

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



April 2025

Prepared by the U.S. Department of State

(U) TABLE OF CONTENTS

INTRODUCTION	4
PURPOSE	4
SCOPE OF THE REPORT	4
ADHERENCE AND COMPLIANCE	4
PART I: U.S. COMPLIANCE WITH ARMS CONTROL, NONPROLIFERATION, AND DISARMAMENT AGREEMENTS	7
U.S. COMPLIANCE	7
PART II: OTHER STATES' COMPLIANCE WITH AND ADHERENCE TO ARMS CONTROL, NONPROLIFERATION, AND DISARMAMENT AGREEMENTS AND COMMITMENTS PERTAINING TO NUCLEAR ISSUES	11
TREATY ON MEASURES FOR THE FURTHER REDUCTION AND LIMITATION OF STRATEGIC OFFENSIVE ARMS (THE NEW START TREATY OR NST)	11
NUCLEAR NON-PROLIFERATION TREATY (NPT)	12
BURMA	13
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA (DPRK)	14
ISLAMIC REPUBLIC OF IRAN (IRAN)	17
SYRIAN ARAB REPUBLIC (SYRIA)	24
THRESHOLD TEST BAN TREATY (TTBT)	27
NUCLEAR TESTING MORATORIA	29
PART III: OTHER STATES' ADHERENCE TO MISSILE COMMITMENTS AND ASSURANCES	30
MISSILE TECHNOLOGY CONTROL REGIME (MTCR)	30

PART IV: OTHER STATES' COMPLIANCE WITH AND ADHERENCE TO ARMS CONTROL, NONPROLIFERATION, AND DISARMAMENT AGREEMENTS AND COMMITMENTS PERTAINING TO CHEMICAL ISSUES	31
CHEMICAL WEAPONS CONVENTION (CWC)	31
PART V: OTHER STATES' COMPLIANCE WITH AND ADHERENCE TO ARMS CONTROL, NONPROLIFERATION, AND DISARMAMENT AGREEMENTS AND COMMITMENTS PERTAINING TO BIOLOGICAL ISSUES	32
BIOLOGICAL WEAPONS CONVENTION (BWC)	32
PEOPLE'S REPUBLIC OF CHINA (CHINA)	33
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA (DPRK)	35
ISLAMIC REPUBLIC OF IRAN (IRAN)	36
RUSSIAN FEDERATION (RUSSIA)	38
PART VI: OTHER STATES' COMPLIANCE WITH AND ADHERENCE TO ARMS CONTROL, NONPROLIFERATION, AND DISARMAMENT AGREEMENTS AND COMMITMENTS PERTAINING TO CONVENTIONAL ISSUES	41
VIENNA DOCUMENT ON CONFIDENCE- AND SECURITY-BUILDING MEASURES	41
REPUBLIC OF ARMENIA (ARMENIA)	43
KYRGYZ REPUBLIC	44
RUSSIAN FEDERATION (RUSSIA)	46
REPUBLIC OF UZBEKISTAN (UZBEKISTAN)	48
TREATY ON CONVENTIONAL ARMED FORCES IN EUROPE (CFE)	50

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 that the President submit a report each year 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 2024, as well as the compliance and adherence of other states to arms control, nonproliferation, and disarmament agreements and commitments, including confidence-and security-building measures (CSBMs) and the Missile Technology Control Regime (MTCR), to which the United States is a participating State.

The issues addressed in this report primarily reflect activities from January 1, 2024, through December 31, 2024. This report covers activities that occurred during the previous administration. This Administration will continue to assess compliance related to developments going forward, taking into account this Administration's approach to arms control, nonproliferation, and disarmament. This report recounts as much information as possible at the unclassified level. However, certain information, including some compliance and adherence findings and concerns, may be addressed only in the SECRET or TOP SECRET annexes to this report.

ADHERENCE AND COMPLIANCE

Effective arms control requires countries to comply fully with arms control obligations and commitments. In evaluating any country's compliance with its arms control, disarmament, and nonproliferation obligations, the United States considers a variety of

factors. The United States considers the nature and precise language of applicable obligations, interpreted in accordance with international law. In light of those obligations, the United States assesses information regarding the country's activities, including information acquired by intelligence collection, cooperative verification measures, open source information, and diplomatic means – and any information provided by the country in question. The United States considers similar factors when evaluating adherence to political commitments, although such commitments are not binding under international law.

In this Report, the term “violation” refers to any action or omission by a State Party to an international agreement that the United States has determined is contrary to that State's obligations under the agreement in question. Such violations may give rise to international legal remedies. Violations may also be described as findings of “non-compliance.” This report uses the terms “violation” and “compliance” only in reference to obligations undertaken in legally binding international agreements. When discussing politically binding commitments, the report uses the term “adherence” instead of “compliance.”

There can be legal or factual uncertainty as to whether a violation or non-adherence has occurred. Accordingly, this report distinguishes between “violations” (or findings of “non-compliance” or “non-adherence”) and instances in which the U.S. Government has reason to believe that a state may not have complied with its obligation or commitment during the reporting period but factual or legal uncertainty remains, such that no determination has been reached. The report refers to the latter category as “compliance concerns” or, for non-legally binding commitments, “adherence concerns.”

There may be instances in which available information creates reason to be concerned about potential future violations of or non-adherence to relevant agreements or commitments. The U.S. government closely monitors these situations for developments relevant to future reports. However, the report does not include findings that relate solely to potential future compliance.

When compliance and adherence concerns arise, the United States seeks, whenever possible, to address its concerns through diplomatic engagement. The United States also has a range of means to convince violators it is in their interest to return to

compliance and to prevent violators from benefitting from their acts. The United States continues to pursue resolution of compliance and adherence issues with the States in question, as well as to assess the national security implications of these States' actions and how best to respond.

U.S. Organizations and Programs to Evaluate and Ensure U.S. and Other Countries' Compliance with and Adherence to Arms Control, Disarmament, and Nonproliferation Agreements and Commitments

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 legal expertise related to compliance and adherence. The Bureau of Arms Control, Deterrence, and Stability (ADS) leads this work. To do so, it relies on underlying factual evidence that is supplied by the Intelligence Community, along with interactions and communications with other countries. The U.S. Department of Defense's compliance review groups oversee and manage DoD compliance with arms control, nonproliferation, and disarmament agreements and related commitments.

The Department of State prepares the annual Report, with the concurrence of the Director of National Intelligence and in consultation with the Secretary of Defense, the Secretary of Energy, and the Chairman of the Joint Chiefs of Staff. Further, the interagency conducts a review in appropriate cases where compliance or adherence issues emerge, including when other States formally raise concerns regarding U.S. implementation of its obligations. Finally, Congress performs oversight functions through committee hearings and budget allocations.

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

U.S. COMPLIANCE

In 2024, 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 legitimate compliance concern regarding U.S. implementation activities, the United States has carefully reviewed the matter to confirm that all actions were in compliance with its obligations.

