

**ADHERENCE TO AND COMPLIANCE WITH
ARMS CONTROL, NONPROLIFERATION, AND DISARMAMENT
AGREEMENTS AND COMMITMENTS**



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Prepared by the U.S. Department of State**

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**(U) ADHERENCE TO AND COMPLIANCE WITH ARMS CONTROL,
NONPROLIFERATION, AND DISARMAMENT AGREEMENTS
AND COMMITMENTS**

INTRODUCTION

PURPOSE

This Report is transmitted pursuant to Section 403 of the Arms Control and Disarmament Act, as amended (22 U.S.C. § 2593a), which requires a report by the President on *Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*.

SCOPE OF THE REPORT

This Report assesses U.S. compliance with arms control, nonproliferation, and disarmament agreements in 2021, as well as the 2021 compliance and adherence of other nations to arms control, nonproliferation, and disarmament agreements and commitments, including confidence- and security-building measures (CSBMs) and the Missile Technology Control Regime, to which the United States is a participating State. The issues addressed in this Report primarily reflect activities from January 1, 2021 through December 31, 2021, unless otherwise noted.

The Compliance Report includes reporting and analysis at the levels of classification for which reliable supporting information is available. The unclassified version of this report recounts as much information as possible, but certain issues can be discussed only at higher levels of classification. Some compliance concerns are raised and some findings of violations are made, for instance, only in the SECRET or TOP SECRET/SCI-level versions of this Report and not in the unclassified version.

ADHERENCE AND COMPLIANCE

Arms control, nonproliferation, and disarmament agreements and related commitments continue to be important tools that can protect and advance U.S. interests. Their provisions can limit or reduce threats to U.S. and allies' and partners' security, including by limiting participating States' access to or engagement in dangerous or destabilizing capabilities or activities, providing insight and transparency into the actions of participating States, and encouraging stabilizing patterns of behavior and interaction. In these ways, such agreements and commitments can contribute broadly to transparency and stability on a global and regional scale.

Effective arms control requires countries to comply fully with arms control obligations and commitments they have undertaken. In evaluating any country's compliance with its arms control, disarmament, and nonproliferation obligations, the United States considers a variety of factors. These include the nature and precise language of the obligations undertaken in the context of international law, information regarding the country's activities – including that acquired by so-called National Technical Means of verification (*i.e.*, intelligence collection),

cooperative verification measures, open source information, and diplomatic means – and any information provided by the country in question. A similar process is used to evaluate a country's adherence to politically binding commitments.

Many concerns relating to compliance involve matters of interpretation; many involve highly classified information derived from sensitive sources and methods. Furthermore, some states often attempt to conceal activity that is inconsistent with their obligations or commitments, and some are able to do so with a thoroughness and sophistication that can make it difficult to “pierce the veil” of denial and deception and establish the requisite factual basis for a compliance assessment. For these reasons, it may take significant time to assess whether the actions or activities that gave rise to concerns constitute violations or simply represent differences in implementation approaches or some other permissible activity.

In this Report, the term “violation” refers to any action or omission by a State Party to an international agreement that has been determined by the United States to be inconsistent with obligations owed by that State Party to the United States under the agreement in question and that may give rise to international legal remedies.

As noted above, there can sometimes be legal or factual uncertainty as to whether a violation has occurred. Accordingly, this Report distinguishes between “violations” and instances in which the U.S. Government is considering but has not yet determined whether a violation has occurred, for example because there are unresolved factual or legal questions about compliance. The Report refers to the latter category as “compliance concerns.”

In general, this Report uses the terms “violation” and “compliance” only in reference to legal obligations undertaken in international agreements. When discussing politically-binding commitments, the Report generally uses the term “adherence” instead of “compliance.” Thus, a State engaged in conduct that is determined to be inconsistent with a politically-binding commitment is said to be “not adhering” to that commitment, rather than “violating” the commitment.

When concerns arise regarding the actions of treaty partners, the United States seeks, whenever possible, to address its concerns through diplomatic engagement. However, in the event that the United States determines violations to have occurred, we also have a range of options and means to try to convince violators it is in their interest to return to compliance and to prevent violators from benefitting from their violations.

This Report evaluates adherence to and compliance with arms control, nonproliferation, and disarmament agreements and commitments to which the United States is a participating State. The United States and the majority of the other participating States involved in these agreements and commitments are implementing these obligations and commitments and have indicated their intention to continue doing so. As the Report makes clear, however, compliance concerns – and in some instances treaty violations and actions determined to be inconsistent with political commitments – exist involving a relatively small number of States. Where possible, the United States continues to pursue resolution of those issues with the States in question, as well as to

assess the implications of these States' actions and how best the United States should respond to them.

U.S. Organizations and Programs to Evaluate and Ensure Treaty Compliance

Because of our deep-seated legal traditions, our commitment to the rule of law, and our belief in the importance of such agreements to enhance our security and that of our allies and partners, the United States complies with its obligations under all applicable arms control, nonproliferation, and disarmament agreements. It is longstanding U.S. policy to comply with international legal obligations. To the extent the United States has determined that compliance with an obligation is no longer in the U.S. national security interest, the United States has sought to negotiate modification of the agreement in question or to withdraw from the agreement altogether – as indeed occurred in 2019 with the Intermediate-Range Nuclear Forces or INF Treaty.

As a reflection of the seriousness with which the United States views these obligations, the United States has established legal and institutional procedures to ensure U.S. compliance. As described below, individual departments and agencies within the executive branch have established policies and procedures to ensure that plans and programs under those departments and agencies' purview remain consistent with U.S. international obligations. For example, U.S. Department of Defense (DOD) compliance review groups oversee and manage DOD compliance with arms control, nonproliferation, and disarmament agreements and related commitments, including CSBMs. Additionally, the U.S. Department of State, in its role as the lead U.S. agency on arms control matters, is responsible for providing policy advice and expertise related to compliance to individual departments and agencies and the interagency community. Further, an interagency review is conducted in appropriate cases, including when other treaty parties formally raise concerns regarding U.S. implementation of its obligations. Finally, Congress performs oversight functions through committee hearings and budget allocations.

OVERVIEW

This Report addresses U.S. compliance with arms control, nonproliferation, and disarmament agreements (Part I), other States' compliance with and adherence to arms control, nonproliferation, and disarmament agreements and commitments pertaining to nuclear issues (Part II), other States' adherence to missile commitments and assurances (Part III), other States' compliance with and adherence to arms control, nonproliferation, and disarmament agreements and commitments pertaining to chemical issues (Part IV), biological issues (Part V), and conventional issues (Part VI).

PART I: U.S. COMPLIANCE WITH ARMS CONTROL, NONPROLIFERATION, AND DISARMAMENT AGREEMENTS

U.S. INSTITUTIONAL AND PROCEDURAL ORGANIZATION FOR ENSURING COMPLIANCE

There are processes and controls within the U.S. Executive Branch, including at the Department of Defense (DOD), the Department of Energy (DOE), the Department of Homeland Security (DHS), the Department of Commerce (DOC), and the Nuclear Regulatory Commission (NRC), that operate to ensure that plans and programs under those departments' and agencies' purview remain consistent with U.S. international obligations and commitments in the areas of arms control, nonproliferation, and disarmament. Additionally, the Department of State, as the lead U.S. agency on arms control matters, has a role in providing policy advice and expertise related to compliance to individual departments and agencies and the interagency community. These processes and controls operate in parallel, and in addition to the Congressional oversight process.

In 1972, DOD established the first such department-level process. Under this compliance process, established at the conclusion of the Strategic Arms Limitation Talks (SALT) that led to arms control-related agreements on strategic offensive arms, key offices in DOD are responsible for overseeing DOD compliance with all U.S. arms control, nonproliferation, and disarmament agreements and commitments, including CSBMs. DOD components ensure that their implementing program offices adhere to DOD compliance directives and seek guidance from the offices charged with oversight responsibility. Similar processes have been established by other departments and agencies to ensure that their programs and activities comply with the United States' international obligations and commitments. For example, DHS similarly established a compliance review process to assess DHS-sponsored research for compliance with all relevant arms controls agreements. Interagency reviews also are conducted in appropriate cases, such as when other States formally raise concerns regarding the United States' implementation of its arms control, nonproliferation, and disarmament obligations and commitments.

In addition, all Federal departments and agencies that fund, direct, or execute classified life sciences research are required to implement oversight measures to ensure all department or agency activities comply with applicable domestic and international legal obligations, and to report on classified life sciences research projects and on the functioning of their oversight processes.

U.S. COMPLIANCE

In 2021, the United States continued to be in compliance with all of its obligations under arms control, nonproliferation, and disarmament agreements. When other countries have formally raised a compliance concern regarding U.S. implementation activities, the United States has carefully reviewed the matter to confirm its actions were in compliance with its obligations.

Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (Biological Weapons Convention or BWC)

All U.S. activities during the reporting period were consistent with the obligations set forth in the Biological Weapons Convention (BWC). The United States continues to work toward enhancing transparency of biodefense work and effective national implementation of BWC obligations using the BWC confidence-building measures and a range of voluntary measures and initiatives. Additionally, the United States has been transparent about U.S. scientific and technical engagements and laboratory support provided over time, consistent with Article X that improve the international community's capacity to detect, prepare for, and respond to disease outbreaks and other biological threats.

Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (Chemical Weapons Convention or CWC)

The United States has provided a full and complete declaration of its chemical weapons (CW) and associated CW facilities and continues to work toward completing the destruction of CW and associated CW facilities, in accordance with its CWC obligations. The CWC Conference of the States Parties (CSP) decision regarding the "Final Extended Deadlines of 29 April, 2012" requires the United States to report at each regular session of the Organization for the Prohibition of Chemical Weapons (OPCW) Executive Council (EC) on the progress achieved towards complete destruction of remaining stockpiles. The United States provides a report and briefing to each regular session of the EC and to the CSP annually on U.S. progress achieved towards complete destruction.

The original deadline of 2012 could not be met because changes based on public safety and environmental concerns in U.S. law required further research and development into alternative chemical weapons destruction methods, other than transport and incineration.

The United States has completed destruction of its Category 2 and 3 chemical weapons and has completed destruction of more than 97.15 percent of its Category 1 chemical weapons stockpile. There are two CW destruction facilities, one located in Pueblo, Colorado and one in Blue Grass, Kentucky, that are scheduled to complete destruction of the remaining stockpile not later than December 31, 2023. Neutralization is used as the primary destruction technology at both sites. Additionally, explosive destruction technologies are used to enhance safety, while accelerating destruction schedules at both sites.

The United States continues to work very closely with the OPCW during the COVID-19 pandemic to ensure that both destruction sites remain in operation and have continuous on-site inspector presence able to conduct verification activities while addressing the need to take measures to ensure the health and safety of inspectors and personnel at the sites.

The United States remains fully committed to complete destruction of its entire stockpile, consistent with the Convention's imperatives of public safety, environmental protection, and international transparency and oversight.

The United States also is compliant with its CWC obligations related to commercial activities. U.S. CWC Regulations (15 CFR § 710 *et seq.*) require commercial facilities exceeding CWC-

specified activity thresholds to submit annual declarations, notifications, and other reports, including on past and anticipated activities, and to permit systematic and routine verification through on-site inspections of declared commercial facilities.

Threshold Test Ban Treaty (TTBT), Underground Nuclear Explosions for Peaceful Purposes Treaty (PNET), and Limited Test Ban Treaty (LTBT)

The Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Underground Nuclear Weapon Tests, also known as the Threshold Test Ban Treaty (TTBT), was signed in 1974, with a Protocol signed in 1990. It establishes a nuclear “threshold” by prohibiting each Party from undertaking underground nuclear weapon tests having a yield exceeding 150 kilotons at any place under its jurisdiction or control, and it provides for notification and verification of testing activities. The Peaceful Nuclear Explosions Treaty (PNET) governs underground nuclear explosions for peaceful purposes at any place under the jurisdiction or control of the Parties other than the test sites specified under the TTBT. The Limited Test Ban Treaty (LTBT) is a multilateral agreement that opened for signature and entered into force in 1963. It prohibits nuclear weapon tests or any other nuclear explosion in the atmosphere, in outer space, and under water.

Under Section IV, paragraph 2, of the June 1990 Protocol to the TTBT, each party is required, by not later than June 1 of each year, to inform the other of the number of underground nuclear weapons tests by specified category that it intends to conduct in the following calendar year. For purposes of the TTBT, an “underground nuclear weapon test” means either a single underground nuclear explosion conducted at a test site, or two or more underground nuclear explosions conducted at a test site within an area delineated by a circle having a diameter of two kilometers, conducted within a total period of time of 0.1 second, and whose combined yield is less than 150 kilotons. The TTBT Protocol defines the term “explosion” as “the release of nuclear energy from an explosive canister.” The United States interprets “the release of nuclear energy from an explosive canister” to mean the release of nuclear energy resulting from a physical breach of the explosive canister.

The United States has not conducted any nuclear weapon explosive tests or any nuclear explosions for peaceful purposes since 1992. All U.S. activities during the reporting period were consistent with the obligations set forth in the TTBT, PNET, and LTBT.

1925 Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare

All U.S. activities during the reporting period were consistent with the obligations set forth in the 1925 Geneva Protocol.

Treaty on Conventional Armed Forces in Europe (CFE)

All U.S. activities during the reporting period were consistent with the obligations set forth in the Treaty on Conventional Armed Forces in Europe (CFE).

