROK. Australia has also expressed interest in establishing a cross-agency dialogue on deterrence and strategic policy issues.

**AVC Goal 3:** Address emerging security challenges

### **a. Description and Linkages**

Our nation's economy, society, and security depend at a fundamental level on open, interoperable, and secure information and telecommunications technologies, including across satellite and undersea fiber-optic communications networks. However, the connectedness of worldwide communications infrastructure can allow foreign actors to discover network vulnerabilities that a range of actors could then seek to exploit. Threats to these systems have or are increasing in frequency, scale, sophistication, and severity of impact. U.S. policy guidance on these interconnected issues is drawn from multiple Presidential directives and other national-level policies, several of which are classified.

The Bureau leads or supports other elements of the Department in policy formulation and engagement regarding these interconnected issues to enhance U.S. national and economic security. As much of this infrastructure is owned by the private sector rather than the U.S. government and many pieces exist beyond our borders, the United States must work with partners, allies, and the private sector to enhance resilience, enable the protection of, and defend this important infrastructure. The Bureau must also coordinate closely with other elements of the U.S. Government, including the National Security Council, National Space Council, Department of Defense, Department of Homeland Security, and various elements of the Intelligence Community.

This goal supports elements of the Joint Strategic Plan, including Strategic Objectives 1.1: "Counter the Proliferation of Weapons of Mass Destruction (WMD) and their Delivery Systems" and 1.4: "Increase capacity and strengthen resilience of our partners and allies to deter aggression, coercion, and malign influence by state and non-state actors." Within Strategic Objective 1.1 these efforts align with Performance Goal 1.1.1 that "By 2022, strengthen U.S. national security through enhancements to the global arms control and nonproliferation regime, by strengthening its treaties, reducing WMD, and strengthening verification and compliance with arms control and nonproliferation obligations." Within Strategic Objective 1.4 these efforts align with Performance Goal 1.4.1 that "By 2022, significantly increase international cooperation to secure an open, interoperable, and reliable, and stable cyberspace and strengthen the capacity of the United States and partner nations to detect, deter, rapidly mitigate, and respond to international cyber threats and incidents."

### **Objective 3.1: Shape the Space Domain in the Interests of the United States and its Allies.**

#### **a. Justification**

The United States considers unfettered access to and freedom to operate in space to be a vital interest. The space domain is becoming increasingly congested, and this trend will continue due to a significant increase in the volume and diversity of commercial space activity.

The Bureau supports U.S. vital interests in outer space, including efforts to:

- strengthen the security, safety, stability, and sustainability of space activities
- support deterrence and the defense of the national security interests of the United States, its allies, and its partners, and

- limit potential adversaries' access to critical counterspace technologies and capabilities.

AVC supports the four pillars of the President's National Strategy for Space:

- transform to more resilient space architectures
- strengthen deterrence and warfighting options
- improve foundational capabilities, structures, and processes, and
- foster conducive domestic and international environments.

The Bureau leads the Department of State's efforts to promote outer space security efforts, including norms of responsible behavior, transparency and confidence building measures (TCBMs) on all issues related to strategic space arms control and military-related space policy issues, including bilateral Space Security Dialogues and multilateral issues. The Bureau supports the formulation and implementation of military- and intelligence-related space policies, including the space situational awareness information sharing and maritime domain awareness activities. The Bureau supports the efforts at the UN Committee on the Peaceful Uses of Outer Space, including advancement of technically-based transparency and confidence building measures for spaceflight safety and sustainability. The Bureau supports the efforts to formulate Department of State positions on intelligence-related space policy issues, including verification and compliance matters relating to outer space arms control agreements, concepts and proposals.

### **Objective 3.2: Shape the Cyber Domain in the Interests of the United States and its Allies**

#### **a. Justification**

This objective is intended to advance the implementation of the President's September 2018 National Cyber Strategy. The Strategy states that, "The United States will promote a framework of responsible state behavior in cyberspace built upon international law, adherence to voluntary non-binding norms of responsible state behavior that apply during peacetime, and the consideration of practical confidence building measures to reduce the risk of conflict stemming from malicious cyber activity. These principles should form a basis for cooperative responses to counter irresponsible state actions inconsistent with this framework." The Strategy further states that, "As the United States continues to promote consensus on what constitutes responsible state behavior in cyberspace, we must also work to ensure that there are consequences for irresponsible behavior that harms the United States and our partners. All instruments of national power are available to prevent, respond to, and deter malicious cyber activity against the United States. This includes diplomatic, information, military (both kinetic and cyber), financial, intelligence, public attribution, and law enforcement capabilities. The United States will formalize and make routine how we work with like-minded partners to attribute and deter malicious cyber activities with integrated strategies that impose swift, costly and transparent consequences when malicious actors harm the United States or our partners." With regards to cross-domain issues, the Strategy notes that "[t]he Administration is concerned about the growing cyber-related

