## Strategic nuclear forces

### Specific capabilities, distinguishes from nuclear forces

#### Includes ICBMs, SLBMs, B-52, FB-111, and associated facilities.

John B. Shewmaker and Mary R. Tietz 78. \*\*Congressional Budget Office. \*\*Congressional Budget Office. “Retaliatory Issues for the U.S. Strategic Nuclear Forces.” June 1978. https://permanent.fdlp.gov/gpo14465/78-CBO-002.pdf

The military forces of the United States—both strategic nuclear and general purpose—provide the nation with the capability to threaten, attack, or resist other nations. I/

**---[FOOTNOTE ONE BEGINS]---**

U.S. military forces are usually divided into two broad ~ categories: strategic nuclear and general purpose. The strategic nuclear forces include intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), B-52 and FB-111 bombers, air defense missiles and interceptors defending North America, and the associated units and facilities required to control and support these forces. (See the Glossary for descriptions of weapons systems discussed in this paper.) The remaining U.S. air, sea, arid ground forces are termed "general purpose forces." The term "strategic nuclear forces" is used rather than "nuclear forces" because the general purpose forces include a number of shorter-range systems—such as nuclear artillery, nuclearcapable fighter/attack aircraft, and short-range missiles— that are capable of delivering nuclear weapons.

**---[FOOTNOTE ONE ENDS]---**

Because U.S. forces are large and diverse, the range of options they offer is broad. The perception that the United States has capable forces that can be used in many areas and circumstances serves to deter adversaries and reassure allies, thereby helping to maintain the security of the nation and achieve some valuable international political objectives.

Strategic nuclear forces play various roles in shaping perceptions, providing deterrence by threats of retaliation, and destroying targets in wartime. This paper focuses on the retaliatory role of strategic nuclear forces—that is, how they deter Soviet nuclear attacks by providing the United States with the capability to destroy people, industrial targets, and military forces in the Soviet Union, even after U.S. forces have themselves been attacked by a Soviet "first strike."

## Stockpile

### Includes deployed weapons/ hedge, excludes dismantled

#### The stockpile includes both deployed and stored weapons (the “hedge”), and is distinct from weapons awaiting dismantlement

Kristensen & Korda ’23 [Hans M. Kristensen, Director, Nuclear Information Project, Federation of American Scientists, and Matt Korda, Senior Research Associate, Nuclear Information Project, Federation of American Scientists, “Nuclear Notebook: United States nuclear weapons, 2023,” BULLETIN OF THE ATOMIC SCIENTISTS, 1—16—23, <https://thebulletin.org/premium/2023-01/nuclear-notebook-united-states-nuclear-weapons-2023>, accessed 6-2-23]

At the beginning of 2023, the US Department of Defense maintained an estimated stockpile of approximately 3,708 nuclear warheads for delivery by ballistic missiles and aircraft. Most of the warheads in the stockpile are not deployed but rather stored for potential upload onto missiles and aircraft as necessary. We estimate that approximately 1,770 warheads are currently deployed, of which roughly 1,370 strategic warheads are deployed on ballistic missiles and another 300 at strategic bomber bases in the United States. An additional 100 tactical bombs are deployed at air bases in Europe. The remaining warheads — approximately 1,938 — are in storage as a so-called hedge against technical or geopolitical surprises. Several hundred of those warheads are scheduled to be retired before 2030. (See Table 1.)

In addition to the warheads in the Department of Defense stockpile, approximately 1,536 retired — but still intact — warheads are stored under the custody of the Department of Energy and are awaiting dismantlement, giving a total US inventory of an estimated 5,244 warheads. Between 2010 and 2018, the US government publicly disclosed the size of the nuclear weapons stockpile; however, in 2019 and 2020, the Trump administration rejected requests from the Federation of American Scientists to declassify the latest stockpile numbers (Aftergood 2019; Kristensen 2019a, 2020d). In 2021, the Biden administration restored the United States’ previous transparency levels by declassifying both numbers for the entire history of the US nuclear arsenal until September 2020 — including the missing years of the Trump administration. This effort revealed that the United States’ nuclear stockpile consisted of 3,750 warheads in September 2020 — only 72 warheads fewer than the last number made available in September 2017 before the Trump administration reduced the US government’s transparency efforts (US State Department 2021a). We estimate that the stockpile will continue to decline over the next decade-and-a-half as modernization programs consolidate the remaining warheads.