The United States continues to implement countermeasures vis-à-vis the Russian Federation, specifically the cessation of implementation of certain CFE Treaty obligations (notifications, data exchange, and inspections) in response to Russia's continued violation of its obligations to the United States under the CFE Treaty. These measures were closely coordinated with NATO Allies, who also continued to implement similar steps in their respective national capacities. Russia has not challenged this action. The United States continues to perform its obligations under the CFE Treaty vis-à-vis all other States Parties.

Treaty on the Non-Proliferation of Nuclear Weapons (Nuclear Non-Proliferation Treaty or NPT)

All U.S. activities during the reporting period were consistent with the obligations set forth in the NPT.

Treaty Between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START Treaty or NST)

All U.S. activities during the reporting period were consistent with the obligations set forth in the New START Treaty (NST).

U.S. conversion procedures for B-52H heavy bombers and launchers of Trident II submarine-launched ballistic missiles (SLBMs) fully comply with Treaty provisions, and the United States has met its obligations under the Treaty to remove these items from accountability.

PART II: OTHER STATES' COMPLIANCE WITH AND ADHERENCE TO ARMS CONTROL, NONPROLIFERATION, AND DISARMAMENT AGREEMENTS AND COMMITMENTS PERTAINING TO NUCLEAR ISSUES

TREATY ON MEASURES FOR THE FURTHER REDUCTION AND LIMITATION OF STRATEGIC OFFENSIVE ARMS (THE NEW START TREATY OR NST)

For a discussion of Russia's implementation of its obligations under the New START Treaty, see the Report on Implementation of the New START Treaty submitted pursuant to Section (a)(10) of the Senate Resolution of Advice and Consent to Ratification of the Treaty Between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (also known as the "Condition (a)(10) Report"), and appended to this Report.

PRESIDENTIAL NUCLEAR INITIATIVES CONCERNING TACTICAL NUCLEAR WEAPONS

This chapter is a voluntary addition on a set of unilateral arms control commitments by the Russian Federation (Russia) that are not legally binding. Reports from prior years provide more information on the history and implementation of the commitments.

In public speeches in 1991 and 1992, the presidents of the United States and the Soviet Union (and the Russian Federation after the dissolution of the Soviet Union) pledged, as a political commitment, to take separate but related steps regarding reductions in the number and deployment of their tactical nuclear weapons.¹ These unilateral pledges are referred to as the Presidential Nuclear Initiatives (PNIs).

In a September 27, 1991, televised speech to the nation, President George H.W. Bush issued the first set of unilateral PNI commitments. President Bush indicated the United States would implement these measures regardless of the Soviet reaction, but he invited Soviet President Mikhail Gorbachev to take similar steps to “go down this road with us.”

In an October 5, 1991, televised address, President Gorbachev offered “reciprocal steps.” In regard to tactical nuclear warheads, he pledged that the Soviet Union would do the following:

- Eliminate all nuclear mines, nuclear artillery munitions, and nuclear warheads for tactical missiles;
- Withdraw nuclear warheads for air defense missiles from the troops and concentrate them in central bases as well as eliminate a portion of them; and
- Remove all tactical nuclear warheads from surface ships and general-purpose submarines and store the weapons, as well as those associated with land-based naval aviation, in central storage sites. A portion of the weapons would be eliminated.

After the dissolution of the Soviet Union, Russia’s President Boris Yeltsin responded in a January 29, 1992, televised speech to President George H.W. Bush’s second PNI pronouncement² by further pledging to do the following with regard to tactical nuclear warheads:

- Cease production of nuclear warheads for land-based tactical missiles, nuclear artillery shells, and nuclear mines and eliminate the stockpile of these weapons;

¹ The United States no longer uses the term “tactical nuclear weapon,” preferring the term “non-strategic nuclear weapon” because we do not envision any use of nuclear weapons to be purely tactical in character or effect. The term “nonstrategic” nuclear weapons applies to more weapons than those covered by the PNIs but is used here for simplicity. We note that all nuclear weapons can have strategic implications. The use of any nuclear weapon would fundamentally alter the nature of a conflict.

² President Yeltsin also confirmed Russia accepted responsibility for carrying out the PNI pledges.

- Eliminate one third of sea-based tactical nuclear weapons;
- Eliminate one half of nuclear warheads for air defense missiles; and
- Eliminate half of all air-launched tactical nuclear munitions.

In an October 6, 1991, meeting with U.S. officials, then-Soviet Deputy Foreign Minister Obukhov said that, since weapons subject to the Intermediate-Range Nuclear Forces (INF) Treaty had been eliminated, and since under the October 6 (sic) Gorbachev initiative Soviet tactical nuclear warheads would be eliminated, there would remain no nuclear warheads for surface-to-surface missiles (SSM) below intercontinental range (*i.e.*, 5,500 kilometers) once the relevant actions in Gorbachev's speech were completed. He also confirmed that after completion of the steps outlined in the Gorbachev initiative, there would be no nuclear weapons aboard Russian ships other than submarine-launched ballistic missiles (SLBMs).

Because presidential speeches are the primary source of the PNI pledges, the terms used to describe the types of weapons included or the actions of eliminating/withdrawing tactical nuclear warheads from operational units to central storage were never precisely defined.

The Department of State has previously raised questions publicly about Russia's fulfillment of its PNI pledges. In 2004 and 2006, Assistant Secretary of State Stephen Rademaker made clear U.S. concerns about Russia falling short in its implementation of its PNIs. On April 12, 2006, then-U.S. Assistant Secretary of State Stephen Rademaker said publicly: "The United States has fully implemented its undertakings under the Presidential Nuclear Initiatives. I am not aware of anyone in the Russian government or elsewhere who questions whether the United States has done so. The United States believes that Russia has not completely fulfilled the Russian side of the Presidential Nuclear Initiatives."

FINDING

Despite Russian assertions to the contrary, the United States assesses that Russia is not adhering to all of its PNI commitments. Russia has consolidated its NSNW into "centralized" storage at fewer nuclear weapons storage sites greatly reducing the number of warhead storage sites for NSNW from more than 500-600 storage sites the U.S. Government estimated existed in Eastern Europe and the Soviet Union during the Soviet Union's final days to roughly 40 today. At the same time, Russia's efforts to retain NSNW for its ground forces are inconsistent with its PNI pledge to eliminate nuclear warheads for land-based tactical missiles. Russia's active stockpile has also continued to include nuclear mines, which Russia pledged to destroy.

In a May 22, 2020, interview, Russian Deputy Foreign Minister Ryabkov claimed "Russia's presidential initiatives have been fulfilled completely." Despite this assertion and other carefully worded statements by Russia that the PNIs are still "relevant" to Russia, the United States assesses, based on Russian activities, that Russia is not fully adhering to its PNI pledge to eliminate all nuclear warheads for ground based tactical missiles and all nuclear mines.

CONDUCT GIVING RISE TO ADHERENCE CONCERNS

Russia has provided little information substantiating the full implementation of its PNI pledges.

Russia currently has an active stockpile of 1,000 to 2,000 NSNW, including warheads awaiting dismantlement, though not all of these are covered by the PNIs. Russia's NSNW arsenal includes warheads for SS-21/Tochka-U/9K79-1 close-range ballistic missile (CRBM) system and nuclear-capable version of the SS-26/9M723/Iskander short-range ballistic missile (SRBM) system.³ Russia's arsenal has also continued to include nuclear mines, which Russia committed to destroy.

Russian officials have made a series of public statements that say either explicitly or implicitly that land-based NSNW fielded by Russia's Ground Forces are equipped with nuclear warheads, and in particular that the SS-26 SRBM is nuclear capable. These statements have been detailed in previous editions of the Compliance Report. A February 24, 2021, report in Russia's official newspaper, *Rossiskaya Gazetta*, stated the Iskander launcher is nuclear capable and reported installing a nuclear warhead on the missile takes only "a couple of hours."

The United States estimates that Russia consolidated its NSNW for the Ground Forces in nuclear weapons storage sites in the 1990s. Although analysis shows Russia eliminated most of these warheads, it is retaining some warheads.

SS-26 Nuclear-Related Training: Iskander crews of the Western Military District practiced warhead mating and made two electronic launches in training near Kursk in mid-July 2021, according to the Russian MOD. Two Iskander launch battalions launched a salvo of four SS-26 Stone SRBMs in mid-September 2021 during Russia's "Zapad" exercise, according to a Russian press report.

Additional information is provided in the higher classification Annex, and in prior reports.

ANALYSIS OF ADHERENCE CONCERNS

The PNIs, which were announced in Presidential speeches in 1991 and 1992, are non-legally-binding unilateral political commitments. There are no specific verification measures associated with these political commitments. As a result, monitoring and assessment of Russia's adherence to its PNI pledges relies primarily upon information obtained unilaterally.

Based on the information reported above and in prior years' Compliance Reports, Russia's efforts to retain nuclear warheads for its Ground Forces are inconsistent with its PNI pledge to eliminate its stockpile of these weapons. Additionally, Russia's retention of nuclear mines is inconsistent with its PNI pledge to destroy such mines.

In response to the 2021 Compliance Report, Russia's Foreign Ministry (MFA) published on April 21, 2021, a paragraph denouncing the United States for publishing a report on Russia's implementation of the PNIs, though the MFA avoided any mention of whether Russia adheres to

³ (U) The U.S. Intelligence Community defines "close range" as less than 50 to 300 km and "short range" as 300 to less than 1,000 km.

the PNIs. However, in a May 22, 2020, interview, Russian Deputy Foreign Minister Ryabkov claimed “Russia’s presidential initiatives have been fulfilled completely. The number of nonstrategic nuclear warheads has been reduced by three-fourths and all weapons of this nature have been moved to Russian national territory.” Despite this assertion and a 2014 statement by a Russian Ministry of Foreign Affairs (MFA) official that force posture changes were made based on the PNIs “that are still carried out by Russia,” and other carefully worded statements by Russia that the PNIs are still “relevant” to Russia, the United States assesses, based on Russian activities, that Russia is not fully adhering to its PNI pledge to eliminate all nuclear warheads for ground-based tactical missiles. One might treat statements by Russia’s MFA on nuclear warheads with some caution, as they may not be grounded in careful analysis and knowledge of Russia’s nuclear stockpile. Russian Deputy Foreign Minister Mikhail Ulyanov tweeted to a western researcher on March 25, 2021, “How did you calculate the number of nuclear warheads in Russia? For 7 years (2011-2018) I was in charge of arms control in the Russian MFA and I didn’t know the numbers for obvious and understandable reasons.”

EFFORTS TO RESOLVE ADHERENCE CONCERNS AND NEXT STEPS

During 2021, the United States in multiple public statements and in the Strategic Stability Dialogue with Russia made clear the U.S. interest in and intent to pursue arms control addressing Russia’s NSNW.

The United States will continue to raise in bilateral settings and publicly its concerns with Russia’s failure to eliminate all nuclear warheads for its ground-based tactical missiles and atomic demolition mines.

NUCLEAR NON-PROLIFERATION TREATY (NPT)

This chapter of the Report covers developments relevant to other nations' compliance with the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (Nuclear Non-Proliferation Treaty or NPT), including their compliance with related obligations under Comprehensive Safeguards Agreements (CSAs) with the International Atomic Energy Agency (IAEA).⁴ This chapter also addresses, where relevant, the status of countries' efforts to conclude and implement a modified Small Quantities Protocol (SQP) to their CSA and their efforts to conclude and implement an Additional Protocol (AP) to their CSA.⁵ The chapter focuses on developments in Burma, Iran, the DPRK, and Syria.

As of the end of 2021, there were seven non-nuclear-weapon States (NNWS) Parties to the NPT that had not yet brought into force a CSA with the IAEA.⁶ Although the CSA was designed to meet the requirements of the NPT, the AP in combination with the CSA is now widely considered to be the de facto standard for achieving the NPT's safeguards objectives. The AP contains measures that increase the IAEA's ability to verify the non-diversion of declared nuclear material and to provide assurances as to the absence of undeclared nuclear material and activities in a State and, thereby, to provide assurances that the PT NNWS Parties have met their NPT obligation to place all nuclear material in peaceful uses under IAEA safeguards. The United States supports universal adoption of the AP by States Parties to the NPT, and believes that AP adherence is essential to ensuring the effectiveness and credibility of IAEA safeguards. As of the end of 2021, 137 States Parties had an AP in force. The Protocol Additional to the Agreement between the United States of America and the IAEA for the Application of Safeguards in the United States of America entered into force on January 6, 2009.

⁴ Article III of the NPT requires each NPT non-nuclear-weapon State (NNWS) Party to accept safeguards "for the exclusive purpose of verification of the fulfillment of its obligations assumed under [the] Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices." Concluding and implementing a CSA with the IAEA fulfills this obligation. In the case of a State with very limited quantities of nuclear material, the State also may enter into a Small Quantities Protocol to the CSA that reduces the safeguards implementation burden for such States.

⁵ The Model Protocol Additional to the Agreement(s) between State(s) and the International Atomic Energy Agency for the Application of Safeguards (AP) was developed in 1997 to provide the IAEA with broader access to information and locations, and thereby to increase the IAEA's ability to provide assurance of the absence of undeclared nuclear material and activities in States Parties. With a supermajority of NPT States Parties now implementing APs, the combination of a CSA together with an AP has become the de facto standard for achieving the safeguards objectives of the NPT.