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 completed destruction of its Category 1, 2, and 3 chemical weapons stockpiles as verified by the Organization for the Prohibition of Chemical Weapons (OPCW). The last two chemical weapons (CW) destruction facilities in the United States, in Pueblo, Colorado and Blue Grass, Kentucky, completed destruction of the declared stockpile on June 22, 2023 and July 7, 2023, respectively.

The United States has provided a full and complete declaration of its CW and associated CW facilities and continues to work toward completing the decontamination and demolition of associated CW facilities.

The United States remains fully committed and will continue to work with the OPCW to complete verifiable destruction of the remaining waste material in Pueblo, Colorado and Blue Grass, Kentucky. The United States is committed to the safe closing of both chemical destruction facilities in a manner consistent with the 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.

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 2024 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 continues to be 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, prevent, prepare for, and respond to disease outbreaks and other biological threats.

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

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.

Since 1992, the United States has maintained a moratorium on nuclear explosive testing and remains committed to assuring the safety, security, and reliability of its nuclear arsenal through a rigorous science-based stockpile stewardship program. For more than twenty years, the directors of the national security laboratories and the Commanders of U.S. Strategic Command have annually assessed that our nuclear stockpile is safe, reliable, and effective, and that there is no current need to conduct nuclear explosive tests to ensure stockpile reliability.

Treaty on Conventional Armed Forces in Europe (CFE)

Consistent with its rights under international law, the United States suspended the operation of all CFE Treaty obligations between itself and every other State Party, effective December 7, 2023. Russia's withdrawal from the CFE Treaty on November 7, 2023, coupled with its continuing full-scale war of aggression in Ukraine (another CFE State Party), constituted a fundamental change of circumstances with respect to the Treaty.

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 U.S. obligations under the NPT.

The United States remains committed to all three NPT Pillars, the pursuit of good faith efforts towards disarmament progress, the pursuit of the highest nonproliferation standards, the peaceful uses of nuclear energy, and the fulfillment of all of its obligations under the U.S. Voluntary Offer Agreement and U.S. Additional Protocol.

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 in 2024 were consistent with the obligations set forth in the New START Treaty (NST), subject to the lawful countermeasures adopted by the United States in 2023 in response to the Russian Federation's ongoing violations of the treaty. These U.S. countermeasures are fully consistent with all relevant requirements under customary international law, including prior notice, proportionality, and reversibility, and are intended to encourage the Russian Federation to return to compliance with the NST. These countermeasures include: 1) withholding the provision of biannual data updates; 2) withholding notifications required under the treaty; 3) refraining from facilitating NST inspection activities on U.S. territory, including revoking the diplomatic clearance number for Russia's inspection airplane and revoking visas issued to Russia's NST inspectors and air crew members; and 4) withholding the provision of

telemetric information from launches of U.S. intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles (SLBMs).

The United States continues to provide Russia with pre-launch notifications of ICBM and SLBM launches in accordance with the 1988 Ballistic Missile Launch Notification Agreement and notifications of heavy bomber exercises in accordance with the 1989 Agreement on Reciprocal Notification of Major Strategic Exercises. Both agreements remain in force independent of New START.

The United States has conveyed its desire and readiness to reverse the countermeasures and fully implement the NST if Russia returns to compliance with its NST obligations. The United States has not taken a countermeasure with respect to the NST central limits and remains in full compliance with those limits.

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 during 2024, see the Report on Implementation of the New START Treaty submitted pursuant to paragraph (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.

NUCLEAR NON-PROLIFERATION TREATY (NPT)

This chapter of the report covers developments relevant to other States' compliance with the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (Nuclear Non-Proliferation Treaty or NPT). This includes their compliance with the obligation under Article III of the NPT to accept safeguards, fulfilled by concluding and implementing a Comprehensive Safeguards Agreement (CSA) with the International Atomic Energy Agency (IAEA).^a 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.^b

As of 2024, there were three non-nuclear-weapon States (NNWS) Parties to the NPT—Equatorial Guinea, Guinea, and Somalia—that had not yet brought into force a CSA with the IAEA. 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 NPT 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 2024, 142 States Parties and Euratom had an AP in force.

^a 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 (SQP) to the CSA that reduces the safeguards implementation burden for such States.

^b 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.

Additional information may be provided at a higher classification.

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

COUNTRY ASSESSMENTS

BURMA

FINDING

The available evidence does not support a conclusion that Burma violated the NPT in 2024. However, the United States remains concerned about Burma's lack of transparency regarding past nuclear work. The details of those concerns are presented in previous Compliance Reports, in particular those published in 2011 and 2012.

CONDUCT GIVING RISE TO COMPLIANCE CONCERNS

There are no new compliance concerns to report.

ANALYSIS OF COMPLIANCE CONCERNS

There is no new analysis to report.

EFFORTS TO RESOLVE COMPLIANCE CONCERNS AND NEXT STEPS

Bilateral engagement with the government of Burma was reduced significantly following the 2021 military coup. In 2024, the United States continued to call upon all states that have not done so – including Burma – to complete the work necessary to bring an AP and, where applicable, a modified SQP into force. Burma would be required by these agreements to take actions and offer cooperation that would help to address existing U.S. concerns. The United States also continued to prepare and plan internally on how to work efficiently with a future civilian government in Burma to help resolve concerns about Burma's lack of transparency regarding its past nuclear work.

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA (DPRK)

FINDING

The DPRK was in violation of its obligations under Articles II and III of the NPT at the time it announced its withdrawal from the NPT in 2003. The DPRK's continuing nuclear activities and recent official statements make clear it is also not adhering to its commitments in the 2018 Singapore Summit Joint Statement, the 2005 Joint Statement of the Six-Party Talks, or the 1994 Agreed Framework, and is in violation of its IAEA safeguards obligations as well.

CONDUCT GIVING RISE TO COMPLIANCE CONCERNS

Previous editions of this Report described DPRK violations of its obligations under Articles II and III of the NPT and its CSA before it announced its withdrawal from the NPT in 2003.^c The DPRK remains subject to IAEA safeguards obligations irrespective of its 2003 notice of withdrawal from the NPT. The DPRK remained in violation of its IAEA safeguards obligations in 2024.

On June 19, 2024, the Russian Federation and the DPRK signed The Treaty on Comprehensive Strategic Partnership between the DPRK and the Russian Federation, which was ratified in November 2024. Article 10 of the Treaty specifies, "The Parties shall develop exchanges and cooperation in scientific and technological fields, including space, biology, peaceful nuclear energy, artificial intelligence, information technology, and actively promote joint research." Russia, as a nuclear-weapon State Party to the NPT, has an obligation to not in any way assist, encourage, or induce any non-nuclear weapon state to manufacture or otherwise acquire a nuclear weapon or other nuclear explosive device. Russia also has an obligation not to provide source or special fissionable material or equipment or material especially designed or prepared for the processing, use or production of special fissionable material to any non-nuclear weapon state for peaceful purposes unless subject to safeguards. In light of the DPRK's unlawful nuclear weapons program and noncompliance with its safeguards obligations,

^c For example, please see "Adherence to and Compliance with Arms Control, Nonproliferation and Disarmament Agreements and Commitments" in 2005 and 2010.

civil nuclear cooperation between Russia and the DPRK also could implicate Russia's NPT obligations, depending upon the nature and circumstances of that cooperation.