threats to space assets and supporting infrastructure because these assets are critical to functions such as positioning, navigation, and timing (PNT); intelligence, surveillance, and reconnaissance (ISR); satellite communications; and weather monitoring. The Administration will enhance efforts to protect our space assets and support infrastructure from evolving cyber threats, and we will work with industry and international partners to strengthen the cyber resilience of existing and future space systems.”

### **Objective 3.3: Address undersea threats to U.S. and allied security**

#### **a. Justification**

The U.S. Government recognizes the criticality of undersea cables for its economic and national security. Over 97 percent of all trans-oceanic communications travel by undersea cables. Despite protection measures undersea cables are susceptible to disruption through inadvertent damage, component failure, natural disaster, and intentional targeting. Potential adversaries may also be looking for vulnerabilities in U.S. and allied undersea cables. In support of classified Presidential and other national guidance on this issue, the Bureau will engage with allies and partners to raise awareness of threats to and opportunities to enhance the security of undersea cables and related infrastructure. The Bureau leads policy development for the Department on undersea security issues, as well as consults with counterparts across the U.S. government to coordinate efforts to enhance undersea security, including on efforts to deter potential adversaries from threatening the undersea security of the United States and its allies.

The United States has a long history of antisubmarine and anti-surface warfare cooperation with many allies and partners, but can expand or reinvigorate these relationship to address potential new threats to undersea cables. The Bureau has consulted with Euro-Atlantic, Mediterranean, and Indo-Pacific allies and partners on undersea security issues and looks to deepen or build further relationships. The external engagements of the Bureau require close coordination with the National Security Council, Office of the Secretary of Defense, the Joint Chiefs of Staff, regional military commands, the Intelligence Community, Department of Homeland Security, and other departments and agencies of the U.S. government.

### **Objective 3.4: Address implications of artificial intelligence**

#### **a. Justification**

Artificial Intelligence (AI) is expected to bring about a transformation in society along the lines of the industrial revolution, changing business, work, medicine, social mores and values and even the character of war. While many aspects of AI fall beyond the purview of verification and international security, AI will directly impact the Bureau’s work in several key ways. AI-national security applications will change internationally recognized norms of use and behavior of existing and future systems and have a profound impact on the future international security environment. The introduction of a new military capability, particularly one expected to be as revolutionary as AI, will create ambiguous situations where competing actors will be unsure of the intentions of an adversary because of the absence of norms of behavior, particularly during the transition period that marks AI’s introduction. AI-military capabilities will enable new methods of exerting coercion and

intimidation. As the Department lead in efforts to enhance strategic stability, AVC has an interest in understanding how AI may affect strategic stability so it can recommend appropriate strategies to support U.S. national security interests. AI holds promise as a useful verification tool for persistent, robust, and vigorous monitoring and could become a standard in future inspection regimes, enhancing the ability to detect violations.

#### **AVC Goal 4: Increased Government-wide Support for Verification Activities** Description and Linkage

##### **a. Description and Linkages**

In order to achieve JSP Goal 1.1, “Counter the threat of WMD and their delivery systems,” increased Government-wide support for verification activities is important to maintain and improve our ability to monitor and verify treaty implementation and to lay the groundwork for the arms control, nonproliferation, and disarmament treaties, agreements, and commitments of the future. The New START Treaty has a verification regime in which National Technical Means play a central role. As foreign denial and deception capabilities evolve, an increased and effective effort is critical in maintaining our technical edge in effectively verifying compliance with central commitments in the New START and other treaties. Potential future agreements regarding reductions in and elimination of nonstrategic nuclear weapons and non-deployed nuclear weapons will require the extensive collection of detailed monitoring information, and the development of new approaches that balance the need to protect sensitive information with the inherent difficulty of remotely detecting relatively small nuclear devices. In order to monitor for the development of covert nuclear programs, as well as the activities of existing nuclear weapons programs, we will need continued improvement in seismic techniques and analytical capabilities to detect underground explosions and to determine whether a detected underground explosion is nuclear or conventional. To move closer toward differentiating between BW offensive (weapons development) activities from activities not prohibited under the BWC (e.g., defensive programs or benign research), an expanded effort is required to obtain the necessary technology to sufficiently detect and attribute the use of biological weapons. Although less complex, similar capabilities will be needed to detect non-traditional CW agents not currently captured under the CWC. There is a need for new investment in our aging Open Skies aircraft fleet and to certify U.S. digital electro optical (EO) sensors, as well as to explore the possible use of the full sensor array currently permitted under the Open Skies Treaty. While the United States currently uses that Treaty to, *inter alia*, monitor compliance with New START, CFE and test ban treaties, in the future it could also help verify compliance with other arms control agreements and initiatives. The Outer Space Treaty includes provisions that prohibit the deployment of WMD in space. New tools and technologies are required to assess and monitor possible violations of this provision.