⁶ The NPT States Parties without a CSA in force as of December 31, 2021, are as follows: Cape Verde, Guinea, Guinea Bissau, Micronesia, Sao Tome and Principe, Somalia, and Timor-Leste. In 2015, the Palestinians deposited an instrument of accession to the NPT. The United States does not believe the "State of Palestine" qualifies as a sovereign State and does not recognize it as such. Accession to the NPT is limited to sovereign States; therefore, the United States believes that the "State of Palestine" is not qualified to accede to the NPT and does not consider itself to be in a treaty relationship with the "State of Palestine" under the NPT.

COUNTRY ASSESSMENTS

MYANMAR (BURMA)

FINDING

The available evidence does not support a conclusion that Myanmar (Burma) violated the NPT. However, the United States remains concerned about Burma's lack of transparency regarding past nuclear work. Much of this information was not reported to the civilian government and remains under control of the military, which deposed the civilian government in a coup d'état on February 1, 2021. Burma's signing of an AP in 2013 and its announcement that it would adhere to the modified SQP contributed significantly to U.S. confidence in the previous civilian leadership's peaceful intentions regarding its nascent nuclear program. However, more than seven years have passed. Neither the AP nor the modified SQP has entered into force, and the civilian government has been overthrown by a military coup. The United States has called upon the military regime to restore power to the democratically-elected civilian government, which had been a key partner in progress. The United States has also called upon Burma to complete the work necessary to bring its AP and modified SQP into force. Burma's implementation of its AP and a modified SQP would improve confidence regarding an assessment of Burma's NPT compliance.

CONDUCT GIVING RISE TO COMPLIANCE CONCERNS

Burma became a State Party to the NPT in 1992, its CSA with the IAEA entered into force in 1995, and it signed an AP with the IAEA in 2013. Entry into force (EIF) of the AP will occur when Burma notifies the IAEA that its domestic statutory requirements have been met, after which Burma will have 180 days to submit its initial declaration to the IAEA. As a country with little to no nuclear material, Burma concluded an SQP to its CSA in 1995, which holds in abeyance key provisions in the CSA as long as Burma does not possess quantities of nuclear material that exceed a defined threshold or maintain nuclear material "in a facility as defined in" its CSA. In 2005, the IAEA approved an update of the Model SQP. Burma has not yet modified its SQP to conform to the update, but in 2012, then-President Thein Sein announced Burma's intention to do so.

Burma publicly announced its intention to acquire a nuclear research reactor for peaceful purposes as early as 2002 and, in 2007, it signed an agreement with Russia for assistance building a nuclear research center, including a light-water research reactor. No significant nuclear projects between the two countries have yet moved forward. In 2010, an analysis commissioned by a dissident group alleged that Burma was seeking nuclear technology, concluding that "[t]his technology is only for nuclear weapons and not for civilian use or nuclear power." The Burmese government at the time dismissed the claims as "groundless allegations." There were no other significant developments to report during the reporting period.

Additional information is provided in the higher classification Annex.

See previous years' reports for additional compliance history and background information.

ANALYSIS OF COMPLIANCE CONCERNS

Under NPT Article II, each NNWS Party undertakes, among other things, “not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices.” In NPT Article III, each NNWS Party “undertakes to accept safeguards ... for the exclusive purpose of verification of the fulfillment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices.” This obligation requires conclusion and implementation of a CSA with the IAEA.

If Burma’s AP were to enter into force, Burma would be obligated to, among other things, provide the IAEA with a declaration that includes information on any nuclear facilities and additional nuclear-related activities. Burma would also be required to provide the IAEA with expanded inspection access, including to additional parts of its nuclear research program. The AP would also enable the IAEA to collect samples and information to verify compliance. If Burma were to modify its SQP to conform to the 2005 update, it would, among other things, require Burma to declare all nuclear material. Additionally, Burma would be required to provide early design information for any planned nuclear facilities and corresponding inspection access, obligations which are currently held in abeyance under the existing SQP.

Although the United States continues to be concerned about Burma’s willingness to be transparent about its previous nuclear work, we have no evidence of ongoing activities that raise compliance concerns. Burma’s declarations of nuclear-related activities and locations under an AP, its initial declaration of nuclear material under a modified SQP, and its responsiveness to IAEA questions following EIF and implementation of an AP and modified SQP remain key to assessing activities that have raised concerns in the past regarding its military’s nuclear intentions and activities.

EFFORTS TO RESOLVE COMPLIANCE CONCERNS AND NEXT STEPS

Prior to the February 2021 military coup, the United States worked with partners, particularly Japan and Australia, to encourage Burma’s civilian government to bring its AP into force and to update its SQP. Since the coup, the United States has operated under a policy of active non-engagement with the Burmese military regime. Continued efforts going forward must be assessed in the context of non-engagement with the military regime; however, the United States continues to call upon the regime to restore power to the democratically-elected civilian government, bring its AP into force, update its SQP, and address all outstanding IAEA concerns and questions.

DEMOCRATIC PEOPLE’S REPUBLIC OF KOREA (NORTH KOREA)

FINDING

The Democratic People’s Republic of Korea (DPRK) was in violation of its obligations under Articles II and III of the NPT and its CSA with the IAEA at the time it announced its withdrawal

from the NPT in 2003. It remains accountable for these violations. The DPRK's continuing nuclear activities make clear it also has not adhered to its commitments in the 2018 Singapore Summit Joint Statement to work towards the complete denuclearization of the Korean Peninsula. In addition, it has not adhered to its commitments in the 2005 Joint Statement of the Six-Party Talks to abandon all nuclear weapons and existing nuclear programs and to return at an early date to the NPT and IAEA safeguards. As discussed in prior Reports, the DPRK also failed to adhere to its commitments under the 1994 Agreed Framework. The DPRK is in violation of its IAEA safeguards obligations as well.

CONDUCT GIVING RISE TO COMPLIANCE CONCERNS

Previous editions of this Report have further described violations by the DPRK of its obligations under Articles II and III of the NPT and its CSA before it announced its withdrawal from the NPT in 2003. As discussed in prior Reports, the DPRK also failed to adhere to its commitments to the United States under the 1994 Agreed Framework by developing a clandestine uranium enrichment program and by breaking its previous freeze on its plutonium production facilities.

Irrespective of one's interpretation of whether or not DPRK's 2003 notice of withdrawal from the NPT became legally effective, the DPRK remains subject to IAEA safeguards obligations. If that withdrawal did become effective, the DPRK's 1992 CSA would have terminated, and its prior 1977 safeguards agreement with the IAEA would have resumed applicability. Alternatively, if the DPRK's withdrawal did *not* become effective in 2003, the DPRK's 1992 CSA would still be in force today. In either case, therefore, the DPRK is presently in violation of its IAEA safeguards obligations, since the IAEA has not been able to implement any safeguards measures in the DPRK since April 2009.

Production Facilities

In 2021, the DPRK hid its nuclear activities by not cooperating with IAEA or providing public insight into their nuclear production. They did not make any public announcements regarding reactor operations or fissile material production although, according to IAEA, the DPRK maintains a presence at key nuclear fuel cycle facilities, including reported enrichment and reprocessing facilities, and those facilities remain active. U.S. concerns regarding the DPRK's uranium enrichment and reprocessing activities remain.

As it revealed publicly in 2010, the DPRK is constructing an experimental light water reactor (ELWR) at Yongbyon. In 2021, North Korea did not provide any public updates on the advancement of the construction of the ELWR. When successfully completed and operated, the ELWR could provide North Korea with a relatively small source of electricity. It may be intended to provide North Korea with a civilian justification to possess uranium enrichment technology that could be used to produce fissile material for nuclear weapons.

The United States believes there is a clear likelihood of additional unidentified nuclear facilities in the DPRK.

Testing

The DPRK has not conducted a nuclear test since its sixth nuclear test on September 3, 2017, which it claimed was of a “two-stage thermo-nuclear weapon.”

Per IAEA assessment, the DPRK has conducted six nuclear tests at the P’unggye Nuclear Test Site: on October 9, 2006, May 25, 2009, February 12, 2013, January 6, 2016, September 9, 2016, and September 3, 2017. The DPRK announced on May 25, 2018, that the P’unggye Nuclear Test Site had been “completely dismantled.” The United States cannot confirm the extent to which the site has been dismantled.

It is possible that the DPRK could develop another nuclear test site, if it chose to do so.

Additional information is provided in the higher classification Report.

See previous years’ reports for additional compliance history and background information.

ANALYSIS OF COMPLIANCE CONCERNS

The DPRK has not adhered to its commitments in the 2005 Joint Statement of the Six-Party Talks.

The DPRK has also not adhered to its commitments in the 2018 Singapore Summit Joint Statement.

The DPRK is also in violation of its IAEA safeguards obligations.

Under the 2005 Joint Statement of the Six-Party Talks, the DPRK committed to abandoning all nuclear weapons and existing nuclear programs and to returning at an early date to the NPT and IAEA safeguards. The DPRK signed a Joint Statement at the June 2018 Singapore summit in which, among other things, it committed “to work toward complete denuclearization of the Korean Peninsula.” Since then, the DPRK has not conducted additional nuclear tests and announced that the P’unggye Nuclear Test Site had been completely dismantled (although at the end of December 2019, Kim Jong Un said that the DPRK no longer felt bound by its self-imposed moratorium on testing nuclear weapons and ICBMs.

The DPRK was in violation of its obligations under Articles II and III of the NPT and its CSA before it announced its withdrawal from the NPT in 2003. Throughout 2021, the United States continued to have significant concerns regarding the DPRK’s nuclear weapons program and its continued production of fissile material.

EFFORTS TO RESOLVE COMPLIANCE CONCERNS AND NEXT STEPS

During the reporting period, in multilateral fora that include the UN General Assembly, the IAEA General Conference, and meetings of the IAEA Board of Governors (BOG), countries

from every region of the world recognized the threat the DPRK's unlawful nuclear weapons program poses to international peace and security.

The goal of the United States remains the complete denuclearization of the Korean Peninsula. The United States harbors no hostile intent toward the DPRK. U.S. policy calls for a calibrated, practical approach that is open to and will explore diplomacy with the DPRK to make tangible progress that increases the security of the United States, our allies, and our deployed forces. The United States is prepared to meet with the DPRK with no preconditions and continues to consult closely with the Republic of Korea (ROK), Japan, and other allies and partners about how to best engage the DPRK.

The United States has a vital interest in deterring the DPRK, defending against its provocations or uses of force, and limiting the reach of its most dangerous weapons programs. The DPRK continues to fund its unlawful WMD and ballistic missile programs through sanctions evasion efforts in violation of UN Security Council resolutions. It is important for the international community to send a strong, unified message that the DPRK must halt provocations, abide by its obligations under UN Security Council resolutions, and engage in sustained and intensive negotiations with the United States. UN sanctions relating to the DPRK remain in place, and the United States will continue to implement them, including through diplomacy at the United Nations and with the DPRK's neighbors.

The United States remains engaged with the IAEA and welcomes the IAEA's efforts to enhance readiness to resume monitoring and verification activities in DPRK at the appropriate time.

ISLAMIC REPUBLIC OF IRAN (IRAN)

FINDING

During the 2021 reporting period, Iran continued to expand its uranium enrichment activities and stocks of enriched uranium, including the deployment of advanced centrifuges, key factors in the amount of time we assess would be required to produce enough fissile material for a nuclear weapon or device, should Iran decide to pursue nuclear weapons. The United States continues to assess that Iran is not currently undertaking the key nuclear weapons-development activities it judge necessary to produce a nuclear device. If Iran were to manufacture or otherwise acquire a nuclear weapon, such actions would violate its obligations under Article II of the NPT.

Based on reporting by the International Atomic Energy Agency (IAEA) on the implementation of Iran's Comprehensive Safeguards Agreement (CSA) and Additional Protocol (AP), the United States has concluded that serious concerns remained outstanding regarding possible undeclared nuclear material and activities in Iran as of the end the reporting period. Iran's continued failure to fully cooperate with the IAEA's ongoing safeguards investigations raises concerns with regard to Iran's compliance with its obligation to accept safeguards under Article III of the NPT.

CONDUCT GIVING RISE TO COMPLIANCE/ADHERENCE CONCERNS

Iran became a State Party to the NPT in 1970, and its CSA entered into force in 1974. Iran signed, but did not ratify, an AP to its CSA in 2003 and implemented its measures from late 2003 to early 2006 and, pursuant to its commitment to provisionally apply its AP under the Joint Comprehensive Plan of Action (JCPOA), from 2016 to early 2021.

Previous editions of this report have detailed Iran's history of violations and compliance concerns regarding its obligations under NPT Articles II and III and its CSA with the IAEA. This report will focus primarily on updates during the 2021 reporting period.

Iran's "Strategic Action Plan to Lift Sanctions and Protect Iranian Nation's Interests"

In May 2019, one year following the U.S. exit from the JCPOA, Iran announced its intention to begin progressively expanding its nuclear program in nonperformance of JCPOA commitments. In December 2020, Iran enacted a law titled the "Strategic Action Plan to Lift Sanctions and Protect Iranian Nation's Interests," which requires the Iranian government to further expand Iran's nuclear activities in nonperformance of JCPOA commitments, including the production of 20 percent enriched uranium, installation of advanced centrifuges, and reduction of cooperation with the IAEA to only that required by its CSA, including cessation of "the voluntary implementation" of provisions of its AP, if Iran's banking relations with European countries, as well as the volume of oil purchases by them, did not return to what Tehran would deem as satisfactory conditions within three months of the law's enactment.