#### Above

U.S. Department of State ’15 [Under Secretary for Arms Control and International Security, Bureau of International Security and Nonproliferation (ISN), Nuclear Nonproliferation Treaty, 2015 Review Conference, “Transparency in the U.S. Nuclear Weapons Stockpile,” 2015, <https://2009-2017.state.gov/t/isn/npt/statements/241165.htm>, accessed 6-2-23]

The United States is releasing newly declassified information on the U.S. nuclear weapons stockpile to update the information released in April 2014. Increasing the transparency of global nuclear stockpiles is important to nonproliferation efforts, including commitments under the Nuclear Non-Proliferation Treaty, and the pursuit of further reductions that cover all nuclear weapons: deployed and non-deployed, strategic and non-strategic.

Stockpile. As of September 2014, the U.S. stockpile of nuclear warheads consisted of 4,717 warheads. This number represents an 85 percent reduction in the stockpile from its maximum (31,255) at the end of fiscal year 1967, and a 78 percent reduction from its level (22,217) when the Berlin Wall fell in late 1989. The below figure shows the U.S. nuclear stockpile from 1945 through September 30, 2014.

Warhead Dismantlement. From fiscal years 1994 through 2014, the United States dismantled 10,251 nuclear warheads. Since September 30, 2013, the United States has dismantled 299 nuclear warheads. Approximately 2,500 additional nuclear warheads are currently retired and awaiting dismantlement.

Non-Strategic Nuclear Weapons. The number of U.S. non-strategic nuclear weapons has declined by more than 90 percent since September 30, 1991.

<<tables omitted>>

Definitions

The nuclear stockpile includes both active and inactive warheads. Active warheads include strategic and non-strategic weapons maintained in an operational, ready-for-use configuration, warheads that must be ready for possible deployment within a short timeframe, and logistics spares. They have tritium bottles and other Limited Life Components installed. Inactive warheads are maintained at a depot in a non-operational status, and have their tritium bottles removed. A retired warhead is removed from its delivery platform, is not functional, and is not considered part of the nuclear stockpile. Warheads awaiting dismantlement constitute a significant fraction of the total warhead population and will continue to grow as the New START Treaty is implemented and as unneeded warheads are retired. A dismantled warhead is a warhead reduced to its component parts.

#### “Stockpile” means warheads assigned to operational forces—“nuclear forces” includes the stockpile plus warheads awaiting dismantlemnet

Kristensen et al. ’23 [Hans . Kristensen, Director, Nuclear Information Project, Federation of American Scientists, “Status of World Nuclear Forces,” Federation of American Scientists, 3—31—23, <https://fas.org/initiative/status-world-nuclear-forces/>, accessed 6-2-23]

Who owns the world’s nuclear weapons?

Despite progress in reducing nuclear weapon arsenals since the Cold War, the world’s combined inventory of nuclear warheads remains at a very high level: nine countries possessed roughly 12,500 warheads as of early-2023.

Combined, the United States and Russia now possess approximately 89 percent of the world’s total inventory of nuclear weapons, and 86 percent of the stockpiled warheads available for use by the military. Currently, no other nuclear-armed state sees a need for more than a few hundred nuclear weapons for national security, although many of these states are increasing their nuclear stockpiles.

Globally, the overall inventory of nuclear weapons is declining, but the pace of reductions is slowing compared with the past 30 years. Moreover, these reductions are happening only because the United States and Russia are still dismantling previously retired warheads.