Production Facilities

The IAEA reported in 2024 ongoing activities consistent with the 5 MWe graphite reactor's operation at Yongbyon.

As of November 20, 2024, the IAEA Director General indicated that the 5 MWe reactor in Yongbyon was not operating between mid-August and mid-October 2024, which IAEA experts assessed would be enough time to refuel the reactor. Irradiated fuel, after removal and cooling, is able to be reprocessed. We assess that the activity described by the IAEA is consistent with the DPRK's continued production of fissile material.

North Korea has revealed two uranium enrichment plants, which Kim Jong Un toured in September 2024 and January 2025 respectively. In September 2024, DPRK state media published photographs of Kim Jong Un touring an unspecified uranium enrichment facility. The report also referenced a construction site, apparently referring to a portion of the uranium enrichment facility that is expanding the current production capacity, and highlighted his intention to further increase the number of centrifuges.

As of mid-August 2024, the IAEA assessed that the DPRK's light water reactor (LWR) has operated intermittently, possibly indicating that it was still undergoing the commissioning process. Although LWRs are not an efficient means of producing plutonium, they offer another route through which the DPRK has obtained weapons grade plutonium. Certain configurations and operating regimes can produce more or less plutonium and without access to the facility, it is difficult to determine under what parameters it is being operated.

For the reporting period, and consistent with IAEA observations in previous years, the IAEA reported ongoing indications of mining, milling and concentration activities at the ore concentration plant near Pyongsan.

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 thermonuclear weapon.” In 2018, the regime claimed the northern test ground of the DPRK was completely dismantled. On January 19, 2022, Kim Jong Un publicly instructed relevant DPRK agencies to “promptly examine the issue of restarting all temporarily-suspended activities.”

North Korea prepared the Punggye nuclear site for testing in 2022. The United States continues to assess the site is available for a seventh nuclear test, once the regime makes the political decision to do so.

ANALYSIS OF COMPLIANCE CONCERNS

The DPRK was in violation of its obligations under Articles II and III of the NPT before it announced its withdrawal from the NPT in 2003. The DPRK is also in violation of its IAEA safeguards obligations, as noted above.

Throughout 2024, the United States continued to have significant concerns regarding the DPRK’s nuclear weapons program and its continued production of fissile material for use in the manufacture of nuclear weapons.

EFFORTS TO RESOLVE COMPLIANCE CONCERNS AND NEXT STEPS

In a departure from previous years, the Russian Federation vetoed the extension of the remit of the group of governmental experts that supported the 1718 Committee, also known as the United Nations Security Council Sanctions Committee on North Korea, effectively ending UN monitoring of the implementation of DPRK Weapons of Mass Destruction (WMD)-focused sanctions under the purview of the 1718 Committee.

Despite the termination of the group of experts, sanctions remain in place and the 1718 Committee itself will continue to operate. In response to the loss of the monitoring body, the United States joined a group of ten other States in creating the Multilateral Sanctions Monitoring Team for Implementation of UN Security Council Resolutions Regarding the DPRK, which can provide information to the public about DPRK sanctions violating activity.

The Department of the Treasury Office of Foreign Asset Control (OFAC) updated sanctions designations related to DPRK ballistic missile and nuclear programs and proliferation efforts at least four times during the reporting period. During the same time period, OFAC also updated the “Countering America’s Adversaries Through Sanctions Act-Related Sanctions,” the WMD sanctions program, and the North Korea Sanctions programs, all of which apply to the DPRK in various ways.

In 2024, the United States worked closely with Japan on its resolution at the United Nations (UN) First Committee, which included a call on all UN Member States to reaffirm their strong commitment to the goal of achieving the complete, verifiable, and irreversible dismantlement of all DPRK nuclear weapons and existing nuclear programs.

The goal of the United States remains the complete denuclearization of the DPRK. The United States continues to consult closely with the Republic of Korea, Japan, and other allies and partners about how to best achieve that goal.

The United States has a vital interest in deterring DPRK aggression and limiting the risks posed by its dangerous and destabilizing weapons programs. 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 also employs domestic authorities to sanction entities involved in the DPRK’s unlawful ballistic missile and nuclear weapons programs. The United States remains engaged with the IAEA and welcomes the IAEA’s efforts to enhance readiness to resume monitoring and verification activities in the DPRK.

ISLAMIC REPUBLIC OF IRAN (IRAN)

FINDING

The United States assesses that Iran did not manufacture a nuclear weapon in 2024. However, Iran undertook several key activities in 2024 that could better position it to do so, if it chooses, including expanding its stockpile of 20-percent and 60-percent enriched uranium and manufacturing and operating an increasing number of advanced centrifuges in underground facilities. Iran’s enriched uranium stockpile and the enrichment capacity of its centrifuges are key factors in the amount of time the United

States assesses would be required for Iran to produce enough fissile material for a nuclear weapon, should Iran decide to build one. If Iran were to manufacture or otherwise acquire a nuclear weapon, or seek or receive assistance in the manufacture of a nuclear weapon or nuclear explosive device, such actions would violate its obligations under Article II of the NPT.

Iran's continued failure to 1) fully cooperate, as required under its CSA, with the IAEA's ongoing safeguards investigations regarding possible undeclared nuclear material and activities in Iran; and 2) provide advance design information for construction of new nuclear facilities, required under modified Code 3.1 of Iran's CSA, constitute a violation of 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 in 2003 and implemented its measures from late 2003 to early 2006, and, pursuant to its commitment to provisionally apply the AP under the Joint Comprehensive Plan of Action (JCPOA), from 2016 to early 2021.

Unanswered Questions Regarding Potential Undeclared Nuclear Material and Activities at Turquzabad and Varamin:

Throughout the reporting period, the IAEA continued to investigate unresolved safeguards issues related to what the Agency assessed were possible undeclared nuclear material and activities in the 2003 timeframe at two undeclared locations – Turquzabad and Varamin.^d

As of the end of the reporting period, Iran had not provided adequate explanation for the presence of anthropogenic uranium particles at the sites. The IAEA Director General (DG) continued to report that the Agency cannot confirm the correctness and

^d In 2019, the IAEA identified a number of questions related to possible undeclared nuclear material and activities at four locations in Iran that had not been declared to the Agency. In 2019 and 2020, the IAEA conducted complementary access at three of the four undeclared locations, Turquzabad, Varamin, and Marivan, and found uranium particles of anthropogenic origin at each of these three locations. In 2023, Iran provided a possible explanation for the presence of depleted uranium particles at Marivan, and the IAEA DG confirmed in a May 31, 2023, report that while the IAEA's assessment of the undeclared nuclear-related activities previously undertaken by Iran at Marivan remains unchanged, the Agency no longer regards the matter as outstanding at this stage.

completeness of Iran's declaration under its CSA unless and until Iran 1) provides technically credible explanations for the presence of uranium particles of anthropogenic origin at Turqzabad and Varamin; and 2) informs the Agency of the current location(s) of the nuclear material and/or the contaminated equipment. The DG noted that until such a measure is taken, he cannot provide assurance that Iran's nuclear program is exclusively peaceful. The DG reiterated that the outstanding safeguards issues stem from Iran's obligations under its CSA.