Iran's nuclear program expanded following the December 2020 law, which included enriching uranium up to 20 percent, producing uranium metal, installing at least 1,000 IR-2M advanced centrifuges, ending implementation of the JCPOA verification and monitoring provisions, and ceasing implementation of provisions of the AP.

Enrichment and Stockpile of Uranium-235

Throughout 2021, Iran's stockpile of low enriched uranium continued to expand. In a letter dated December 31, 2020, Iran informed the IAEA that in accordance with the December 2020 law, the AEOI intended to produce low-enriched uranium up to 20 percent at the Fordow Fuel Enrichment Plant – well above the 3.67 percent limit under the JCPOA.

Shortly after an explosion on April 11, 2021 that caused a power outage at Iran's Natanz Fuel Enrichment Plant resulting in a number of centrifuge failures, Iran notified the IAEA that it would begin enrichment to 60 percent uranium-235 at Natanz using advanced centrifuges at its above ground Pilot Fuel Enrichment Plant – verified by IAEA on April 17.

As of November 6, 2021, the IAEA estimated that Iran's total enriched uranium stockpile contained 2489.7kg of uranium. Under the JCPOA, Iran committed to maintain a total enriched uranium stockpile of 202.8 kg of uranium enriched to 3.67 percent U-235 until January 2031, among other enrichment-related restrictions.

Production of Uranium Metal

In December 2020, Iran informed the IAEA that it would begin producing uranium metal using natural uranium, before moving to produce uranium metal enriched to up to 20 percent U-235 for a new type of uranium silicide fuel it was developing for the Tehran Research Reactor.

In his February 10, 2021 report to the IAEA Board of Governors (BOG), Director General (DG) Rafael Grossi reported that the IAEA had verified that, for the first time, Iran had produced uranium metal at the Fuel Plate Fabrication Plant in Esfahan. By mid-August, the AEOI produced 200g of uranium metal enriched up to 20-percent U-235.

On November 2, 2021, the IAEA verified that Iran had manufactured uranium silicide fuel plates. Under the JCPOA, Iran committed not to engage in the production of uranium metal until January 2031.

Cessation of Additional Protocol Implementation and JCPOA Monitoring

Pursuant to the December 2020 law, Iran notified the IAEA in a letter dated February 15, 2021 that it would halt the implementation of the transparency measures under the JCPOA, including provisions of AP, as of February 23, 2021. Since that time, Iran has provided information and access to declared nuclear facilities as required under its CSA but has not provided updated AP declarations, - complementary access under the AP to any sites or locations in Iran, and has not permitted the IAEA to implement JCPOA-related verification and monitoring measures.

In response to these measures, as well as Iran's failure to credibly resolve a number of serious, outstanding safeguards issues discussed below, DG Grossi traveled to Tehran in February 2021 to meet with then head of the AEOI Ali Akbar Salehi and reached a "temporary bilateral technical understanding," under which Iran would preserve JCPOA-related verification and monitoring information, including camera footage, in Iran for three months to be made available to the IAEA in the event of a mutual return to the full implementation of JCPOA. Although the arrangement was extended for an additional month in May, it was not formally extended beyond July 24, 2021.

On September 12, 2021, the DG reached an arrangement with the Vice President of Iran and Head of the AEOI, Mohammad Eslami that allowed IAEA inspectors to service JCPOA-related monitoring and surveillance equipment and replace storage media, and indicated that Iran and the IAEA would continue discussions regarding outstanding safeguards issues. From September 20 to 22, 2021, Iran permitted Agency inspectors to service the identified equipment at all necessary locations in Iran with the exception of the centrifuge component manufacturing workshop at the TESA Karaj complex. As such, the Director General has reported that the Agency's ability to restore continuity of knowledge at the workshop has been seriously impacted.

Commercial satellite imagery indicated that the centrifuge component manufacturing workshop at the TESA Karaj complex was damaged by a drone attack on June 23, 2021. Iran claimed that

the IAEA's monitoring cameras may have been hacked and assisted the June attack, contributing to Iran's denial of access by IAEA inspectors to the site.

After multiple exchanges between the IAEA and Iran over the span of three months, an arrangement was reached on December 15, 2021, that allowed inspectors to replace surveillance cameras at the TESA Karaj complex. The arrangement also provided for the IAEA would provide a sample camera and related technical information to Iran for analysis by its judiciary and security officials, in the presence of IAEA officials.

Cessation of Implementation of Modified Code 3.1 of the Subsidiary Arrangements to Iran's CSA

Additionally, Iran informed the IAEA in a letter dated February 15, 2021, that it would suspend implementation of modified Code 3.1 of the Subsidiary Arrangements to its CSA. The DG reminded Iran that the modified Code 3.1 is a legal obligation that cannot be modified unilaterally and that there is no mechanism for its suspension and reported the matter to the IAEA Board of Governors. As of the reporting period, the issue remains unresolved.

IAEA NPT Safeguards Reports – Compliance Concerns Related to Iran's Safeguards Obligations

The IAEA investigated outstanding safeguards issues related to four undeclared locations in Iran during the reporting period, including three where the IAEA detected chemically processed uranium particles (Location 1, 3, and 4), as well as a fourth location (Location 2) in connection with natural uranium in the form of a uranium metal disc. Based on the IAEA's technical analysis, including evaluation of all safeguards-relevant information, the questions and requests for clarifications relate to the following four locations:

Location 1 served as possible storage of nuclear material and equipment. Following the analysis of environmental samples taken during a complementary access in February 2019, "the Agency assessed the explanations by Iran for the presence of these particles to not be technically credible." As of the reporting period, Iran had not provided any further information on, or relevant to, Location 1 since October 2020.

Location 2: The IAEA has been following up on indications of the possible presence between 2002 and 2003 of natural uranium in the form of a metal disc that had undergone drilling and processing, which may not have been included in Iran's declarations. As previously reported by the IAEA, the location where the material had been located during that time underwent extensive sanitization and levelling in 2003 and 2004. Consequently, the Agency has assessed that there would be no verification value in conducting a complementary access at this location. In an effort to verify the location of the uranium in the form of a metal disc that may have been used at Location 2, the IAEA conducted verification activities under Iran's CSA on November 14 – 16 at a declared facility in Iran where uranium metal had been produced previously. As of the end of the reporting period, the Agency was evaluating the results of these verification activities.

Location 3 showed indications of the possible use or storage of nuclear material and/or conducting of nuclear-related activities, including research and development activities related to the nuclear fuel cycle. This location may have been used for the processing and conversion of uranium ore, including fluorination in 2003, and underwent significant changes in 2004, including the demolition of most buildings and the removal of all other structures inside the facility. Iran initially denied the IAEA access to Location 3, but was later granted access in August 2020. An analysis from the environmental samples indicated the presence of anthropogenic uranium particles that required explanation by Iran. The IAEA assesses that there are indications, supported by the sampling results, indicate that materials removed from Location 3 were subsequently also present at Location 1. However, the results of the environmental sample analysis would not explain all of the particles found at Location 1. As of the end of the reporting period, Iran had not provided any further information relevant to Location 3.

Location 4 showed indications of the possible use and storage of nuclear material where outdoor, conventional explosive testing may have taken place in 2003, including in relation to testing of shielding in preparation for the use of neutron detectors. From July 2019 onwards, the IAEA observed activities consistent with efforts to sanitize part of the location and repurpose it for use by another entity. As of the end of the reporting period, Iran had yet to provide a credible explanation for the presence of anthropogenic uranium particles and fully answer the IAEA's original questions.

Throughout the reporting period, the DG repeatedly called upon Iran to fully cooperate with the IAEA and provide the necessary information and documentation to answer the Agency's outstanding questions. Despite exchanges between the Agency and Iran, the DG reported that, as of November 2021, Iran had not provided technically credible or satisfactory answers to the IAEA's questions regarding Locations 1, 3, and 4.

Other Areas of Concern

Since April 2021, and during the rest of the reporting period, IAEA inspectors were subject to inappropriate treatment inconsistent with internationally accepted security practices, such as invasive physical searches, by Iranian security personnel at nuclear facilities in Iran. By the end of 2021, the IAEA reported that the issue had been resolved.

Additional information is provided in the higher classification Report.

See previous years' reports for additional compliance history and background information.

ANALYSIS OF COMPLIANCE/ADHERENCE QUESTIONS

The United States continues to assess that Iran is not currently engaged in key activities associated with the design and development of a nuclear weapon. If Iran were to manufacture or otherwise acquire a nuclear weapon, such actions would violate its obligations under Article II of the NPT.

During the reporting period, Iran continued to expand its uranium enrichment activities and stocks of enriched uranium, key factors in the amount of time it would require to produce enough fissile material for a nuclear weapon or device, should Iran decide to pursue nuclear weapons.

Although uranium metal has civilian and conventional military applications, producing it is also a key nuclear-weapons-related capability because Iran would need to convert weapons-grade uranium from the gaseous form used in enrichment into metal to make nuclear weapon components.

Since February 23, 2021, the IAEA's verification and monitoring activities have been seriously undermined as a result of Iran's decision to halt the implementation of such activities that go beyond the requirements of its CSA, including implementation of the AP.

At the end of the reporting period, outstanding concerns remained regarding possible undeclared nuclear material and activities in Iran today, as evidenced by the IAEA's ongoing safeguards investigations. As of November 2021, the IAEA DG continued to evaluate Iran's declarations under its CSA and AP and investigate outstanding safeguards issues related to four undeclared locations in Iran where nuclear material was possibly used in Iran.

EFFORTS TO RESOLVE COMPLIANCE QUESTIONS AND NEXT STEPS

The United States remains committed to denying Iran any pathway to a nuclear weapon and will work through the IAEA's Board of Governors to provide the IAEA the support it needs to resolve these serious matters. The United States has underscored that Iran must immediately provide the IAEA nothing short of full cooperation and comply with its nuclear safeguards obligations. Iran is legally obligated to provide the IAEA with required clarifications and access.

The United States seeks a comprehensive diplomatic solution to concerns about Iran's nuclear program, a solution that must be built on effective verification. U.S. sanctions since 2018 have targeted critical sectors of Iran's economy, such as its energy, shipping, and shipbuilding sectors, the provision of insurance to designated persons or for sanctionable activities, and transactions involving designated Iranian financial institutions.

Starting in April 2021 and throughout the reporting period, the United States and its P5+1 partners engaged in a diplomatic process aimed at a mutual return to full implementation of the JCPOA. As of the end of the reporting period, no understanding had been reached.

SYRIAN ARAB REPUBLIC (SYRIA)

FINDING

The Syrian Arab Republic (Syria) remains in violation of its obligations under Article III of the NPT and its CSA with the IAEA. Syria failed to declare and provide design information to the IAEA for the construction of a nuclear reactor at al Kibar in Deir Ezzour, which was destroyed in

an Israeli airstrike in September of 2007. Syria's clandestine construction of the al Kibar reactor and its continued denial of IAEA requests for access and information concerning the al Kibar reactor and information concerning three reported functionally related locations are clear violations of its obligations under its CSA, including with respect to modified Code 3.1 of the Subsidiary Arrangements to its CSA. To the extent that these activities were undertaken in connection with an effort to develop nuclear weapons, Syria may have violated Article II of the NPT. Given the IAEA's finding of particles of chemically processed uranium compounds at the site, the United States remains concerned regarding whether any undeclared nuclear material might exist in Syria.

CONDUCT GIVING RISE TO COMPLIANCE CONCERNS

Syria became a State Party to the NPT in 1968, and its CSA entered into force in 1992. It had not signed the AP as of the end of 2021.

Until September 2007, Syria was building an undeclared nuclear reactor at al Kibar (in the governorate of Deir Ezzour) in eastern Syria. The DPRK assisted Syria with its construction and equipment installation. The Israeli air strike in 2007 destroyed the reactor before it could become operational. Following the reactor's destruction, Syria went to great lengths to clean up the site and to destroy evidence of what had previously existed at the site. By December 2007, Syria had constructed a large building directly over the location where the reactor had once stood.

In May 2011, the IAEA Director General (DG) released a report assessing that the facility at al Kibar was "very likely" a nuclear reactor that should have been declared to the Agency pursuant to Articles 41 and 42 of Syria's CSA and Code 3.1 of the Subsidiary Arrangements thereto. The IAEA based its assessment on a broad spectrum of factual information, including environmental samples taken during the Agency's visit to the site in June 2008 (which contained particles of anthropogenic natural uranium), as well as commercial satellite and radar imagery, procurement information, and information provided by IAEA Member States. The report also noted that the reactor had features highly similar to the gas-cooled, graphite-moderated reactor at Yongbyon in the DPRK.

During the reporting period, the IAEA DG issued a written report on Syria and provided updates at IAEA Board of Governors (BOG) meetings confirming that Syria had not provided any new information that would have an impact on the Agency's assessment that the facility at al-Kibar was "very likely" a nuclear reactor that should have been declared to the Agency. The IAEA DG continued to urge on Syria to cooperate fully with the Agency in connection with all unresolved issues.

There were no other new developments relating to Syria's nuclear activities during the reporting period.

Additional information is provided in the higher classification Report.

See previous years' reports for additional compliance history and background information.

ANALYSIS OF COMPLIANCE CONCERNS

The United States judges Syria to be in violation of its obligations under the NPT.