In contrast to the overall inventory of nuclear weapons, the number of warheads in global military stockpiles – which comprises warheads assigned to operational forces – is increasing once again. The United States is still reducing its nuclear stockpile slowly. France and Israel have relatively stable inventories. But China, India, North Korea, Pakistan and the United Kingdom, as well as possibly Russia, are all thought to be increasing their stockpiles (see map):

<<map omitted>>

Of the world’s approximate 12,500 nuclear warheads, roughly 9,576 are in the military stockpiles for use by missiles, aircraft, ships and submarines. The remaining warheads have been retired but are still relatively intact and are awaiting dismantlement). Of the 9,576 warheads in the military stockpiles, some 3,804 are deployed with operational forces (on missiles or bomber bases). Of those, approximately 2,000 US, Russian, British and French warheads are on high alert, ready for use on short notice (see table):

<<table omitted>>

The exact number of nuclear weapons in each country’s possession is a closely held national secret, so the estimates presented here come with significant uncertainty. Most nuclear-armed states provide essentially no information about the sizes of their nuclear stockpiles. Yet the degree of secrecy varies considerably from country to country. Between 2010 and 2018, the United States disclosed its total stockpile size, but in 2019 the Trump administration stopped that practice. In 2020, the Biden administration restored nuclear transparency – a brief victory for nuclear accountability in a democratic country – but then declined to declassify any US stockpile data for 2021 or 2022. Similarly, in 2021 the United Kingdom announced that it would no longer disclose public figures for its operational stockpile, deployed warhead or deployed missile numbers. Additionally, as of 2023 both the United States and Russia have elected to no longer exchange publicly-available data about their deployed strategic warheads and launchers as mandated by the New START Treaty.

### Labs, productions, weapons

#### Stockpile is labs, productions, and the weapons.

50 US Code 2538 (The Law. “Advice to President and Congress regarding safety, security, and reliability of United States nuclear weapons stockpile” https://www.law.cornell.edu/uscode/text/50/2538)//RJG

2)Nuclear weapons stockpile

**It is in the security interest of the United States to sustain the United States nuclear weapons stockpile through a program of stockpile stewardship, carried out at the national security laboratories and nuclear weapons production facilities**.

(3)Sense of Congress

It is the sense of Congress that—

(A)the United States should retain a triad of strategic nuclear forces sufficient to deter any future hostile foreign leadership with access to strategic nuclear forces from acting against the vital interests of the United States;

(B)the United States should continue to maintain nuclear forces of sufficient size and capability to implement an effective and robust deterrent strategy; and

(C)the advice of the persons required to provide the President and Congress with assurances of the safety, security, effectiveness, and reliability of the nuclear weapons force should be scientifically based, without regard for politics, and of the highest quality and integrity.

### --Includes subset activities

#### Legally stockpile is all subset activities.

US Code 50, 2018 (The Law. https://www.govinfo.gov/content/pkg/USCODE-2021-title50/pdf/USCODE-2021-title50-chap42-subchapII-partA-sec2523.pdf)//RJG

**The Administrator, in consultation with the Secretary of Defense and other appropriate officials of the departments and agencies of the Federal Government, shall develop and annually update a plan for sustaining the nuclear weapons stockpile**. **The plan shall cover, at a minimum, stockpile stewardship, stockpile management, stockpile responsiveness, stockpile surveillance, program direction, infrastructure modernization, human capital, and nuclear test readiness**. The plan shall be consistent with the programmatic and technical requirements of the most recent annual Nuclear Weapons Stockpile Memorandum.

#### Stockpile includes labs and all subsidiary activity

US Code 50, 2018 (The Law. https://www.govinfo.gov/content/pkg/USCODE-2021-title50/pdf/USCODE-2021-title50-chap42-subchapII-partA-sec2523.pdf)//RJG

1) **With respect to stockpile stewardship, stockpile management, and stockpile responsiveness**—

(A**) the status of the nuclear weapons stockpile, including the number and age of warheads (including both active and inactive) for each warhead type**; (B) for each five-year period occurring during the period beginning on the date of the report and ending on the date that is 20 years after the date of the report—

(i) **the planned number of nuclear warheads** (including active and inactive) for each warhead type in the nuclear weapons stockpile; and (ii) the past and projected future total lifecycle cost of each type of nuclear weapon;

(C) the status, plans, budgets, and schedules for warhead life extension programs and any other programs to modify, update, or replace warhead types;

(D) a description of the process by which the Administrator assesses the lifetimes, and requirements for life extension or replacement, of the nuclear and non-nuclear components of the warheads (including active and inactive warheads) in the nuclear weapons stockpile;

(E) **a description of the process used in recertifying the safety, security, and reliability of each warhead type in the nuclear weapons stockpile;**

(F) any concerns of the Administrator that would affect the ability of the Administrator to recertify the safety, security, or reliability of warheads in the nuclear weapons stockpile (including active and inactive warheads);