Refuting the IAEA's stance, Iran stated in March 2024 that, "all Iran's nuclear material and activities have been completely declared to the Agency." With respect to Varamin, Iran noted that there has "never been any undeclared location which is required to be declared under the CSA." With respect to Turqzabad, Iran stated that "there has not been any nuclear activity or storage at this location."

Discrepancy in Nuclear Material Balance of Uranium:

In November 2024, the IAEA reported that the Agency's questions regarding the discrepancy in the material balance of uranium involved in undeclared uranium metal production experiments conducted at Jaber Ibn Hayan Multipurpose Laboratory (JHL) in 1995-2000 remains unresolved and "requires further consideration."^e

In February 2024, Iran provided the IAEA with updated nuclear material accounting reports, which indicated that the amount of uranium sent from JHL to the uranium conversion facility was less than had been declared by Iran in 2003-2004. In May 2024, the IAEA responded to Iran in a letter, noting a discrepancy of approximately 30 kg of natural uranium that accountancy measurement errors indicated by Iran could not explain. In November 2024, the Director General noted in his report that the "Agency's technical assessment of the discrepancy remains unchanged" but that "Iran and the Agency continue discussing ways to resolve the issues."

^e In 2022, the IAEA verified at the Uranium Conversion Facility (UCF) the dissolution of 302.7 kg of natural uranium, as declared by Iran, transferred from the JHL. During the process, the IAEA identified a discrepancy that needed to be addressed in the amount of nuclear material it had verified compared to the amount declared by Iran.

Failure to Provide Preliminary Design Information:

The modified Code 3.1 of the Subsidiary Arrangements General Part to Iran's CSA provides for the submission to the Agency of advance design information for new nuclear facilities as soon as the decision to construct, or to authorize construction of, a new facility has been taken, whichever is earlier. As previously reported, throughout 2023, Iran made a number of public references to having decided the locations for new nuclear facilities.^f

In November 2024, the IAEA reported that Iran had not provided the IAEA with preliminary design information as required under modified Code 3.1 of the Subsidiary Arrangements to its CSA. Disregarding the IAEA's repeated requests, Iran has maintained its unilateral position that its "implementation of modified Code 3.1 is suspended." The IAEA reported that it is Iran's obligation to implement modified code 3.1, and that this obligation cannot be suspended or unilaterally modified by Iran.

Additional Context of Concern:

The aforementioned safeguards concerns come in the context of other developments that do not in themselves pose compliance concerns, but are relevant.

In response to a November 21, 2024, IAEA Board of Governors (BOG) resolution, Iran announced its plans to intensify its nuclear activities. In late November, Iran's Foreign Minister noted that Iran would activate several thousand domestically-manufactured advanced centrifuges in response to the resolution. A few days later, the Atomic Energy Organization of Iran announced that the country had started producing enriched uranium with these advanced centrifuges.

In December 2024, the UK, France, and Germany (the E3) met with Iran in Geneva, but no texts were negotiated. Following the meeting, Iranian Parliament's National Security and Foreign Policy Committee Spokesperson, quoting the Iranian Deputy Foreign Minister for Political Affairs, noted that Iran will consider withdrawing from the NPT if the snapback mechanism of the UN Security Council's sanctions against Iran is triggered:

^f As previously reported, in June 2023, the AEOL website published that Iran has decided the locations for new power reactors and a new research reactor in Iran. In November 2023, Vice-President Eslami made a statement reference the excavation of the main building of the planned IR-360 reactor "in the coming days."

“Regarding Iran’s countermeasures in the event of the resumption of snapback [mechanism], one of the options we raised was to withdraw from the NPT and that we could abandon the NPT.”

Subsequently, on December 10, Iran’s Ambassador and Permanent Representative to the UN penned a letter to the UN Secretary General and President of the UN Security Council that, “Iran remains unwavering in its commitment to its obligations under the NPT...[and] Iran will never compromise its legitimate and inalienable rights under the Treaty.” Instead, Iran blamed the United States and E3 and asserted that “any threats to invoke the so-called snapback are counterproductive and will provoke a firm response from Iran.”

De-Designation of IAEA Inspectors:

In September 2023, Iran informed the IAEA of its decision to withdraw the designation of several IAEA inspectors assigned to Iran, effectively prohibiting those specific inspectors from working in Iran. The DG reported that although the measure is not prohibited by Iran’s CSA, “Iran’s sudden withdrawal of previously agreed designations for several Agency inspectors adversely affects the Agency’s ability to conduct inspections and risks impeding the conduct of inspections as described in Article 9(a)(iii) of Iran’s NPT Safeguards Agreement.”

There have been limited developments with regard to this matter in 2024. In a letter dated June 6, 2024, Iranian Vice-President Eslami informed the IAEA DG that Iran’s position “with regard to the de-designation of those inspectors is unchanged and this position will remain as is.” However, following high level meetings between the IAEA and Iran in Tehran in November, Iran agreed to consider the acceptance of the designation of four additional experienced inspectors to address the Agency’s concern. No further actions have been reported since then.

Enrichment and Stockpile of Uranium-235:

Iran’s stockpile of enriched uranium continued to expand during the reporting period. As of October 26, 2024, the IAEA estimated that Iran had 5807.2 kg of enriched uranium stockpile in the form of uranium hexafluoride (UF₆) consisting of:

- 2190.9 kg of uranium enriched up to 2% U-235;
- 2594.8 kg of uranium enriched up to 5% U-235;
- 839.2 kg of uranium enriched up to 20% U-235; and
- 182.3 kg of uranium enriched up to 60% U-235.

The production of enriched uranium does not by itself constitute a violation of the NPT. However, Iran's rapidly growing stockpile of highly-enriched uranium and advanced centrifuges are key factors in the length of time it would take for Iran to produce enough fissile material for a nuclear weapon, should there be a political decision to do so.

Iran has no credible peaceful purpose for this stockpile of highly enriched uranium. On December 6, 2024, the IAEA DG expressed his concerns about Iran's "dramatic" acceleration of production of 60% enriched uranium. The Iranian Foreign Ministry Spokesman refuted the DG's comment, noting that Iran's "peaceful nuclear activities" have been based on "technical" needs and remain supervised by the IAEA. On the other hand, the E3 noted that Iran's stockpile of highly enriched uranium has reached unprecedented levels without any credible civilian justification, giving Iran the capability to rapidly produce sufficient fissile material for multiple nuclear weapons.

Production of Uranium Metal:

The IAEA reported that Iran did not produce any uranium metal during the reporting period.

ANALYSIS OF COMPLIANCE

The United States continues to assess that Iran is not currently manufacturing a nuclear weapon, although it has undertaken activities that better position it to produce one, if it so chooses. If Iran were to manufacture or otherwise acquire a nuclear weapon or other nuclear explosive device, or seek or receive assistance in the manufacture of a nuclear weapon or nuclear explosive device, such action would violate its obligations under Article II of the NPT.