Article 41 of Syria's CSA with the IAEA specifies that "the provision of design information in respect of the new facilities ... shall be provided as early as possible before nuclear material is introduced into a new facility." Article 42 states, among other requirements, that "design information to be provided to the Agency shall include, in respect of each facility, when applicable: (a) the identification of the facility, stating its general character, purpose, nominal capacity and geographic location, and the name and address to be used for routine business purposes" The NPT states in Article III(1) that "[t]he safeguards required by this Article shall be applied on all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere."

On May 24, 2011, the IAEA DG released a report assessing that the building destroyed at al Kibar was "very likely" a nuclear reactor that should have been declared by Syria pursuant to Articles 41 and 42 of its CSA and modified Code 3.1 of the Subsidiary Arrangements thereto. The United States agreed with this finding.

The ongoing civil war and security situation in Syria do not affect this finding. The IAEA DG's specific, repeated requests to Syria for additional information and access have consistently been met with Syrian denials, rather than provision of the information requested and consultations on how it would provide the requested access when conditions allow.

EFFORTS TO RESOLVE COMPLIANCE CONCERNS AND NEXT STEPS

On June 9, 2011, the IAEA BOG adopted a resolution finding Syria in noncompliance with its CSA for the undeclared construction of a nuclear reactor in Deir Ezzour and called for Syria to urgently remedy its noncompliance and provide the IAEA with access to all information, sites, material, and persons necessary to resolve all questions regarding the exclusively peaceful nature of Syria's nuclear program. The Board also called upon Syria to sign and bring into force an AP to its CSA.

The IAEA BOG resolution also referred the matter to the United Nations Security Council (UNSC). Following the IAEA's referral, the UNSC met in 2011 to discuss the matter, but took no action. The UNSC has not addressed Syria's nuclear activities subsequently.

In 2021, the IAEA DG confirmed that Syria has not provided any new substantive information to the IAEA regarding the al Kibar reactor, and continued to urge Syria to cooperate fully with the IAEA in connection with all unresolved issues. The DG continues to publicly call on Syria to reengage with the IAEA, noting that he is willing to talk to Syria "constructively and cooperatively."

The United States and likeminded partners have continued to deliver strong national statements in the IAEA BOG and other international fora calling on Syria to cooperate with the IAEA to

remedy its safeguards noncompliance and to publicly refute misinformation from Russia, Syria, and Iran. The United States and likeminded partners also called for continued reporting from the DG and maintaining the item on the agenda for each quarterly BOG meeting. The United States also raised the issue of Syria's NPT noncompliance in national statements at the 2018 and 2019 NPT Preparatory Committee meetings.

The United States will continue to support the IAEA's investigation of Syria's undeclared nuclear activities, including the IAEA's requests for greater Syrian transparency, and work to ensure that the BOG and DG remain seized of the issue until Syria has fully cooperated with the IAEA to address all outstanding issues.

THRESHOLD TEST BAN TREATY (TTBT)

The Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Underground Nuclear Weapon Tests, also known as the Threshold Test Ban Treaty (TTBT), was signed in 1974, with a Protocol signed in 1990. The Treaty entered into force in 1990. It establishes a nuclear “threshold” by prohibiting each Party from undertaking underground nuclear weapon tests having a yield exceeding 150 kilotons at any place under its jurisdiction or control, and it provides for notification and verification of testing activities.

FINDING

No new compliance developments for 2021, however, Russia conducted supercritical nuclear weapons tests since renewing its nuclear explosive testing moratorium in 1996 and concerns remain due to the uncertainty relating to activities at Novaya Zemlya.

CONDUCT GIVING RISE TO COMPLIANCE CONCERNS

Russia’s conduct since it renewed its unilateral nuclear explosive testing moratorium in 1996 raises compliance concerns with Russia’s TTBT obligation to notify nuclear weapons tests if it plans to conduct them.

Additional information is provided in the higher classification Annex.

See previous years’ reports for additional compliance history and background information.

ANALYSIS OF COMPLIANCE CONCERNS

A failure on the part of Russia to provide an accurate annual notification of planned nuclear tests, as defined in the treaty, for the following calendar year, and to provide timely revised notifications as may be required, would prevent the United States from exercising its verification rights, as specified in paragraph 2(b) of Section III of the Protocol.

EFFORTS TO RESOLVE COMPLIANCE CONCERNS AND NEXT STEPS

The United States will continue to monitor Russian activities at Novaya Zemlya. The United States will engage with Russia, as appropriate, in order to address nuclear test site activities of concern relative to the treaty.

NUCLEAR TESTING MORATORIA

By September 1996, each of the nuclear-weapons States (NWS) under the NPT – China, France, Russia, the United Kingdom, and the United States – had unilaterally declared voluntary nuclear testing moratoria, which are not legally binding. Although the United States is not a participant in other countries’ testing moratoria, these unilateral commitments are included in the Compliance Report as a matter of discretion.

Dating back to 1993, the United States has defined its own nuclear testing moratorium as a commitment not to conduct “nuclear explosive tests,” and from August 1995 onward the United States made clear that it adheres to a “zero-yield” standard in its moratorium. This means that the U.S. moratorium covers nuclear explosive tests that are supercritical, regardless of the level of nuclear yield produced.

The United States promoted its vision of a “zero-yield” approach to a ban on nuclear testing in negotiations on the Comprehensive Nuclear-Test-Ban Treaty (CTBT), beginning with President Clinton’s public announcement to that effect in August 1995. While other negotiating States, including every nuclear-weapons State (NWS), publicly announced their concurrence that the treaty would be “zero-yield” (or “zero-threshold,” or similar terminology indicating the same scope), no definition of the term “zero-yield” was written into the treaty. The final treaty text banned all “nuclear explosions,” but it also did not provide a definition of that term.

At the conclusion of the CTBT negotiations, all negotiating parties understood the U.S. position that the scope of the CTBT was “zero-yield.” Official statements from some senior officials of all the NWS, including Russia and China, expressed these states’ interpretation that the CTBT’s scope was “zero-yield.” It is the United States’ understanding that the scope of each of the NWS’ respective nuclear testing moratorium, pending the entry into force of the CTBT, should also be considered “zero-yield.”

This Report does not assess any country’s compliance with the CTBT, as it has not yet entered into force and thus no state has obligations under it. After the CTBT opened for signature, both China and Russia signed the treaty in 1996, and Russia later ratified the treaty in 2000. China has not ratified it. The United States also signed the treaty in 1996, but has not ratified it.

Nuclear testing moratoria will no longer be covered in this section of the Compliance Report beginning next year unless a significant issue is newly identified.

COUNTRY ASSESSMENTS

PEOPLE’S REPUBLIC OF CHINA (PRC)

FINDING

No new adherence developments for 2021, however, concerns remain about activities at the Lop Nur Nuclear Test Site given the PRC’s lack of transparency on its nuclear testing activities at the

site, its previous use of explosive containment chambers, and prior questions regarding its adherence to the “zero-yield” standard in its nuclear weapons testing moratorium.

CONDUCT GIVING RISE TO ADHERENCE CONCERNS

Concerns remain about the PRC’s lack of transparency regarding the nature of its testing activities and its adherence to its testing moratorium, which the PRC declared in 1996, judged against the “zero-yield” standard.

Additional information is provided in the higher classification Annex.

See previous years’ reports for additional compliance history and background information.

ANALYSIS OF ADHERENCE CONCERNS

The PRC’s lack of transparency regarding the nature of its testing activities raise concerns regarding the PRC’s adherence to its testing moratorium.

EFFORTS TO RESOLVE ADHERENCE CONCERNS AND NEXT STEPS

The United States will continue to monitor PRC activities at Lop Nur. U.S. concerns regarding the PRC’s activities could be mitigated by greater transparency. The United States will engage with the PRC, as appropriate, in order to address nuclear test site activities of concern relative to the PRC’s moratorium.

RUSSIAN FEDERATION (RUSSIA)

FINDING

No new compliance developments for 2021, however, Russia conducted supercritical nuclear weapons tests since renewing its nuclear explosive testing moratorium in 1996, and concerns remain due to the uncertainty relating to activities at Novaya Zemlya.

CONDUCT GIVING RISE TO ADHERENCE CONCERNS

Despite Russia renewing its nuclear testing moratorium in 1996, some of its activities since 1996 have demonstrated a failure to adhere to the zero-yield standard, which would prohibit supercritical nuclear tests.

Additional information is provided in higher classification Annex.

See previous years’ reports for additional compliance history and background information.

ANALYSIS OF ADHERENCE CONCERNS

Concerns remain about the nature of Russia's testing practices and its adherence to its moratorium, reaffirmed in 1996, when judged against the "zero-yield" standard. The United States assesses Russia's nuclear weapons-related tests or experiments have helped improve aspects of its nuclear weapons designs and capabilities and overall stockpile regardless of whether tests or experiments are consistent with the "zero-yield" standard.

EFFORTS TO RESOLVE ADHERENCE CONCERNS AND NEXT STEPS

The United States will continue to monitor Russian activities at the Novaya Zemlya test site. U.S. concerns could be mitigated by greater transparency on Russia's part regarding its activities. The United States will engage with Russia, as appropriate, in order to address nuclear test site activities of concern relative to Russia's moratorium.

PART III: OTHER STATES' ADHERENCE TO MISSILE COMMITMENTS AND ASSURANCES

MISSILE TECHNOLOGY CONTROL REGIME (MTCR)

The MTCR is a voluntary arrangement among Partner governments sharing a common interest in controlling missile proliferation. The MTCR is not a treaty and it does not impose legally binding obligations on participating countries. The MTCR Partners control exports of a common list of items (the MTCR Equipment, Software, and Technology Annex, also referred to as the MTCR Annex) according to a common export control policy (the MTCR Guidelines). The Guidelines and Annex are implemented according to each country's national legislation and regulations. The MTCR has no Regime-wide compliance or verification provisions.

Membership in the MTCR has grown steadily since the Regime's creation in 1987. As of December 31, 2021, 35 countries are now members. In addition, several countries, including Estonia, Kazakhstan, and Latvia are recognized as unilateral adherents to the Regime.

The United States sought and received a bilateral political commitment from People's Republic of China (PRC) (which is not an MTCR Partner Country) in November 2000 to not proliferate certain missile technology.

COUNTRY ASSESSMENTS

PEOPLE'S REPUBLIC OF CHINA (PRC)

FINDING

The People's Republic of China (PRC) has failed to adhere to its November 2000 commitment to the United States not to assist "in any way, any country in the development of ballistic missiles that can be used to deliver nuclear weapons (*i.e.*, missiles capable of delivering a payload of at least 500 kilograms to a distance of at least 300 kilometers)."

This failure to adhere to its November 2000 commitment is reflected in PRC entities' continued supply of MTCR-controlled items to missile programs of proliferation concern.

CONDUCT GIVING RISE TO ADHERENCE/COMPLIANCE CONCERNS AND ANALYSIS OF ADHERENCE/COMPLIANCE CONCERNS

PRC-based entities continued to supply MTCR-controlled goods to missile programs of proliferation concern in 2021.

Additional information is provided in the higher classification Annex.

EFFORTS TO RESOLVE ADHERENCE/COMPLIANCE CONCERNS AND NEXT STEPS

Throughout 2010, the United States raised a number of cases with the PRC concerning transfers of missile-related goods and technology by the PRC entities to programs of concern. Although the United States has asked that the PRC investigate and put a stop to such activities, most of these cases remain unresolved. In 2021, the United States imposed sanctions against three PRC entities pursuant to the Iran, North Korea, and Syria Nonproliferation Act for transfers of proliferation-sensitive goods and technology.

The United States will continue to seek to persuade the PRC authorities to establish full adherence to its November 2000 commitment. In order to prevent proliferation of missile technology by the PRC entities to Iran and other programs of concern, the United States will continue to encourage the PRC to implement its missile nonproliferation commitments, fully implement all relevant UNSCRs, strengthen its missile-related export control laws and regulations, devote more priority and resources to nonproliferation, and diligently enforce its export control laws and regulations to prevent transfers by the PRC entities to missile programs of concern.

PART IV: OTHER STATES' COMPLIANCE WITH AND ADHERENCE TO ARMS CONTROL, NONPROLIFERATION, AND DISARMAMENT AGREEMENTS AND COMMITMENTS PERTAINING TO CHEMICAL ISSUES

CHEMICAL WEAPONS CONVENTION (CWC)

For a detailed discussion of other nations' compliance with their obligations under the Chemical Weapons Convention, see the Report on Compliance with the Chemical Weapons Convention, submitted pursuant to Condition 10(C) of the Senate Resolution of Advice and Consent to the Chemical Weapons Convention (also known as the "Condition 10(C) Report"), and appended to this Report.

PART V: OTHER STATES' COMPLIANCE WITH AND ADHERENCE TO ARMS CONTROL, NONPROLIFERATION, AND DISARMAMENT AGREEMENTS AND COMMITMENTS PERTAINING TO BIOLOGICAL ISSUES

BIOLOGICAL WEAPONS CONVENTION (BWC)

The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction (BWC or Convention) opened for signature in 1972 and entered into force in 1975. As of the end of 2021, there were 182⁷ States Party to the BWC and four signatory States for which the treaty is not yet in force. In 1987, BWC States Party established an annual data exchange, referred to as the Confidence-Building Measures (CBMs). The CBMs were modified and expanded in 1991 and streamlined in 2011. Submission of CBMs is a politically binding commitment, but not all States Parties routinely submit reports. Submission rates have gradually improved, but 2021 was the first year in which a majority of States Parties submitted reports.