(G**) mechanisms to provide for the manufacture, maintenance, and modernization of each warhead type in the nuclear weapons stockpile, as needed;**

(H**) mechanisms to expedite the collection of information necessary for carrying out the stockpile management program** required by section 2524 of this title, including information relating to the aging of materials and components, new manufacturing techniques, and the replacement or substitution of materials;

(I**) mechanisms to ensure the appropriate assignment of roles and missions for each national security laboratory and nuclear weapons production facility, including mechanisms for allocation of workload, mechanisms to ensure the carrying out of appropriate modernization activities, and mechanisms to ensure the retention of skilled personnel**;

(J**) mechanisms to ensure that each national security laboratory has full and complete access to all weapons data to enable a rigorous peer-review process to support the annual assessment of the condition of the nuclear weapons stockpile required under section 2525 of this title**;

## Nuclear delivery systems

### Includes the triad, excludes stockpile

#### Nuclear delivery systems means the Triad. Triad is a subset of the nuclear deterrent.

Pub. L. 114–92, div. A, title XVI, §1664, Nov. 25, 2015, 129 Stat. 1128, provided that:

"(a) Sense of Congress.—It is the sense of Congress that—

"(1) **the triad of strategic nuclear delivery systems plays a critical role in ensuring the national security of the United States; and**

"(2) **retaining all three legs of the nuclear triad is among the highest priorities of the Department of Defense and will best maintain strategic stability at a reasonable cost, while hedging against potential technical problems and vulnerabilities**.

"(b) **Statement of Policy.—It is the policy of the United States—**

**"(1) to operate, sustain, and modernize or replace the triad of strategic nuclear delivery systems consisting of**—

"(A) heavy bombers equipped with nuclear gravity bombs and air-launched nuclear cruise missiles;

"(B) land-based intercontinental ballistic missiles equipped with nuclear warheads that are capable of carrying multiple independently targetable reentry vehicles; and

"(C) ballistic missile submarines equipped with submarine launched ballistic missiles and multiple nuclear warheads;

"(2) to operate, sustain, and modernize or replace a capability to forward-deploy nuclear weapons and dual-capable fighter-bomber aircraft;

"(3) to deter potential adversaries and assure allies and partners of the United States through strong and long-term commitment to the nuclear deterrent of the United States and the personnel, systems, and infrastructure that comprise such deterrent;

"(4) **to ensure that the members of the Armed Forces who operate the nuclear deterrent of the United States have the training, resources, and national support required to execute the critical national security mission of the members;** and

"(5) to achieve a modern and responsive nuclear infrastructure to support the full spectrum of deterrence requirements."

Pub. L. 113–291, div. A, title XVI, §1652, Dec. 19, 2014, 128 Stat. 3654, provided that: "It is the policy of the United States— [REPEATS]

#### Nuclear Deterrent is distinct from the stockpile.

50 US Code 2538 (The Law. “Advice to President and Congress regarding safety, security, and reliability of United States nuclear weapons stockpile” https://www.law.cornell.edu/uscode/text/50/2538)//RJG

(a)Policy

(1)In general

It is the policy of the United States—

(A)to maintain a safe, secure, effective, and reliable nuclear weapons stockpile; and

(B)as long as other nations control or actively seek to acquire nuclear weapons, to retain a credible nuclear deterrent.

## Nuclear forces / structure

### ‘Nuclear Force Structure’

#### Includes quality, quantity, and type of nukes and delivery platforms. Excludes doctrine and security apparatus

Gartzke et al 14 – Department of Political Science, University of California, San Diego

Erik Gartzke, Jeffrey M. Kaplow, and Rupal N. Mehta, “The Determinants of Nuclear Force Structure,” The Journal of Conflict Resolution, April 2014, Vol. 58, No. 3, Special Issue: Nuclear Posture, Nonproliferation Policy, and the Spread of Nuclear Weapons (April 2014), pp. 481-508, https://www.jstor.org/stable/24545649

States that have acquired nuclear weapons must confront the complicated and important question of how to structure their nuclear arsenals.1

[[Begin FN 1]]

1. Analysts use varying definitions of nuclear force structure, including everything from simple weapon counts to the entire command, control, and intelligence infrastructure behind these weapons. We see nuclear force structure broadly as describing the quality, quantity, and type of nuclear weapons and delivery platforms deployed by a state. At the same time, this definition excludes questions of nuclear doctrine and the larger national security apparatus.