Building increased support for verification activities and the development of new technology requires AVC to engage with a wide range of partners, both inside and outside of government. AVC is continually seeking ways to reach out and involve organizations and individuals who have not traditionally been associated with verification of arms control, disarmament, and nonproliferation agreements and commitments, as well as continuing our

robust working relationships with our traditional partners and stakeholders. The Key Verification Assets Fund was established by Congress in 1999 to help preserve critical verification assets and allows the Bureau to promote the development of new technologies and capabilities that support verification. AVC utilizes the V Fund to build relationships with our partners and stakeholders, and to help determine the feasibility and potential of new technologies to meet future verification challenges. The V Fund is intended to influence rather than replace or duplicate activities elsewhere, and therefore its resources are, by design, modest relative to the scope of its mission.

**Objective 4.1:** Increase the verification efficiency of the U.S. government, including through the use of new technologies and analytical capabilities, with the goal of reducing costs while enhancing accuracy.

**a. Justification**

In addition to meeting the current and developing challenges of verifying arms control, disarmament and nonproliferation agreements or commitments, AVC's verification activities compete for limited intelligence assets that are increasingly in demand for other important requirements of the U.S. government. Development of new technologies and capabilities will be necessary to address new verification requirements, but new verification techniques and technologies also offer the potential for increasing efficiency, effectiveness, and accuracy. AVC keeps our existing arms control agreements under review to see if they can be implemented more efficiently and to ensure that they remain pertinent to the current threat environment. In order to maintain a high level of support for verification throughout the U.S. government, AVC reaches out to partner with the Intelligence Community, the Department of Energy, and seeks to identify new potential partners in academia and private industry.

**AVC Goal 5: Expanded Missile Defense Cooperation**

**a. Description and Linkages**

The protection of the United States from the threat of missile attack (e.g., ballistic and cruise missiles) is a critical national security priority. The threat to our deployed military forces and to our allies and partners is growing rapidly. Current global trends indicate that missile systems are becoming more flexible, mobile, survivable, reliable, and accurate, while also increasing in range. The definitive U.S. guidance on global missile defense policy and objectives can be found in the Department of Defense's 2018 Missile Defense Review and the Department of Defense's January 2018 National Defense Strategy. The United States enjoys broad support for missile defense and missile defense cooperation within NATO – as a group and with individual NATO members, within the Gulf Cooperation Council nations, and with key Asia-Pacific allies. The Bureau has worked over the past eight years to implement the European Phased Adaptive Approach to missile defense, which will provide protection of our European NATO Allies and deployed U.S. forces in Europe, and augment the defense of the United States. The Phase 2 Aegis Ashore site in Romania became operational in 2016 and construction is underway for the Phase 3 Aegis Ashore site in

Poland. The Bureau is also leading efforts to develop missile defense cooperation in other regions, such as with our Gulf partners in the Gulf Cooperation Council. Finally, the Bureau plays a leading role in countering false narratives put forward by Russia and China that our missile defenses undermine their strategic deterrent capability.

AVC leads the Department in establishing missile defense cooperation policy, in close consultation with EUR, EAP and NEA. The Bureau consults with a number of regional allies and friends in Europe, Northeast Asia and the Middle East, and has a leading role in implementing missile defense cooperative agreements. The implementation of these agreements requires close coordination with the Office of the Secretary of Defense, the Joint Chiefs of Staff, and our regional military commands.

**Objective 5.1:** Enhance missile defense cooperation with our partners in the Middle East to counter the growing threat of missiles in the region, and promote greater cooperation among the United States and key regional allies and partners.