The United States' definition of a state biological warfare (BW) program is a leadership-approved effort intended to acquire, develop, modify, produce, or retain biological warfare agents for use or potential use as a weapon. A biological warfare program would probably include one or more of the following:

- Researching, acquiring, developing, modifying, producing, retaining, or testing BW agents and/or BW agent dispersal devices for use as a weapon;
- Facilities producing or intended to produce BW agents and/or BW agent dispersal devices for use as a weapon;
- Training, doctrine, or plans for use of BW agents as a weapon; and,
- Use or attempted use of a BW agent as a weapon.

COUNTRY ASSESSMENTS

PEOPLE'S REPUBLIC OF CHINA (PRC)

FINDING

The People's Republic of China (PRC) continued to engage in activities with dual-use applications, which raise concerns regarding its compliance with Article I of the BWC. In addition, the United States does not have sufficient information to determine whether the PRC has eliminated its assessed historical biological warfare (BW) program, as required under Article II of the Convention.

⁷ On January 9, 2018, the Palestinians deposited a purported instrument of accession to the BWC. On March 5, 2018, the United States submitted to the Depositories for the BWC, a letter detailing U.S. objections to the purported accession of the "State of Palestine" to the BWC.

CONDUCT GIVING RISE TO COMPLIANCE CONCERNS

The PRC became a State Party to the BWC in 1984. Questions and concerns on its compliance with the Convention have been raised since the 1993 Report.

The United States assesses that the PRC possessed an offensive biological warfare program from the 1950s to at least the late 1980s. Reporting suggests that the PRC's BW production occurred at two facilities, in Beijing and Lingbao, prior to the PRC's signing of the BWC in 1972. Information indicates that the last assessed operational BW production facility, at Lingbao, ceased activity by 1987. Although the PRC has submitted BWC Confidence-Building Measures (CBMs) each year since 1989, the PRC's CBM reporting has never declared these facilities or otherwise disclosed it ever pursued an offensive BW program, and the PRC has never acknowledged publicly or in diplomatic channels its past offensive program. As part of its historical BW program, the PRC had reportedly weaponized ricin, botulinum toxins, and the causative agents of anthrax, cholera, plague, and tularemia.

The PRC continues to develop its biotechnology infrastructure. Available information on studies conducted at PRC military medical institutions, including publications in academic journals, has included information that discusses identifying, testing and characterizing diverse families of potent toxins with dual-use applications.

Additional information is provided in the higher classification Annex.

ANALYSIS OF COMPLIANCE CONCERNS

Available information shows the PRC engaged in activities that raise concerns with regard to its obligations under Article I of the BWC, which requires States Parties "never in any circumstances to develop, produce, stockpile, or otherwise acquire or retain ...[m]icrobial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective, or other peaceful purposes." The United States has compliance concerns with respect to Chinese military medical institutions' toxin and biotechnology research and development because of the dual-use applications and their potential as a biological threat. In addition, the United States assesses that the PRC possessed an offensive BW program from the early 1950s to at least the late 1980s. There is no available information to demonstrate that the PRC took steps to fulfill its treaty obligations under Article II of the BWC, which requires the PRC to destroy or to divert to peaceful purposes all items specified in Article I of its past offensive BW program.

EFFORTS TO RESOLVE COMPLIANCE CONCERNS AND NEXT STEPS

In 2021, the United States engaged the PRC about rescheduling the virtual bilateral BWC-related meeting that was postponed in 2021 by PRC officials for unspecified technical reasons. A new date had been proposed for early 2022, but the PRC again cancelled the meeting. The United States will continue to monitor and report about the PRC's biological activities in relation to its BWC obligations.

On the margins of the 2021 BWC Meeting of States Parties, the United States also engaged the PRC bilaterally to encourage its support for U.S. efforts to strengthen the BWC in advance of the 2022 BWC Ninth Review Conference. The PRC indicated receptivity and interest in efforts to strengthen the BWC, but to date has failed to engage in further substantive bilateral discussions

Unresolved questions regarding the origins of the COVID-19 pandemic are not part of such dialogues and are not judged to present a BWC compliance issue. In 2021, the Administration requested the Intelligence Community (IC) investigate the origins of COVID-19. As part of its key takeaways in the report, the IC judged that SARS-CoV-2, the virus that causes COVID-19, was not developed as a biological weapon. The United States assesses that there is no connection between the origins of the COVID-19 pandemic and the PRC's compliance with the BWC.

ISLAMIC REPUBLIC OF IRAN (IRAN)

FINDING

The Islamic Republic of Iran's (Iran's) activities continue to raise concerns regarding its compliance with Article I of the BWC. The United States continues to assess that Iran has not abandoned its intention to conduct research and development of biological agents and toxins for offensive purposes. This is based on a cumulative assessment of current and past Iranian activity and its continued lack of transparency. Also, Iran maintains flexibility to use, upon leadership demand, legitimate research underway for biodefense and public health purposes for a capability to produce lethal BW agents; whether maintaining this flexibility is pursuant to decisions by leadership is unknown. The United States remains unable to differentiate some of Iran's public health research and biodefense activities from those that are prohibited under the BWC, complicating assessments of Iranian compliance.

CONDUCT GIVING RISE TO COMPLIANCE CONCERNS

Iran became a State Party to the BWC in 1973. Its compliance with the Convention has been addressed since the 1993 Report.

Prior to submission of an incomplete CBM in 2016, Iran had not submitted an annual CBM report since 2011. Previous Iranian CBM submissions asserted that Iran did not have a biodefense program, but "has carried out some defensive studies on identification, decontamination, protection, and treatment against some agents and toxins."

Iran has engaged in dual-use activities with potential for BW applications such as building a separate plant for pharmaceutical botulinum toxin production. Iranian biotechnology entities, particularly military-affiliated institutions, continued to pursue dual-use technologies. Open source reports note Iranian military-associated universities and affiliated research centers have conducted BW-relevant projects on bioregulators and have built a plant for the commercial production of botulinum toxin.

Additional information is provided in the higher classification Annex.

ANALYSIS OF COMPLIANCE CONCERNS

Available information shows Iran engaged in activities that raise concern with regard to its Article I obligations under the BWC. Although it remains difficult for the United States to differentiate between some of Iran's public health research and biodefense activities from those that would be prohibited under the BWC, the nature of Iran's sophisticated toxin research and production and its capability to produce lethal agents on demand raise concerns regarding Iran's compliance with its obligations under Article I of the BWC.

EFFORTS TO RESOLVE COMPLIANCE CONCERNS AND NEXT STEPS

There were no discussions during the reporting period between the United States and Iran regarding Iran's compliance with the BWC. The United States will continue to monitor Iran's activities as they relate to Iran's obligations under the BWC. The United States will seek to engage Iran to clarify activity that may be inconsistent with the BWC.

THE DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA (NORTH KOREA)

FINDING

The United States assesses that the Democratic People's Republic of Korea (North Korea) has an offensive BW program and is in violation of its obligations under Articles I and II of the BWC. North Korea is assessed to have had BW capabilities since at least the 1960s. Although the United States has fragmented insight into North Korea's offensive BW program, previous reporting illustrated that North Korea had BW capabilities intended for use to counter U.S. and ROK military superiority.

CONDUCT GIVING RISE TO COMPLIANCE CONCERNS

North Korea has pursued biological warfare capabilities since the 1960s and continued its program despite having become a State Party to the BWC in 1987. Its compliance with the Convention has been addressed in prior Reports.

North Korea submitted a null BWC CBM report in 1990, where it noted there was nothing relevant to report. It has failed to submit a report since 1990.

Available information indicates that North Korean entities have continued to engage in a range of biological research and development activities that demonstrate capabilities applicable to developing biological weapons. North Korea has publicly denied having a BW program as recently as 2017, according to North Korean state media.

The United States, however, assesses that North Korea has a dedicated, national level effort to develop a BW capability, has developed, has produced BW agents, and may have weaponized them for use. North Korea probably has the capability to produce sufficient quantities of biological agents for military purposes upon leadership demand.

North Korea probably has the technical capability to produce bacteria, viruses, and toxins that could be used as BW agents. North Korea also has at least a limited capability to genetically engineer biological products. Pyongyang probably is capable of weaponizing BW agents with unconventional systems such as sprayers and poison pen injection devices, which have been deployed by North Korea for delivery of chemical weapons (CW) and could be used to covertly deliver BW agents.

North Korea maintains biotechnology and conventional weapons production infrastructures that could support BW development, and it continues to improve its capabilities by collaborating with other countries on dual-use scientific topics or procuring biological equipment and materials.

Additional information is provided in the higher classification Annex.

ANALYSIS OF COMPLIANCE CONCERNS

Based on reported information, North Korea has pursued BW capabilities since the 1960s, having a dedicated, national level effort that has developed and produced BW agents, and may have weaponized them for use. Because of such activities, the United States concludes that North Korea's activities described above violate its obligations under Article I and II of the BWC.

EFFORTS TO RESOLVE COMPLIANCE CONCERNS AND NEXT STEPS

The United States will continue to monitor North Korea's activities in relation to its obligations under the BWC. As appropriate, the United States will continue to assess the feasibility of engaging North Korea on activities that violate its obligations under the BWC.

THE RUSSIAN FEDERATION (RUSSIA)

FINDING

The United States assesses that the Russian Federation (Russia) maintains an offensive BW program and is in violation of its obligations under Articles I and II of the BWC.

CONDUCT GIVING RISE TO COMPLIANCE CONCERNS

The Soviet Union became a State Party to the BWC in 1975. Russia's BWC compliance was first addressed in the 1993 Report, though the Soviet Union's BWC noncompliance was first addressed in the January 1984 Report to Congress on Soviet Non-compliance with Arms Control Agreements.

Russia inherited the Soviet Union's biological weapons program. The U.S. Central Intelligence Agency reported in 1949 that the Soviet BW program began "sometime in the middle of the 1930s" or perhaps as early as 1928 and continued during World War II. Soviet biological

weapons development progressed unabated before and after the Soviet Union signed the Biological and Toxin Weapons Convention in 1972. The post-1972 program was composed of four major components: the Ministries of Defense, Agriculture and Health, and the then newly-created civilian Biopreparat organization, supported by other institutional actors. Between them, they comprised 40-50 research, development, and production facilities, plus a testing facility on Vozrozhdeniye Island in the Aral Sea. This weapons complex developed a broad range of pathogens for use against plants, animals, and humans. Evidence of Soviet biological weapons activities became available to the outside world in 1979 when an accident at Sverdlovsk released anthrax spores, killing 64 – an incident later confirmed by Russian President Yeltsin in 1992.

In April 1992, President Yeltsin signed a decree committing Russia as the BWC successor to the Soviet Union and prohibiting illegal biological warfare activity in Russia. During discussions five months later in Moscow in September 1992, Russian officials confirmed the existence of a biological weapons program inherited from the Soviet Union and committed to its destruction.

In addition, on September 14, 1992, Deputy Foreign Minister Gregory V. Berdennikov made the following admission: “[T]he Soviet Union was violating this convention [BWC] and was running a program in the sphere of offensive biological research and development, which has been declared unlawful by the convention. . . . These activities were in progress from 1946 until March of 1992.” This statement, and subsequent reports under the BWC confidence-building measures, however, acknowledged only a BW research and development program, and thus omitted substantial portions of the Soviet BW program, such as its production facilities.

Although Russia had initially consented to U.S. and British inspections of Russian BW facilities during the Trilateral Process undertaken with the United States and the United Kingdom, Russia ultimately never granted U.S. and British inspectors further access to military biological research and production centers in Russia envisioned under the “Trilateral Agreement,” an arrangement with the United States and the United Kingdom intended to provide assurance regarding the dismantling of the Soviet program. Russia allowed only initial access to a few facilities; nevertheless, those visits provided direct evidence of retention of the Soviet’s offensive BW program. Key military biological facilities associated with the Soviet offensive program remain, inaccessible, and untransparent, nearly 30 years after Yeltsin’s decree.

Russia’s annual BWC CBM submissions since 1992 have not satisfactorily documented the complete extent of its programs and whether the items of these programs specified under Article I were completely destroyed or were diverted to peaceful purposes, in accordance with Article II of the BWC. Issues raised in prior reports regarding knowledge and capabilities acquired from its inherited program, which might facilitate Russia’s ability to potentially produce and deploy BW agents to support a range of military and security objectives, have yet to be resolved.

CBMs submitted by the Russian Federation have consistently reported “nothing new to declare” with respect to its biodefense research and development programs. Nonetheless, since 2011, the Russian Federation has revised plans and funding to its national chemical and biological facilities that fall under the Russian Ministry of Defense without providing relevant details in their annual CBM reports. Further, Russian government entities remained engaged in dual-use activities during the reporting period, potentially for purposes incompatible with the BWC.

The Ministry of Defense related centers 48th Central Scientific Research Institute, Kirov; 48th Central Scientific Research Institute, Sergiev Posad; and 48th Central Scientific Research Institute, Yekaterinburg, which are associated with the Soviet and Russia biological weapons program are undergoing multi-million dollar renovations. Russian Defense Minister Sergey Shoygu has publicly highlighted proposals to modernize the 48th Central Scientific Research Institute by creating a new modern laboratory and research facility.