[[End FN 1]]

Some states, such as the United Kingdom, field only a small number of nuclear platforms, while others, such as the United States and the Soviet Union, establish diverse portfolios of weapons with varying range, destructive power, and other characteristics.2 Nuclear states differ dramatically not only in the number of nuclear platforms they deploy but also in the relative weight they place on particular weapon systems and on each component of the nuclear triad (air-, land-, and sea-based weapons).3 These characteristics have also changed over time—nuclear forces that seem appropriate in one strategic environment may be made redundant or obsolete by the introduction of new technologies or by cycles of crisis and détente. Variation across nations and time raises several key questions: Why do states deploy the nuclear force structures they do? What drives the decisions of states to invest in new nuclear platforms? How do officials think about the diversification of their nuclear portfolios?

#### Includes both nuclear warheads and delivery units

FAS 2011 – Federation of American Scientists

“Chapter 3: U.S. Nuclear Forces,” in *The Nuclear Matters Handbook: Expanded Edition*, Federation of American Scientists, 2011, <https://man.fas.org/eprint/NMHB2011.pdf>

3.5 Nuclear Weapons Force Structure

The U.S. nuclear force structure includes both nuclear warheads, which have been discussed above, and the units that can deliver the nuclear warheads to a target, if and when approved by the president. These delivery units consist of the launch platforms, delivery vehicles, support equipment, and the personnel required to accomplish the employment mission. Among other things, the delivery units have a staff that supports the commander for various functions, such as human resources, intelligence, delivery operations, security, training, and supply. The units also have technical and operational procedures, a security system, and a personnel support system that provides for the care of the unit’s personnel. The remainder of this section will focus on nuclear delivery systems.

### ‘Nuclear forces’---2022 NPR

#### Note: term “nuclear forces” appears 34 times in the context of the U.S., Russian, and Chinese assets, but is NOT defined in the document

#### Forces is used in the NPR

U.S. Department of Defense ’22 [U.S. Department of Defense, “2022 Nuclear Posture Reivew,” 2022 NATIONAL DEFENSE STRATEGY OF THE UNITED STATES OF AMERICA, INCLUDING THE 2022 NUCLEAR POSTURE REVIEW AND THE 2022 MISSILE DEFENSE REVIEW, 2022, <https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.PDF>, accessed 6-2-23]

Since the end of the Cold War, the United States has substantially reduced the size and diversity of its nuclear forces, narrowed the circumstances under which it would consider employing these forces, actively sought reciprocal force reductions with Russia, and made progress in global nonproliferation and risk reduction. Unlike some of its competitors, the United States will not use nuclear weapons to intimidate others or as part of an expansionist security policy. This policy of restraint continues to shape the role of nuclear weapons in U.S. strategy. The United States is committed to taking steps to reduce the role of nuclear weapons in our strategy as well as the risks of nuclear war, while also ensuring our strategic deterrent remains safe, secure, and effective, and our extended deterrence commitments remain strong and credible.

### ‘Nuclear forces’---broad

#### “Nuclear forces” means delivery platforms, weapons, support systems, C&C assets, and military infrastructure.

Roberts et al. 23 [Brad Roberts, study group chair and Director, Center for Global Security Resarch, Ph.D., Director of the Center for Global Security Research at Lawrence Livermore National Laboratory. Prior to this position, he was deputy assistant secretary of defense for Nuclear and Missile Defense Policy.

Brad, March 2023, “China’s Emergence as a Second Nuclear Peer,” CGSR Study Group Report, p. 34, <https://cgsr.llnl.gov/content/assets/docs/CGSR_Two_Peer_230314.pdf>.

Are existing and planned U.S. strategic nuclear force fit for the purpose of deterring and, if necessary, defeating two near peers simultaneously?

Does the United States have sufficient weapons of the right types, and will possess sufficient weapons as it modernizes? If not, what changes are needed?