**a. Justification**

Reevaluating the threat environment informed the 2018 Missile Defense Review. One of the conclusions reached was that the emerging missile capabilities of Iran represent a regional threat to our key allies and partners as well as U.S. forces stationed in the Middle East. Missile defenses help support U.S. security commitments to allies and partners. They provide reassurance that the United States will stand by those commitments despite the growth in the military potential of regional adversaries. Missile defenses also aid the United States in maintaining military freedom of maneuver, and by helping to negate the coercive potential of regional actors intent on inhibiting and disrupting U.S. military access in their regions. Missile defenses are an essential element of the U.S. commitment to strengthen regional deterrence architectures against states acquiring nuclear weapons and other weapons of mass destruction in contravention of international norms and in defiance of the international community.

**Objective 5.2:** Implement the European Phased Adaptive Approach to reassure our partners and strengthen the security of the United States, Europe and U.S. forces in Europe.

**a. Justification**

Implementing the European Phased Adaptive Approach will serve as the U.S. national contribution to the North Atlantic Treaty Organization's missile defense. We have been working diligently to implement it since it was announced in 2009. In 2012, the Phase 1 BMD radar in Turkey became operational along with deployment of Aegis BMD ships to the Mediterranean. In 2016, the Phase 2 Aegis Ashore site in Romania became operational, and more capable interceptors were deployed both at-sea and ashore. Phase 3 construction of an Aegis Ashore site in Poland is underway and plans remain to equip the site with more capable interceptors. Our deployment of missile defenses is focused on strengthening the twin U.S. goals of deterrence and assurance. In so doing, they also contribute to international peace and stability and reinforce our nonproliferation aims.

**Objective 5.3:** Contribute to improved regional stability and security by enhancing our missile defenses in East Asia and advancing missile defense cooperation among our allies in the region.

**a. Justification**

By developing ballistic missile and weapons of mass destruction capabilities, North Korea intends to intimidate its neighbors and prevent the United States from meeting its regional security commitments. In the Asia-Pacific region, we are continuing missile defense cooperation through our bilateral alliances and key partnerships. Our engagement with Japan and the Republic of Korea on missile defense cooperation will help address the burgeoning threat from North Korea's ballistic missiles, enhance extended deterrence in East Asia, serve as a deterrent for further development of North Korea's nuclear weapons, and make a significant contribution to the U.S. rebalance toward East Asia and the Pacific.

**Objective 5.4:** NATO agrees to address the expanding threat posed by cruise missiles.

**a. Justification**

Russia continues to develop, test and deploy air, sea and ground launched cruise missile capabilities that hold at risk key Alliance assets and facilities in an effort to increase its ability to coerce and intimidate Alliance members. NATO members have a range of capabilities that could be brought to bear to address this growing threat. EUCOM is developing a response, but will need political support from the Department of State to obtain NATO political agreement to acquire and deploy the required capabilities.

#### 4. Cross-cutting Management Objectives or Management Goal

**Management Goal:** Ensure that the AVC Bureau – from both an organizational and personnel perspective – is adequately structured to address the emerging security challenges of the 21<sup>st</sup> century.

##### a. Description and Linkages

This century is presenting emerging new challenges to international security that add levels of complexity and new dimensions to those that the Bureau was equipped to face during the last century. The scale and scope of transnational challenges demand innovation in how we engage other governments – and those outside of government – and how we strengthen and modernize a robust, credible, and responsive multilateral system. The threats from nuclear, chemical, biological and radiological weapons of mass destruction in the hands of non-traditional, non-state actors require increased international coordination and cooperation to address and mitigate. The increasing reliance on the outer space environment for commerce, and security, as well as the expanding opportunities for exploration in space creates an imperative for new efforts to enhance its security and sustainability through new confidence-building and transparency measures. Additionally, entirely new areas such as cyberspace and the Arctic region have opened arenas for both international cooperation and competition. In order to address these complex international security challenges, which have added to, but not replaced, currently existing security challenges, AVC undertook a realignment of its offices and staff to address cross-cutting issues of importance to the Bureau. The bureau will work to enhance its capacity to rigorously implement its statutory mandate.

**Management Objective:** Recruit, train, and retain staff with the knowledge and experience to make meaningful contributions toward meeting the existing and emerging security challenges of the 21<sup>st</sup> century during their careers in AVC.

##### a. Justification

One of AVC's most critical challenges is how to attract and hire junior-level candidates with the unique skills and technical competencies that are critical for our mission as we plan for the expected 48% retirement rate of our most senior, experienced professionals over the next few years. We are working to build and enhance our training programs, broadening rotation opportunities, including to U.S. Embassies, and taking advantage of mentoring opportunities including travel with senior level officials to provide hands-on experience, and pass along knowledge and skills.