Additional information is provided in the higher classification Annex.

ANALYSIS OF COMPLIANCE CONCERNS

The United States assesses that Russia maintains an offensive BW program and is in violation of its obligations under Articles I and II of the BWC. Article I of the BWC requires States Party “never in any circumstances to develop, produce, stockpile or otherwise acquire or ...[r]etain microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes” and Article II requires States Party to “destroy, or to divert to peaceful purposes” the BW items specified in Article I of a past offensive program. While States Party to the BWC have a political commitment to report a past offensive program, since April 11, 1992, subsequent Russian CBM submissions have remained incomplete and misleading. Russia has provided an incomplete acknowledgment of the former Soviet program, has not furnished evidence of the dismantlement or cessation of key activities, and continues its ongoing secrecy efforts, including the military facilities noted above and legislation criminalizing any disclosure of information about the former Soviet program. The available evidence indicates that Russia has not fulfilled its obligations under Article II to “destroy or divert to peaceful purposes” the BW specified in Article I of the Convention that it inherited from the Soviet Union.

EFFORTS TO RESOLVE COMPLIANCE CONCERNS AND NEXT STEPS

While there were no specific expert-level consultations in 2021 with Russia to discuss BW non-compliance, both Russia and the United States have expressed willingness to engage with each other on matters of compliance. On August 27, 2020, the United States added the 48th Central Scientific Research Institute, Kirov; 48th Central Scientific Research Institute, Sergiev Posad; and 48th Central Scientific Research Institute, Yekaterinburg to the Entity List (Supplement No. 4 to part 744 of the Export Administration Regulations). These three entities have been determined by the U.S Government to be acting contrary to the national security or foreign policy interests of the United States. Specifically, the United States has reasonable cause to believe these institutes are Russian Ministry of Defense facilities associated with the Soviet and Russian biological weapons program.

PART VI: OTHER STATES' COMPLIANCE WITH AND ADHERENCE TO ARMS CONTROL, NONPROLIFERATION, AND DISARMAMENT AGREEMENTS AND COMMITMENTS PERTAINING TO CONVENTIONAL ISSUES

VIENNA DOCUMENT ON CONFIDENCE- AND SECURITY-BUILDING MEASURES

On November 30, 2011, the participating States of the Organization for Security and Cooperation in Europe (OSCE) adopted Vienna Document 2011 (VD11), which added to and built upon the commitments in previous versions of the Vienna Document (1990, 1992, 1994, and 1999); subsequent Vienna Document Plus decisions build on VD11. The confidence- and security-building measures (CSBMs) contained in VD11 and Vienna Document Plus decisions are not legally-binding upon the participating States, but are firm political commitments.

This chapter covers VD11 adherence by participating States during calendar year 2021. Adherence concerns for six OSCE participating States (the Russian Federation, Armenia, Azerbaijan, the Kyrgyz Republic, Turkmenistan, and Uzbekistan) discussed in last year's Report are updated for 2021. For adherence concerns with no new developments or updated information in 2021, the previous finding regarding the adherence concern is reiterated in this Report, but facts and analysis related to the concern are not repeated. Such facts and analyses may be found in last year's Report. In addition to outstanding concerns, there is one new adherence concern regarding Russia.

As this report covers the period from January 1, 2021 to December 31, 2021, the annual VD11 exchange of data pertinent to this reporting period was held on December 15, 2020, for participating States with military forces in the VD11 zone of application to provide data effective as of January 1, 2021.⁸ In some instances, important developments reflected in data effective as of January 1, 2022 (provided as part of the annual exchange on December 15, 2021), are noted; in most cases, however, changes to adherence concerns based on those data will be included in next year's Report.

The COVID-19 pandemic continued to affect VD11 verification activities in 2021. In addition to many inspections, evaluations, and visits being postponed or cancelled, normal diplomatic discourse was severely curtailed, with limited in-person meetings and videoconference links for those not attending directly. These constraints have broadly and negatively impacted efforts to resolve the adherence concerns identified in this Report.

⁸ (U) Under the terms of VD11, participating States provide data each December regarding their forces in the zone of application effective as of January 1 of the following year.

COUNTRY ASSESSMENTS

THE RUSSIAN FEDERATION (RUSSIA)

Russia has joined the consensus adoption of each version of the Vienna Document (1990, 1992, 1994, 1999, and 2011) and of subsequent Vienna Document Plus Decisions. Russia's adherence to the Vienna Document was first addressed in the 1999 Compliance Report.

FINDINGS

Russia failed to substantively participate in the VD11 risk reduction mechanism initiated by Ukraine in April 2021.

Russia's selective implementation of certain provisions of VD11 and the resultant loss of transparency about Russian military activities has limited the effectiveness of the CSBM regime and raises concerns as to Russia's readiness to provide transparency regarding its military forces.

In 2021, Russia continued its occupation and attempted annexation of Crimea, which remains part of the sovereign territory of Ukraine. Russian also armed, trained, and fought alongside anti-government forces in eastern Ukraine.

In its VD11 data effective as of January 1, 2021, Russia again failed to provide information on its military forces located in the Russian-occupied Georgian territories of Abkhazia and South Ossetia.

With regard to reporting major weapons and equipment in its VD11 data effective as of January 1, 2021, Russia again failed to report on two types of combat aircraft (Su-35S, Su-30SM) and one type of attack helicopter (Ka-52) in units within the VD11 zone of application. Russia also continued to exclude improperly the BRM-1K armored infantry fighting vehicle from its reporting.

For further information on all the first of these findings, refer to previous Compliance Reports.

CONDUCT GIVING RISE TO ADHERENCE CONCERNS

In March-April 2021, Russia carried out an unusual and unscheduled military buildup in Crimea and near Russia's border with Ukraine. Russia did not issue a prior notification under VD11 regarding this unusual military buildup, even though overall personnel and equipment numbers in participating formations cited by Russia's Chief of the General Staff Gerasimov raised questions regarding whether the activity exceeded notification and observation thresholds. For further discussion of this issue, see the classified report. According to General Gerasimov and the Russian Ministry of Defense, forces were deployed for the buildup to three separate locations from three different military commands—41st Army units from the Central Military District to the Western Military District (Russia); 58th Army units from the Southern Military District to Cape Opuk, Crimea (Ukraine); and additional Southern Military District airborne, armor, and artillery units to Perevalne/Simferopol, Crimea (Ukraine). Local units, such as Russia's 810th Naval Infantry Brigade based in Sevastopol, Crimea (Ukraine), also participated in large-scale

exercises with the deployed forces, according to the Russian press, further increasing the numbers involved.

These Russian activities raised Ukrainian security concerns, given their proximity to the Ukrainian border. Ukraine requested information from Russia about its actions through the Vienna Document's Chapter III, paragraph 16 risk reduction mechanism on April 7, 2021. Russia, however, effectively failed to respond to Ukraine's risk reduction inquiry and instead deflected the inquiry by merely asserting on April 9 that it was not engaging "in any significant military activity that is required to be reported under the Vienna Document." Ukraine then requested a meeting of interested participating States, which the OSCE Chairperson-in-Office subsequently convened in an attempt to resolve the situation. Russia also refused to participate in this April 10 meeting with representatives of Ukraine and the OSCE Chairperson-in-Office. On April 12, Ukraine requested a joint Forum for Security Co-Operation and Permanent Council meeting, which took place on April 14. At that meeting, Russia asserted that Ukraine's activation of the Chapter III, paragraph 16 mechanism was "unfounded." It presented Russian military activities as "routine," emphasized that the military movement "does not affect the security of other States," and characterized Ukraine's inquiries as a "deliberate effort to distract attention from [its own] military preparations in the south-east of the country [and] the build-up of military activity by NATO countries in Ukraine and close to Russia's borders." Other participating States in the April 14 meeting urged Russia to "engage in a meaningful dialogue and constructive consultations," and called on Russia to "return to full compliance with OSCE principles, fulfill its commitments, and to take urgent de-escalatory measures." Russia did not follow these recommendations.

As of December 2021, Russia continued and intensified its military build-up and aggressive rhetoric towards Ukraine. While further information about Russian activities in 2022 will be covered in detail in the 2023 report, the United States now knows the build-up was a prelude to offensive action against Ukraine.

From September 10 to 16, 2021, Russia conducted the Zapad-2021 joint military exercise in Russia and Belarus. Russia's Ministry of Defense (MoD) website announced that the exercise overall would involve 200,000 Belarusian and Russian participants. The Russian MoD did not explain the high personnel number it announced for the exercise overall, but likely included participants not in the land forces (such as air forces, air defense forces, seagoing naval forces, internal security forces, national guard/Rosgvardiya, etc.).

ANALYSIS OF ADHERENCE CONCERNS

Per VD11, paragraphs 2 and 3, participating States recall the continued validity of commitments on refraining from the threat or use of force contained in the Helsinki Final Act and the Document of the Stockholm Conference, as seen in light of the Charter of Paris and the Charter for European Security. Russian actions during 2021 regarding Ukraine have been contrary to Russia's political commitments referenced in paragraphs 2 and 3 of VD11.

Per VD11, Chapter III, paragraph 16, OSCE participating States commit to "consult and cooperate with each other about any unusual and unscheduled activities outside their normal peacetime locations which are military significant, within the zone of application for CSBMs and about which a participating State expresses its security concern." Ukraine properly triggered this

mechanism in April 2021, and Russia failed to adhere to its paragraph 16 commitments by refusing to engage in the process outlined in the provision. Russia's argument that the risk reduction mechanism only applies to military activities that exceed VD11 notification thresholds is without merit, as no such limitation appears anywhere in paragraph 16.

Paragraphs 38 through 40.1.1 of the Vienna Document require a participating State on whose territory a military activity is to take place to notify other participating States 42 days in advance whenever such activity involves the engagement of formations⁹ of land forces in the field in the same activity, conducted under a single operational command whenever it involves at any time during the activity at least 9,000 troops, including support troops, 250 battle tanks, 500 ACVs, or 250 self-propelled and towed artillery pieces, mortars and multiple rocket-launchers (100mm caliber and above) if organized into a divisional structure or at least two brigade/regiments, not necessarily subordinate to the same division.

Vienna Document Plus Decision No. 9/12, requires participating States to notify annually at least one major military exercise or activity if no military activity otherwise meets Vienna Document Chapter V notification thresholds.

Paragraphs 47-48 of the Vienna Document require a participating State on whose territory a military activity is to take place to invite representatives from all other participating States to observe the engagement of formations of land forces in the same exercise activity conducted under a single operational command whenever the number of troops engaged equals or exceeds 13,000, or where the number of battle tanks engaged equals or exceeds 300, or where the number of armored combat vehicles engaged equals or exceeds 500, or where the number of pieces of artillery of 100mm caliber and above engaged equals or exceeds 250.

Both Russia and Belarus issued Vienna Document notifications for Zapad-2021 42 days in advance. Belarus also issued an invitation for representatives of Lithuania and the OSCE's Conflict Prevention Center to observe the Belarusian part of the exercise, though this invitation was not extended more broadly to all participating States.

Belarus's notification stated that 6,293 personnel, 133 battle tanks, 214 armored combat vehicles, and 109 pieces of artillery would participate in the exercise on the territory of Belarus and that land forces activities would take place at the Brest training area and the Obuz-Lesnovskiy training area. The culminating activities took place on September 12, 2021 at the Obuz-Lesnovskiy training area, according to the Belarusian press. Available information does not indicate that exercise activity on the territory of Belarus met or exceeded the observation thresholds of the Vienna Document at any point in the exercise.

Russia notified that approximately 6,400 Russian troops and 1,081 military personnel from other countries would participate in Zapad-2021 on Russian territory, along with 171 battle tanks, 271 armored combat vehicles, and "up to" 140 pieces of artillery. The main exercise activity was held at Mulino training area to the east of Moscow, with other training areas in Kaliningrad and parts of the Western Military District hosting smaller activities, according to the Russian notification and briefings by the Russian Ministry of Defense. Despite conflicting information,

⁹ Under the Vienna Document, formations are armies, corps, divisions, and their equivalents.

evidence available to this report does not clearly establish that exercise activity on the territory of Russia met or exceeded the observation thresholds of the Vienna Document at any point in the exercise.

Additional information is provided in the classified report.

EFFORTS TO RESOLVE ADHERENCE CONCERNS AND NEXT STEPS

During 2021, the United States and other participating States continued to raise in the OSCE the grave issues of Russia's attempted annexation of Crimea and Russian support for the anti-government forces in eastern Ukraine, which run counter to OSCE security commitments recalled in VD11.

The United States supported Ukraine's use of the Chapter III, paragraph 16 risk reduction mechanism to try and dispel concerns about unusual Russian military activities. The United States continued to work through diplomatic channels to raise and attempt to resolve Russia's refusal to constructively engage on this issue.

The United States has worked with Russia through diplomatic channels, including in cooperation with the 55 other OSCE participating States, to address concerns related to Russia's implementation of VD11, including its military activities in Crimea and eastern Ukraine and the absence of information about equipment in some of its active forces within the VD11 zone of application, with the aim of increasing the transparency of Russia's military forces and activities. These efforts to address outstanding adherence concerns will continue.

The United States is a leading advocate of modernization of VD11 to make it a more effective tool for providing transparency on, and addressing security concerns related to, conventional military forces in Europe. To date, Russia has refused to engage on VD11 modernization.