The term “nuclear forces” refers here to the delivery platforms (bombers and ballistic missile submarines), weapons (warheads and bombs) mated to delivery systems (e.g., SLBMs and ICBMs), support systems (e.g., tankers), command and control assets, and associated military infrastructure necessary to conduct nuclear combat operations. The platforms and weapons can conceptually be split into two components: those that are operationally deployed and those that are not operationally deployed. The operationally-deployed component is readily available (immediately or within a few days), while the non-deployed component may take weeks to years to become operational.

#### Parts of armed services equipped with strategic or tactical nuclear weapons

NATO ’07 [staff, ““Non-NATO Nuclear Terms and Definitions,” Appendix 2, NATO/RUSSIA UNCLASSIFIED, Part 1, p. 1-20, <https://www.nato.int/docu/glossary/eng-nuclear/nuc_glos-e.pdf>, accessed 6-2-23]

References:

USIA : U.S. Information Agency – Arms Control and Disarmament – Glossary of Terms

USDoD : U.S. Department of Defense Dictionary of Military and Associated Terms

CP&MT : NATO-Russia Glossary of Contemporary Political and Military Terms

nuclear forces

A collective term for the armed services, arms or branches, major formations, tactical formations and units equipped with nuclear weapons, whether strategic or tactical. In the Russian Federation, nuclear forces include the Strategic Missile Forces, strategic aviation, submarines armed with nuclear ballistic missiles and all major formations, tactical formations and units equipped with substrategic nuclear weapons (CP&MT).

#### Strategic + nonstrategic + C&C

U.S. Department of Defense ’18 [U.S. Department of Defense, “21st Century Nuclear Deterrence & Missile Defense,” 2018 ,https://dod.defense.gov/News/Special-Reports/21st-Century-Nuclear-Deterrence-and-Missile-Defense/, accessed 6-2-2023, date confirmed at www.archive.org]

NUCLEAR FORCES

A combination of flexible, diverse and resilient nuclear forces underpins effective deterrence. Intercontinental ballistic missiles on land and at sea, strategic bombers, nonstrategic nuclear forces, and a robust command and control system constitute U.S. nuclear forces.

### ‘Nuclear forces’---Typology

#### Typology of how Russia and nuclear NATO members define “nuclear forces”

NATO ’07 [staff, “Definitions of Nuclear Forces,” Appendix 3, NATO/RUSSIA UNCLASSIFIED, Part 1, p. 1-26 to 1-28, <https://www.nato.int/docu/glossary/eng-nuclear/nuc_glos-e.pdf>, accessed 6-2-23]

References:

USIA : U.S. Information Agency – Arms Control and Disarmament – Glossary of Terms

USDoD : U.S. Department of Defense Dictionary of Military and Associated Terms

CP&MT : NATO-Russia Glossary of Contemporary Political and Military Terms

France

A strategic nuclear weapon is a weapon to whose use or threat of use only the highest authority of the State can resort, conceptually and structurally. The definition of the strategic nuclear weapon is fundamentally linked to France's doctrine of deterrence rather than to technical characteristics which, however important they may be, are merely consequences of that doctrine.

Russian Federation

Non-strategic nuclear weapons

Non-strategic nuclear weapons include all nuclear weapons which do not fall into the class of strategic nuclear weapons, that is, weapons with less than 5500 km ranges, to include Tactical and Operational nuclear weapons. (PJC Nuclear Experts, Oct 2000)

Tactical nuclear weapons

Tactical nuclear weapons are designed to engage objects in the tactical depth of enemy deployment (up to 300 km) to accomplish a tactical mission. Under certain conditions, tactical nuclear weapons may be involved in operational and strategic missions. (PJC Nuclear Experts, Oct 2000)

Operational nuclear weapons

Operational nuclear weapons are designed to engage objects in the operational depth of the enemy deployment (up to 500 km) with the purpose of accomplishing an operational mission. Under certain conditions operational nuclear weapons may be involved in the accomplishment of strategic missions and in exceptional cases, in the accomplishment of tactical missions. (PJC Nuclear Experts, Oct 2000)

Strategic nuclear weapons

Strategic nuclear weapons are designed to engage objects in geographically remote strategic regions (over 5500 km) to accomplish strategic missions. In exceptional situations, strategic nuclear weapons may be used to accomplish operational missions. Strategic nuclear weapons are in service with the strategic nuclear forces. (PJC Nuclear Experts,Oct 2000)