At the end of the reporting period, Iran's unwillingness to provide adequate responses to the IAEA's questions regarding potential undeclared nuclear material and activities at Turqzabad and Varamin; an unanswered discrepancy in the material balance of

uranium involved in undeclared uranium metal production experiments conducted in the past at JHL; and its failure to provide preliminary design information as required under modified code 3.1 of the Subsidiary Arrangement to its CSA constitute a violation of its obligation to accept safeguards under Article III of the NPT.

Iran's continued expansion of its uranium enrichment activities and its stocks of enriched uranium is counterproductive to a diplomatic solution.

EFFORTS TO RESOLVE COMPLIANCE QUESTIONS AND NEXT STEPS

The United States remains committed to ensuring Iran does not acquire a nuclear weapon. We will continue to coordinate with allies and partners to provide the IAEA the support it needs to resolve the serious, outstanding safeguards matters discussed above. The United States has publicly and privately underscored that Iran must immediately and fully cooperate with the IAEA and comply with its obligations under its CSA. Iran is obligated to provide the IAEA with required clarifications and access. The United States has made it clear that any diplomatic solution to Iran's nuclear program must be built on effective verification.

Since June 2020, the United States has supported five IAEA Board of Governors resolutions censuring Iran's failure to cooperate with the Agency's safeguards investigation, the most recent of which was adopted in November 2024.

On June 5, 2024, the IAEA BOG adopted a resolution urging Iran to take the steps necessary to resolve outstanding safeguards issues, as laid out in previous resolutions. Subsequently, on November 21, 2024, the IAEA BOG adopted a resolution censuring Iran for its continued failure to cooperate with the Agency on outstanding safeguards issues and reiterated the importance of Iran's compliance with its safeguards obligations. The Board urged Iran to fulfill its legal obligations and clarify outstanding safeguards issues. Simultaneously, the BOG requested that the IAEA DG produce a comprehensive report on possible undeclared nuclear materials in connection with past and present outstanding issues in Iran by spring 2025.

On November 23, 2024, the United States joined France, Germany, and the United Kingdom to deliver a joint statement to the IAEA Board calling Iran to fully comply with

its safeguards obligations and cooperation with the IAEA's ongoing safeguards investigation without further delay. They stressed that "it is essential and urgent that Iran resolve these issues." The joint statement emphasized that it will be important for the Board to "remain engaged to meet the challenge that Iran's continued refusal to meet its NPT-related nuclear verification obligations would present, including to the credibility of the global IAEA safeguards regime," should Iran not provide the necessary information and cooperation.

On June 14, 2024, in the "G7 Apulia Leaders' Communique," G7 leaders stated that "Iran must engage in serious dialogue and provide convincing assurances that its nuclear program is exclusively peaceful, in full consistency and compliance with the IAEA's monitoring and verification mechanism, including the IAEA Board of Governors' resolution of 5 June."

As of the end of the reporting period, no understanding to address those concerns had been reached.

SYRIAN ARAB REPUBLIC (SYRIA)

FINDING

Syria remains in violation of its obligations under Article III of the NPT. Given the IAEA's detection of particles of chemically-processed uranium compounds at al-Kibar in Deir Governorate and the IAEA's technical finding that the facility destroyed at al-Kibar was very likely a nuclear reactor that should have been declared to the IAEA by Syria, the United States remains concerned regarding whether any undeclared nuclear material might exist in Syria.

CONDUCT GIVING RISE TO COMPLIANCE CONCERNS

Syria failed to declare and provide design information to the IAEA for the construction of the reactor at al-Kibar, which was destroyed in September 2007. However, there is no new compliance information to report for 2024.

ANALYSIS OF COMPLIANCE CONCERNS

Syria accepted safeguards, as set forth in an agreement with the IAEA for the exclusive purpose of verification of the fulfillment of its obligations assumed under the NPT with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices. Syria is required to declare nuclear material, facilities, and activities to the IAEA in accordance with its CSA, and to answer the IAEA's questions. Despite the departure of Bashar al-Assad in December 2024, the United States continues to judge Syria to be in violation of its obligations under Article III of the NPT.

EFFORTS TO RESOLVE COMPLIANCE CONCERNS AND NEXT STEPS

The United States continues to urge Syria to engage in good faith with the IAEA to resolve all compliance concerns under the NPT and ensure continued safeguarding of declared nuclear and radiological materials.

The United States and likeminded partners continue to deliver strong national statements in the IAEA BOG, and in other multilateral fora, as well as to refute misinformation on the issue propagated by Russia, Iran, and – prior to the departure of Assad – by Syria itself. The United States and a number of likeminded partners also called for continued reporting on Syria by the IAEA DG, and for maintaining Syria on the agenda for each quarterly BOG meeting.

The IAEA continues to monitor the site of the former al-Kibar reactor and other locations of safeguards relevance through commercial satellite imagery. The IAEA DG reported that on March 19, 2024, he visited Syria and held discussions with Bashar al-Assad and then-Foreign Minister Faisal Mekdad in Damascus and “agreed a new engagement between the Syrian Arab Republic and the Agency,” which would entail a process of clarification of the pending issues related to past activities in Syria. In late June 2024, Syria conducted technical discussions with the Agency concerning the three locations that were allegedly functionally related to the al-Kibar site, and subsequently was allowed to visit two of the three locations and take environmental samples. Samples for the June visit are currently being analyzed. The IAEA continues to produce an annual report on Syria and to provide an oral update on Syria at each BOG meeting.

The United States continues to support the IAEA's investigation of Syria's undeclared nuclear activities and the DG's efforts to reengage with Syria. In 2024 it mobilized likeminded support for maintaining pressure on Syria to cooperate with the IAEA and worked to ensure that the BOG and DG will 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 testing “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.

Additional information may be provided at a higher classification.

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

FINDING

There are no new compliance developments for 2024. However, previous reports have assessed that Russia has conducted supercritical nuclear weapons tests without TTBT notification since renewing its nuclear explosive testing moratorium in 1996. Concerns remain due to these past activities and the uncertainty and lack of transparency relating to Russia’s 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.

ANALYSIS OF COMPLIANCE CONCERNS

A failure on the part of Russia to provide an accurate annual notification of planned nuclear explosive “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 engage with Russia, as appropriate, in order to address nuclear test site activities of concern relative to the treaty.

NUCLEAR TESTING MORATORIA

For the unclassified Compliance Report, no new adherence issues related to nuclear testing moratoria were identified. Due to the lack of transparency with regard to their respective nuclear testing activities and previously identified adherence issues, the United States remains concerned about China and Russia's adherence to their respective moratoria. See previous years' reports for adherence history and background information.

The United States will continue to engage with China and Russia, as appropriate, in order to address these continued concerns.

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

MISSILE TECHNOLOGY CONTROL REGIME (MTCR)

The MTCR is a voluntary, non-binding arrangement among Partner countries 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 in accordance with each country's national legislation and regulations. The MTCR has no Regime-wide compliance or verification provisions.

Membership in the MTCR has grown to 35 countries since the Regime's creation in 1987. In addition, Cyprus, Estonia, Kazakhstan, and Latvia are recognized as unilateral adherents to the Regime.