The United States has continued to raise concerns about large-scale Russian "snap" or no-notice exercises, which under VD11 are excepted from the general rule regarding advance notification. The United States has not identified Russian VD11 concerns with respect to these "snap" exercises in 2021, which Russia conducted but has presented as being below notification thresholds, but has called on Russia at the OSCE and bilaterally to provide greater transparency on its military activities and exercises generally. NATO Allies, including the United States, also raised concerns with Russian "snap" exercises in OSCE fora and diplomatic communications. Among the proposed updates to VD11 in the modernization effort cited above are changes aimed at addressing large-scale "snap" exercises.

REPUBLIC OF ARMENIA (ARMENIA)

Armenia has joined the consensus adoption of each version of the Vienna Document (1990, 1992, 1994, 1999, and 2011) and of subsequent "Vienna Document Plus" decisions.

FINDING

Armenia failed to notify at least one major military exercise or activity for calendar year 2021, despite hosting a large international Collective Security Treaty Organization (CSTO) military exercise in September 2021.

By the end of 2021, Armenia had not submitted its annual VD11 data on its armed forces for the second year in a row.

Armenia notified in July 2020 that it was not “in a position to accept military inspections by the Republic of Turkey and guest inspectors from Turkey” on its territory under the Vienna Document, a position that raises a concern regarding Armenia’s adherence to its verification commitments under Chapter IX of VD11.

CONDUCT GIVING RISE TO ADHERENCE CONCERNS

Armenia failed to notify at least one major military exercise or activity for calendar year 2021, although it hosted the Grom (Thunder)-2021 Special Purpose CSTO Rapid Response Forces exercise from 24-28 September, 2021, according to regional media reports and a CSTO press release.

On April 19, 2021, and November 12, 2021, Armenia notified participating States that because of its conflict with Azerbaijan in late 2020, its submission of its annual VD11 data on its military forces would be delayed. As of the end of 2021, no annual data had been provided.

On July 29, 2020, Armenia circulated a note verbale to OSCE participating States, stating that, as of that date, Armenia “will not be in a position to accept military inspections by the Republic of Turkey and guest inspectors from Turkey under the CFE treaty and the Vienna Document on the territory of the Republic of Armenia.” However, at that time and throughout the remainder of 2020 and all of 2021, Armenia had cancelled or postponed all VD11 verification activities in light of the COVID-19 pandemic. Turkey did not seek entry for an inspection team under the Vienna Document in 2021, and Armenia’s policy as stated in the July 2020 note verbale therefore remained untested in practice.

ANALYSIS OF ADHERENCE CONCERNS

Per Vienna Document Plus Decision No. 9/12, participating States will notify annually at least one major military exercise or activity if no military activity otherwise meets Chapter V notification thresholds. Armenia did not do so for 2021, despite conducting an exercise during the year.

Per VD11, Chapter I, paragraphs 9 and 10, participating States will exchange annually information on their military forces in the zone of application not later than December 15 of each year. However, but Armenia failed to provide its annual data on December 15, 2021, just as it failed to provide annual data in the prior year.

VD11 Chapter IX sets out participating States' commitments with respect to inspections and evaluation visits. Paragraph 75 states that "[i]n accordance with the provisions contained in this document each participating State has the right to conduct inspections on the territory of any other participating State within the zone of application for CSBMs." However, Armenia's July 29, 2020 note indicates that Turkish inspectors would be excluded from inspections carried out on Armenian territory. Armenia asserted that the presence of Turkish inspectors would adversely affect Armenian security interests, in light of Turkey's support for Azerbaijan's activities against Armenia, a position Armenia reiterated several times in 2021. It remains to be seen whether Armenia will implement the stated policy in practice, once VD11 activities resume on Armenian territory.

EFFORTS TO RESOLVE ADHERENCE CONCERNS AND NEXT STEPS

Open hostilities between Armenia and Azerbaijan in September-November 2020, and the aftermath of those hostilities, continue to complicate the assessment of military activities, equipment holdings, and locations for both countries. The United States remains alert to the evolving situation, and will take up such concerns and raise these issues as circumstances permit.

REPUBLIC OF AZERBAIJAN (AZERBAIJAN)

Azerbaijan has joined the consensus adoption of each version of the Vienna Document (1990, 1992, 1994, 1999, and 2011) and of subsequent "Vienna Document Plus" Decisions. Azerbaijan's adherence to the Vienna Document was first addressed in the Compliance Report in 1998.

FINDING

Azerbaijan failed to notify at least one major military exercise or activity for calendar year 2021, despite its Ministry of Defense announcements of large-scale military exercises with Turkey scheduled for April, May, June, and October 2021.

Although Azerbaijan failed to submit its annual VD11 data on its armed forces in 2020 (as reported last year), on December 15, 2021, Azerbaijan did provide its annual VD11 data for 2022. This data will inform next year's Compliance Report.

CONDUCT GIVING RISE TO ADHERENCE CONCERNS

Azerbaijan held large-scale joint exercises that its Ministry of Defense announced for April, June, and October 2021. On November 15, 2021, Azerbaijan issued a notification that it would provide information on military activity in 2022 below the VD11 notification threshold when that information becomes available.

As discussed in last year's report, on December 11, 2020, Azerbaijan notified participating States that its submission of its annual VD11 data on its military forces would be delayed beyond the

December 15 deadline. However, Azerbaijan never submitted that data. In a positive development, Azerbaijan did submit its data for 2022 on December 15, 2021.

ANALYSIS OF ADHERENCE CONCERNS

Per Vienna Document Plus Decision No. 9/12, participating States will notify annually at least one major military exercise or activity if no military activity otherwise meets Chapter V notification thresholds.

Per VD11, Chapter I, paragraphs 9 and 10, participating States will exchange annually information on their military forces in the zone of application not later than December 15 of each year. Azerbaijan's provision of annual data on December 15, 2021, a positive change from last year, indicates a return to adherence with its stated VD11 commitments in this respect.

EFFORTS TO RESOLVE ADHERENCE CONCERNS AND NEXT STEPS

The United States will continue to highlight with Azerbaijan, bilaterally and at OSCE meetings, the importance of complete and timely notification of military activities, particularly annual notification of at least one exercise or activity in the absence of any that exceed Chapter V thresholds. Military activities that are unreported or incompletely reported undermine the Vienna Document's objective of building confidence through increased transparency. We will continue to encourage Azerbaijan to be more transparent about its exercises, including by providing additional details about their size and purpose, and we welcome Azerbaijan's stated intent and nascent indications of providing greater military transparency in 2022.

As noted above with respect to Armenia, open hostilities between Armenia and Azerbaijan in September-November 2020 and their aftermath complicated the assessment of military activities, equipment holdings, and locations with respect to both countries. The United States remains alert to the evolving situation, and will take up such concerns and raise these issues as circumstances permit.

KYRGYZSTAN

Kyrgyzstan has joined the consensus adoption of each version of the Vienna Document (1990, 1992, 1994, 1999, and 2011) and of subsequent "Vienna Document Plus" Decisions.

Kyrgyzstan's adherence to the Vienna Document was first addressed in the Compliance Report in 2001.

FINDING

Kyrgyzstan has failed to provide annual VD11 data on its armed forces since 2014.

Kyrgyzstan also failed to notify at least one major military exercise or activity for calendar year 2021, despite conducting exercises in 2021.

CONDUCT GIVING RISE TO ADHERENCE CONCERNS

Kyrgyzstan has not provided its annual data under VD11 since it provided such data effective as of January 1, 2014. This continued to be the case in 2021.

Kyrgyzstan hosted a CSTO exercise at the Edelweiss Training Center in Kyrgyzstan in early September 2021, and a military mobilization exercise in south Kyrgyzstan the same month, according to press reports.

ANALYSIS OF ADHERENCE CONCERNS

Per VD11, Chapter I, paragraphs 9 and 10, participating States will exchange annually information on their military forces in the zone of application not later than December 15 of each year. Kyrgyzstan failed to provide VD11 data on its armed forces (effective as of January 1, 2021) by December 15, 2020. Kyrgyzstan has not provided such annual data since it provided data that was effective as of January 1, 2014, and again failed to provide its annual data during the exchange on December 15, 2021.

Per Vienna Document Plus Decision No. 9/12, participating States will notify annually at least one major military exercise or activity if no military activity otherwise meets Chapter V notification thresholds. As noted above, press reports indicate that Kyrgyzstan held at least one military activity that could have been notified per this commitment.

EFFORTS TO RESOLVE ADHERENCE CONCERNS AND NEXT STEPS

The United States has discussed bilaterally with Kyrgyzstan its VD11 commitments and encouraged Kyrgyzstan to return to its previous practice of providing an annual VD11 data declaration. The United States will continue to work with Kyrgyzstan to implement its Vienna Document commitments, especially with regard to the annual exchange of military information and receiving inspections and evaluation visits. The United States will seek opportunities at future meetings of the FSC attended by a representative of Kyrgyzstan, including the Annual Implementation Assessment Meeting and the OSCE VD11 data exchange, to encourage Kyrgyzstan and all other participating States with armed forces in the Vienna Document zone of application to provide CSBM data on a timely basis, consistent with VD11, Chapter I commitments. The United States will also encourage other states to engage Kyrgyzstan on these issues.

TURKMENISTAN

Turkmenistan has joined the consensus adoption of each version of the Vienna Document (1990, 1992, 1994, 1999, and 2011) and of subsequent “Vienna Document Plus” Decisions.

FINDING

Turkmenistan has failed to provide annual VD11 data on its armed forces since 2015.

CONDUCT GIVING RISE TO ADHERENCE CONCERNS

Turkmenistan has not provided its annual VD11 data since 2015. This continued to be the case in 2021.

ANALYSIS OF ADHERENCE CONCERNS

Per VD11, Chapter I, paragraphs 9 and 10, participating States shall exchange annually information on their military forces in the zone of application not later than December 15 of each year.

Turkmenistan has not provided its annual VD11 data since January 2015, when it provided its data effective as of January 1, 2015.

EFFORTS TO RESOLVE ADHERENCE CONCERNS AND NEXT STEPS

The United States has discussed bilaterally with Turkmenistan its VD11 commitments and failure to provide an annual data declaration. The United States has encouraged Turkmenistan to return to its previous practice of providing an annual VD11 data declaration.

The United States will work with Turkmenistan to encourage it to improve its implementation, and will seek opportunities at future meetings of the FSC attended by a Turkmenistan representative, including the Annual Implementation Assessment Meeting and annual data exchange, to encourage Turkmenistan and all other participating States to provide data on a timely basis, consistent with VD11, Chapter I commitments. The United States will also encourage other states to engage Turkmenistan on this issue.

REPUBLIC OF UZBEKISTAN (UZBEKISTAN)

Uzbekistan has joined the consensus adoption of each version of the Vienna Document (1990, 1992, 1994, 1999, and 2011) and of subsequent “Vienna Document Plus” Decisions. Uzbekistan’s adherence to the Vienna Document was first addressed in the Compliance Report in 2000.

FINDING

Uzbekistan has failed to provide annual VD11 data on its armed forces since 2003.

Uzbekistan also failed to notify at least one major military exercise or activity for calendar year 2021, despite having carried out a joint military exercise with Russia near Termez, Uzbekistan from August 4-10, 2021.

CONDUCT GIVING RISE TO ADHERENCE CONCERNS

Uzbekistan has not provided its annual VD11 data since a late submission on February 12, 2003, when it provided data effective as of January 1, 2003. This continued to be the case in 2021.

Uzbekistan failed to notify of at least one major military exercise or activity for 2021, despite having carried out a joint military exercise with Russia near Termez, Uzbekistan from August 4-10, 2021.

ANALYSIS OF ADHERENCE CONCERNS

Per VD11, Chapter I, paragraphs 9 and 10, participating States shall exchange annually information on their military forces in the zone of application not later than December 15 of each year.

Uzbekistan has not provided its annual VD11 data since a late submission on February 12, 2003, when it provided data effective as of January 1, 2003.

Per Vienna Document Plus Decision No. 9/12, participating States shall notify annually at least one major military exercise or activity if no military activity otherwise meets Chapter V notification thresholds.

Under the referenced decision, Uzbekistan should have notified at least one exercise for 2021, since it did carry out an exercise during the year.

EFFORTS TO RESOLVE ADHERENCE CONCERNS AND NEXT STEPS

The United States discussed bilaterally with Uzbekistan its VD11 commitments and failure to provide an annual VD11 data declaration. The United States has encouraged Uzbekistan to provide its annual VD11 data declarations.

The United States will work with Uzbekistan to encourage it to improve its implementation and seek opportunities at future meetings of the FSC attended by an Uzbekistani representative, including the Annual Implementation Assessment Meeting and annual data exchange, to encourage Uzbekistan and all other participating States to provide data on a timely basis, consistent with VD11, Chapter I commitments. The United States will encourage other states to engage Uzbekistan on this topic as well.

TREATY ON CONVENTIONAL ARMED FORCES IN EUROPE (CFE)

For a discussion of other nations' compliance with their obligations under the Conventional Armed Forces in Europe (CFE) Treaty, see the Report on Compliance with the Treaty on Conventional Armed Forces in Europe, submitted pursuant to Condition 5(C) of the Senate Resolution of Advice and Consent to Ratification of the CFE Flank Document (also known as the "Condition 5(C) Report"), and appended to this Report.

U.S. Department of State
April 2022