Strategic Missile Forces

One of the services of the Armed Forces of the Russian Federation, the mission of which is to deter possible aggression through the use of nuclear weapons or, in the event of such aggression to destroy, either alone or as part of the national strategic nuclear forces, the strategic installations that form the basis of the enemy’s military and economic potential. In addition, the Strategic Missile Forces provide warning of ballistic missile attacks and maintain constant surveillance of space. They are charged with destroying enemy space installations and ballistic missiles and also give warning of foreign intelligencegathering and other spacecraft. They support force groupings in the theatre at operational and tactical level. The essential characteristics of the Strategic Missile Forces are their enormous destructive capability, their high level of readiness and their extreme rapidity of action, combined with virtually unlimited range, high precision, the ability to prepare in secret, all-weather capability and a high degree of survivability. They consist of central military command and control organizations, major missile formations made up of missile divisions and regiments, tactical and major missile and space defence formations, as well as units and organizations responsible for launching and controlling spacecraft, agencies, production facilities, research organizations and military education establishments. (CP&MT)

Strategic forces

That part of a nation’s armed forces which carries out strategic missions in a

war involving the use of nuclear weapons. Strategic forces are subdivided into

offensive and defensive. The offensive strategic forces include units, tactical

formations and major formations equipped with intercontinental ballistic

missiles and submarines armed with ballistic missiles, as well as strategic air

forces. The defensive strategic forces, which are responsible for aerospace

defence, consist of strategic early-warning systems together with space and

missile defence assets. (CP&MT)

United Kingdom

Trident, the submarine-launched ballistic missile system, is the UK’s only nuclear weapon system; it covers both strategic and substrategic requirements. Whilst Trident has a primarily strategic mission, a small number of UK Trident warheads will be assigned a

sub-strategic role to retain the option for a limited strike that would not automatically lead to a full-scale nuclear exchange. (UK SDR,

Jul 1998; Alliance Strategic Concept)

United States

Non-strategic nuclear forces

Those nuclear-capable forces located in an operational area with a capability to employ nuclear weapons by land, sea, or air forces against opposing forces, supporting installations, or facilities. Such forces may be employed, when authorized by competent authority, to support operations that contribute to the accomplishment of the commander’s mission within the theatre of operations. (USDoD)

Theater nuclear forces

Nuclear forces designed for localized military missions. (USIA)

Strategic nuclear forces

Land-based ballistic missiles with ranges over 5500 kilometres, modern submarine-launched ballistic missiles, and heavy bombers. (USIA)

NATO

The terms "strategic" and "sub-strategic" have slightly different meanings in different countries. Strategic nuclear weapons are

normally defined as weapons of "intercontinental" range (over 5500 kilometres), but in some contexts these may also include

intermediate-range ballistic missiles of lower ranges. The term "sub-strategic nuclear forces/weapons” has been used in NATO

documents since 1989 with reference to intermediate and short-range systems and now refers primarily to air-delivered weapons for

NATO's dual-capable aircraft and to a small number of United Kingdom Trident warheads in a sub-strategic role. (Other sub-strategic

nuclear weapons having been withdrawn from Europe.) (NATO Handbook/NPD)

Land-based nuclear weapons

Nuclear surface-to-air missiles (air defence weapons for use against aircraft), nuclear land mines (also called atomic demolition weapons), nuclear artillery or tube-fired shells, and nuclear short-range missiles (up to 500 km range). Missiles with ranges from 500-5500 km are prohibited by the INF Treaty and were eliminated. (PJC Nuclear Experts, Oct 2000)

Strategic forces

That part of a nation’s armed forces which carries out strategic missions in a war involving the use of nuclear weapons. Strategic forces are subdivided into offensive and defensive. The offensive strategic forces include units, tactical formations and major formations equipped with intercontinental ballistic missiles and submarines armed with ballistic missiles, as well as strategic air forces. The defensive strategic forces, which are responsible for aerospace defence, consist of strategic early-warning systems together with space and missile defence assets. (CP&MT)