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 discussion of other nations' compliance with their obligations under the Chemical Weapons Convention during 2024, 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 2024, there were 186^g States Parties to the BWC and four signatory States for which the treaty is not yet in force.^h In 1987, BWC States Parties 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, and not all States Parties routinely submit reports. CBM submission rates have continued to steadily increase for several years, finally climbing over 100 annual submissions in 2023 and over 110 submissions 2024.

The United States' definition of a state biological warfare 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 biological weapons (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.

^g 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 Depositaries for the BWC, a letter detailing U.S. objections to the purported accession of the "State of Palestine" to the BWC.

^h While outside of the reporting period, we note that Comoros acceded to the BWC in February 2025.

Additional information may be provided at a higher classification.

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

COUNTRY ASSESSMENTS

PEOPLE'S REPUBLIC OF CHINA (CHINA)

FINDING

China previously engaged in activities with potential BW applications, including research of toxins for potential military purposes, which raises concerns regarding its compliance with Article I of the BWC.

In addition, the United States does not have sufficient information to determine whether China has fulfilled its BWC obligation to eliminate its assessed historical biological warfare program, as required under Article II of the Convention.

CONDUCT GIVING RISE TO COMPLIANCE CONCERNS

China became a State Party to the BWC in 1984, and has submitted BWC CBMs each year since 1989, including in 2024. The United States assesses that China possessed an offensive biological warfare program from the 1950s to at least the late 1980s. Historical information suggests that China's BW production occurred at two facilities, in Beijing and Lingbao, prior to China signing the BWC in 1972. Although China has submitted BWC CBMs each year since 1989, China's CBM reporting has never identified these facilities or otherwise disclosed it ever pursued an offensive BW program. However, China reportedly weaponized ricin, botulinum toxins, and the causative agents of anthrax, cholera, plague, and tularemia, as part of its historical biological warfare program. Questions and concerns regarding China's compliance with the BWC have been reported since the 1993 Report.

China's research organizations have been conducting and directing military research related to marine toxins. China's CBMs do not include information on marine toxin

research conducted at Chinese institutions which identify, test, and characterize diverse families of potent toxins.

China probably is unable to make complex scientific equipment without Western innovation. It probably is capable of using publicly available artificial intelligence and machine learning (AI/ML) tools to advance efforts related to BW applications.

ANALYSIS OF COMPLIANCE CONCERNS

In 2024, Chinese military medical institutions conducted toxin and biotechnology research and development with potential BW applications, which raises concern regarding its compliance with Article I of the BWC. This article 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.”

In addition, the United States assesses that China possessed an offensive biological warfare program from the early 1950s to at least the late 1980s. There is no available information to demonstrate that China took steps to fulfill its obligations under Article II of the BWC, which requires it to destroy or to divert to peaceful purposes all items of its past offensive biological warfare program that are specified in Article I.

EFFORTS TO RESOLVE COMPLIANCE CONCERNS AND NEXT STEPS

In November 2024, as part of its National Statement at the Organization for the Prohibition of Chemical Weapon’s 29th Conference of the States Parties (CSP) meeting, the United States highlighted its concerns with China’s interest in pharmaceutical based agents and toxins. The United States will also continue to monitor and report on the China’s biological activities in relation to its compliance with the BWC.

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA (DPRK)

FINDING

The United States assesses that the DPRK has an offensive BW program and is in violation of its obligations under Articles I and II of the BWC. The DPRK is assessed to have had BW capabilities since at least the 1960s.

CONDUCT GIVING RISE TO COMPLIANCE CONCERNS

The DPRK continued its program despite having become a State Party to the BWC in 1987. The DPRK submitted a null CBM report in 1990, where it noted there was nothing relevant to report. It has failed to submit a report since 1990.

The United States assesses that the DPRK has a dedicated, national-level offensive BW program.

The DPRK has the capability to produce biological agents for military purposes.

The DPRK has the technical capability to produce bacteria, viruses, and toxins that could be used as BW agents. The DPRK also has the capability to genetically engineer biological products with technologies such as CRISPR, as reported by its State Academy of Sciences and other sources. Pyongyang probably is capable of weaponizing BW agents with unconventional systems such as sprayers and poison pen injection devices, which have been deployed by the DPRK for delivery of chemical weapons and could be used to covertly deliver BW agents.

The DPRK maintains biotechnology and conventional weapons production infrastructure 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.

ANALYSIS OF COMPLIANCE CONCERNS

The DPRK's activities are in violation of its obligations under Articles I and II of the BWC. Article I requires States Parties "never in any circumstances to develop, produce, stockpile, or otherwise acquire or retain: (1) 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; (2) weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.” Article II requires States Parties to “destroy, or to divert to peaceful purposes” the BW items specified in Article I of the Convention.

EFFORTS TO RESOLVE COMPLIANCE CONCERNS AND NEXT STEPS

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

ISLAMIC REPUBLIC OF IRAN (IRAN)

FINDING

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. 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. It is unknown if Iran’s leadership has set a directive to maintain this flexibility. The United States remains concerned by some of Iran’s public health research and biodefense activities, which could enable research for applications prohibited under the BWC.

CONDUCT GIVING RISE TO COMPLIANCE CONCERNS

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

Iran has engaged in dual-use activities with potential for BW applications. 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 and continue to conduct BW-relevant projects on bioregulators.

The only CBMs submitted by Iran since 2011 were in 2016 and 2021; both were incomplete. 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.” Lack of reporting in Iran’s CBMs contributes to uncertainty about the nature of this work.

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, pharmaceutical production, and biodefense activities allowed under the BWC from those that would be prohibited, the nature of Iran’s sophisticated toxin research and on demand production capacity 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. As appropriate, the United States will continue to assess the feasibility of engaging Iran to clarify activity that may be inconsistent with the BWC. Moreover, the United States will continue to monitor and report, as well as to raise awareness with partners on Iran’s biological activities in relation to its compliance with the BWC. If Iran were to publish consistent and complete CBM reports, such action may help provide clarity on Iran’s activities.

RUSSIAN FEDERATION (RUSSIA)

FINDING

The United States assesses that Russia maintains an offensive biological warfare program and is in violation of its obligations under Articles I and II of the BWC. Russia continues to engage in activities prohibited by Article I of the BWC. Russia has not fulfilled its Article II obligation to destroy or to divert to peaceful purposes BW items specified under Article I of the Convention.

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 past offensive program of biological research and development from the Soviet Union. Russia has not ended all activities prohibited by Article I of the BWC or fulfilled its Article II obligation to destroy or to divert to peaceful purposes BW items specified under Article I of the Convention. Rather, the United States assesses that the Soviet program was absorbed, not dismantled, by the Russian Federation, and that the program has continued and evolved.

Russia's annual CBM submissions have consistently reported "nothing new to declare" with respect to its biodefense research and development programs. Russia is extensively modernizing Soviet-era biological warfare infrastructure that could support its present-day offensive program. The multi-million dollar renovations to the Ministry of Defense (MOD)-related 48th Central Scientific Research Institute in Sergiyev Posad continued in 2024. This facility, formerly known as the Soviet Center of Virology in Zagorsk, was historically dedicated to the study and weaponization of viruses and Rickettsia. Russia has never revealed the existence of or testing at any of its MOD sites in its CBM submissions, despite its continued sensitive research and development of biological agents and its leading role in the Soviet Union's offensive biological warfare program.

ANALYSIS OF COMPLIANCE CONCERNS

Article I of the BWC requires a State Party “never in any circumstances to develop, produce, stockpile or otherwise acquire or retain... (1) 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; (2) weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.” Article II requires States Party to “destroy, or to divert to peaceful purposes” the BW items specified in Article I.

While States Parties to the BWC have a political commitment to report a past offensive program, since Yeltsin’s announcement confirming the existence of a Soviet BW program in 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 legislation criminalizing any disclosure of information about the former Soviet program. Key military biological facilities associated with the Soviet offensive program remain, inaccessible and not transparent, nearly 30 years after Yeltsin’s decree. The available evidence indicates that Russia has not fulfilled its obligations under Article II to “destroy, or to divert to peaceful purposes” the BW specified in Article I of the Convention that it inherited from the Soviet Union. Instead, the knowledge and capabilities Russia has retained from its inherited program have enabled it to develop a highly capable state BW program, able to produce and deploy BW agents to support a range of military objectives.

Ongoing modernization work conducted at Russia’s 48th Central Scientific Research Institute facilities also raise serious concerns about Russia’s activities with respect to the BWC and Moscow’s broader programmatic ambitions.

EFFORTS TO RESOLVE COMPLIANCE CONCERNS AND NEXT STEPS

In 2024, there were no discussions with Russia on its BWC noncompliance. The United States will continue to monitor Russia’s BW program and will seek to engage Russia on its BWC obligations, as appropriate. The United States has imposed a range of

sanctions on Russia in response to Moscow's chemical and biological weapons activities, most recently on May 1, 2024. During the reporting period, the United States designated three Russian Federation government entities associated with Russia's chemical and biological weapons programs and four Russian companies providing support to such entities. Pursuant to a separate WMD non-proliferation authority, the United States designated three entities and two individuals involved in procuring items for military institutes involved in Russia's chemical and biological weapons programs.

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 further developed and revised the commitments adopted in the previous four versions of the Vienna Document. The confidence- and security-building measures (CSBMs) adopted by the OSCE's Forum for Security Cooperation (FSC) and contained in VD11 and subsequent Vienna Document Plus decisions are political commitments, and are not legally binding upon the participating States.ⁱ

Throughout the reporting period, the United States conducted proactive, direct outreach to certain states to promote improved or new participation in this and other confidence-building regimes, and is considering extending this outreach effort to include additional chronic VD11 non-adherence cases reported below.

For 2024, Turkmenistan submitted its required VD11 annual reports, maintaining the positive trajectory begun last year toward adhering to its commitments. In consultations, Turkmenistan expressed its intention to achieve full adherence to other VD11 commitments. Turkmenistan also accepted all inbound inspections, including United States government inspectors on a Lithuanian-led Vienna Document Inspection.

While no issues emerged in Belarus's adherence to VD11 commitments in calendar year 2024, adherence issues from calendar year 2022 were not resolved. Notably, the 2023 Compliance Report covering calendar year 2022 reported three findings with

ⁱ As this report covers the period from January 1, 2024 to December 31, 2024, the annual VD11 exchange of data pertinent to the reporting period was held on December 15, 2023, for participating States with military forces in the VD11 zone of application to provide data effective as of January 1, 2024. In some instances, important developments reflected in data effective as of January 1, 2025 (provided as part of the annual exchange on December 15, 2024) are noted; in most cases, however, changes to adherence concerns based on this data will be included in next year's Report.

respect to Belarus' VD11 adherence: 1) the failure to notify an above-threshold military activity occurring on its territory in an accurate and timely manner, namely, the concentration of formations of Russian land forces preparing to attack Ukraine; 2) the failure to invite observers from all participating States to observe this military activity; and 3) the failure to "consult and cooperate" with participating States in good faith under the VD11 risk reduction mechanism invoked by Belarus' Baltic neighbors. The Baltic States requested information on exercise UNION RESOLVE concerning the number, disposition, and timetable for redeployment of forces situated near the Belarus-Ukraine border.

By the end of the 2024 reporting period, Armenia, Poland, Russia, and Tajikistan maintained official COVID-19-related pauses for VD11 on-site activities, although Poland and Tajikistan permitted certain VD11 activities to occur on their territory in 2024. Tajikistan accepted an inspection when requested by Greece and the United States. No participating States sought to conduct VD11 on-site verification activities on the territory of Armenia, Poland, or Russia in 2024. However, Poland voluntarily hosted an observation of a military activity. Azerbaijan extended its special quarantine regime until January 1, 2025, while adhering to all VD11 commitments in calendar year 2024.

Additional information may be provided at a higher classification.

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

COUNTRY ASSESSMENTS

REPUBLIC OF ARMENIA (ARMENIA)

FINDING

In 2024, Armenia did not adhere to VD11 commitments. In particular, Armenia did not provide annual VD11 data on its armed forces, nor any other required information or notifications. Armenia also did not notify at least one major military exercise or activity in calendar year 2024. Armenia has failed to submit its annual data since December 15, 2019.

CONDUCT GIVING RISE TO ADHERENCE CONCERNS

In 2024, Armenia did not provide its annual VD11 submissions, including its annual military information and other required notifications. It last provided its military data effective as of January 1, 2020. In calendar years 2020, 2021, 2022, 2023, and 2024, Armenia notified a delay of unspecified duration in providing its VD11 data, citing its ongoing conflict with Azerbaijan as the cause. It has provided no further updates on the subject since. On December 15, 2024, Armenia failed to provide its annual military information for 2025.

Armenia reported on July 29, 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.

ANALYSIS OF ADHERENCE CONCERNS

Per VD11 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. Armenia failed to provide its annual data for 2024 on December 15, 2023, and failed to provide its annual data for 2025 on December 15, 2024.

Per VD11 Chapter II, paragraph 15, participating States will exchange annually information on their defense policy and doctrine, force planning, previous expenditures,

and budgets. Armenia did not provide this information in 2024, or indicate when the submission would be made if it was delayed.

Per VD11 Chapter VII, paragraphs 61 and 62, each participating State will either exchange an annual calendar of its military activities subject to prior notification or else notify the absence of such planned activity. Armenia failed to send either such notification.

Per the FSC's 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.

EFFORTS TO RESOLVE ADHERENCE CONCERNS AND NEXT STEPS

Recent diplomatic outreach suggests that Armenia does not intend to restart full implementation of VD11 in 2025, but it might be open to bilateral activities with specific partners.

KYRGYZ REPUBLIC

FINDING

In 2024, the Kyrgyz Republic did not adhere to VD11 commitments. In particular, the Kyrgyz Republic has not provided annual VD11 data on its armed forces, nor any other required information or notifications. The Kyrgyz Republic has not provided this information since 2014. The Kyrgyz Republic also did not notify at least one major military exercise or activity in calendar year 2024 despite conducting exercises.

CONDUCT GIVING RISE TO ADHERENCE CONCERNS

In 2024, the Kyrgyz Republic did not provide its annual VD11 submissions, including its annual military information and other required notifications for 2024. It last provided its military data effective as of January 1, 2014. The Kyrgyz Republic remained disconnected from the OSCE communication network and did not send any VD11 notifications in 2024.

The Kyrgyz Republic hosted military exercises and drills with Collective Security Treaty Organization (CSTO) member states in September 2024. The 2024 CSTO military trainings “Interaction-2024,” “Search-2024,” and “Echelon-2024” started in the Kyrgyz Republic, according to CSTO press releases. The Kyrgyz Republic did not notify any of these exercises under VD11.

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. The Kyrgyz Republic 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, 2024.

Per VD11 Chapter II, paragraph 15, participating States will exchange annually information on their defense policy and doctrine, force planning, previous expenditures, and budgets. The Kyrgyz Republic did not provide this information in 2024, or indicate when the submission would be made if it was delayed.

Per VD11 Chapter VII, paragraphs 61 and 62, each participating State will either exchange an annual calendar of its military activities subject to prior notification or else notify the absence of such planned activity. The Kyrgyz Republic failed to send either such notification.

Per the FSC’s 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. The Kyrgyz Republic held at least one military activity that should have been notified per this commitment.

EFFORTS TO RESOLVE ADHERENCE CONCERNS AND NEXT STEPS

In 2024, the United States proactively addressed VD11 adherence issues with the Kyrgyz Republic and engaged with the Minister of Foreign Affairs (MFA). The United States aimed to facilitate the Kyrgyz Republic’s return to adherence by raising awareness, enhancing proficiency, and offering ways to build capacity.

The United States will continue to encourage the Kyrgyz Republic to implement its Vienna Document commitments. The United States will seek opportunities to engage Kyrgyz Republic representatives at future meetings of the OSCE's FSC. These meetings include the FSC's Annual Implementation Assessment Meeting and the OSCE VD11 data exchange, to encourage the Kyrgyz Republic and other participating States to provide CSBM data on a timely basis, consistent with their VD11 commitments. The United States will continue to encourage other states to engage the Kyrgyz Republic on this topic as well.

RUSSIAN FEDERATION (RUSSIA)

FINDING

In 2024, Russia did not adhere to its VD11 commitments. In particular, Russia failed to submit its annual VD11 data on its armed forces, including to those participating States that provided Russia with their own data. Russia also failed to provide any other required information or notifications under VD11 beyond the quarterly summary of notifications messages, which included nothing beyond the prior quarterly summary of notifications, which include roll-up messages.

Russia's failure to provide its annual data makes it challenging to assess further developments with respect to Russia's adherence.

CONDUCT GIVING RISE TO ADHERENCE CONCERNS

On January 15, 2024, Russia sent a letter to the OSCE's FSC Chair stating it would not provide national information about its armed forces for 2024, as required by VD11 Chapter I. Russia claimed its decision not to provide VD11 data was in reaction to several participating States suspending their own implementation of VD11 commitments towards Russia citing its full-scale invasion of Ukraine. On December 15, 2024, Russia failed to provide its annual military information for 2025.

In the 2022 report, Russia was cited for its failure to participate in the VD11 paragraph 16 risk reduction mechanism initiated by Ukraine in February 2022. This issue was not resolved. Ukraine did not initiate the risk reduction mechanism in 2024.

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. Russia has not provided its annual VD11 data since December 15, 2021, for calendar year 2022.

Per VD11 Chapter II, paragraph 15, participating States will exchange annually information on their defense policy and doctrine, force planning, previous expenditures, and budgets. Russia did not provide this information in 2024, or indicate when the submission would be made if it was delayed.

Per VD11 Chapter VII, paragraphs 61 and 62, each participating State will either exchange an annual calendar of its military activities subject to prior notification or else notify the absence of such planned activity. Russia failed send to either such notification.

Per the FSC's 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.

EFFORTS TO RESOLVE ADHERENCE CONCERNS AND NEXT STEPS

During 2024, the United States and other likeminded OSCE participating States continued to deliver strong national statements at the OSCE, including in the FSC, on the grave issues of Russia's full-scale invasion of Ukraine and attempted annexation of Crimea and other parts of Ukrainian territory.

The first step toward Russia's return to full adherence to the Vienna Document and other OSCE commitments is to end its invasion and occupation of Ukrainian territory. The United States strongly supports a peaceful and durable end to the war.

The United States will continue to engage at the OSCE and in other fora to identify and seek to address ongoing concerns with Russian non-adherence to VD11. The United States will continue to work alongside Allies and partners bilaterally and multilaterally.

REPUBLIC OF UZBEKISTAN (UZBEKISTAN)

FINDING

Uzbekistan did not adhere to its VD11 commitments in 2024. It did not provide annual data on its armed forces or other required information or notifications. Uzbekistan also did not notify any major military exercises or activities for calendar year 2024 despite hosting exercises in Uzbekistan with India.

CONDUCT GIVING RISE TO ADHERENCE CONCERNS

In 2024, Uzbekistan did not provide its annual VD11 submissions, including annual calendar, military information, and defense planning information. It has not provided its annual VD11 military information since a late submission on February 12, 2003, when it provided data effective as of January 1, 2003.

Uzbekistan did not notify any major military exercises or activities for 2024. However, Uzbekistan hosted Joint Military Exercise Dustlik with India at the Termez District in Uzbekistan from April 15-28, 2024.

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. 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 VD11 Chapter II, paragraph 15, participating States will exchange annually information on their defense policy and doctrine, force planning, previous expenditures, and budgets. Uzbekistan did not provide this information in 2024, or indicate when the submission would be made if it was delayed.

Per VD11 Chapter VII, paragraphs 61 and 62, each participating State will either exchange an annual calendar of its military activities subject to prior notification or else

notify the absence of such planned activity. Uzbekistan failed send to either such notification.

Per the FSC's 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. Uzbekistan should have notified at least one exercise for 2024.

EFFORTS TO RESOLVE ADHERENCE CONCERNS AND NEXT STEPS

In 2024, the United States proactively addressed VD11 adherence issues with Uzbekistan in Washington, D.C. The United States aimed to facilitate Uzbekistan's return to adherence by raising awareness, enhancing proficiency, and offering ways to build capacity.

The United States will continue to encourage Uzbekistan to implement its Vienna Document commitments. The United States will seek opportunities to engage Uzbek representatives at future meetings. Opportune meetings include the FSC's Annual Implementation Assessment Meeting and the OSCE VD11 annual data exchange. The United States will encourage Uzbekistan and other participating States with armed forces in the Vienna Document zone of application to provide CSBM data on a timely basis consistent with their VD11 commitments. The United States will continue to encourage other states to engage Uzbekistan on this topic as well.

TREATY ON CONVENTIONAL ARMED FORCES IN EUROPE (CFE)

The Report on Compliance with the Treaty on Conventional Armed Forces in Europe during 2024, 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”), will be submitted separately.

**U.S. Department of State
April 2025**