### ‘Nuclear forces’---Walrath work

#### First search with this term brings up a bunch of science terms related to how nuclear atoms/molecules interact – specifying military results in “nuclear force posture”, “nuclear force structure”, “command and control of nuclear forces”, and “nuclear commands, control, and communication (nc3)” which are the relevant terms of interest

#### This article is interesting because it lays out the mechanisms through which “nuclear force” aka the weapon systems that make up the deployed arsenal can only be reduced through arms reduction or obsolescencewhich seems to indicate that changing the make-up of deployed weapons is viable with this wording choice, but would have to intentionally specify reduce and/or modify*\**

**\*modify can be replaced with better terms that fit the literature – this is just my personal word choice to communicate thoughts**

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The best nuclear force would be one that is:

* credible enough to deter adversaries and reassure allies and partners;
* least likely to provoke escalation if deterrence fails but could survive adversary escalation if it occurred; and
* would not cause more destruction than necessary to meet wartime objectives.

Such a force is hard to design in theory and harder to maintain in practice. Nuclear weapons systems take years to fund, design, develop, produce, and deploy. Once they are deployed, they are expected to remain in the arsenal for decades unless they are eliminated through arms reductions or obsolescence. The longevity of the arsenal may impede its adaptability to changing global security dynamics.

And so, the triad. For five decades, the United States has had a triad of nuclear weapon delivery systems, based on sea, air, and land. This arrangement developed through competition between the Air Force and the Navy for a share of the nuclear mission, and the evolution of available delivery technologies thereafter.1 Only after the triad was in place did strategists and officials enshrine its virtues.2 It gradually became sacrosanct and vital to the Air Force, the Navy, the eleven states that host triad delivery systems, and the many other states and enterprises that produce these systems. Alongside it, an NC3 system was designed to survive the stresses of nuclear conflict.

#### The “main force structure” refers to triad pieces – air, sea, and land which comprises of a few different parts in the United States for each to maintain “politically acceptable” deterrence force structure:

**Air** – Bombers, LRSO (new ALCM), B61 Bomb (gravity bomb with a few different yields – low and variable, with the Mod 12 undergoing upgrades and Mod 11 maintaining service as a earth-penetrator) – mostly deployed overseas through NATO

**Sea** – SSBNs, Trident SLBMs, Low-Yield Trident D5 (LYD5), SLCM-N

**Land** – ICBMS (400 Minutemen III – deployed in Colorado, Montana, Nebraska, North Dakota, and Wyoming – MIRV capable, but only one warhead each)

#### The unfortunate part though is that “forces” or “force structure” also could refer to NC3 as a distinct portion which massively adds to what the aff can do/skirts the main question that this resolution is trying to develop imo, though there is a debate to be had about whether it is the organizational/informational structure of nuclear forces that maintains them or is a distinct force itself. This could make a case for simply “nuclear weapons” as it is clearly distinguished from NC3, but still maintains the triad pieces discussed above. However, I still think the NC3 thing is totally a debate to be had if forces is chosen, rather than a super large concern, so I still lean towards the use of this term

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Nuclear weapons are only as reliable (physically) as the command, control, and communication systems that inform and implement the decisions to employ or not employ them. These systems (known as NC3) are supposed to:70

* guarantee effective monitoring and exclusive control at all times over all nuclear forces and strategic operations;
* support decisionmaking, planning, and operations in all scenarios;
* provide timely warning of imminent attack;
* supply situational awareness to the various command levels;
* assure effective and secure communications to and from national command authority;
* accommodate and support required maintenance, upgrade, safety and surety operations;
* withstand efforts to undermine or subvert the reliable transmission of information and guidance between and across command levels; and
* sustain high standards of safety, security, and secrecy commensurate with the sensitivity of nuclear weapons.

The U.S. NC3 system includes space- and terrestrial-based sensors and communications platforms, as well as the computer architecture and other hardware that make these platforms work. The Pentagon currently plans to modernize the NC3 system wholesale. The Congressional Budget Office estimates that this effort will cost $77 billion from 2019 to 2028.71

#### The United States independently defines “nuclear forces” in 3 categories – each of which refer to a different role played by said forces

NATO No Date, “Definitions of Nuclear Forces”, Part 1, Appendix 3, <https://www.nato.int/docu/glossary/eng-nuclear/eng-app3.pdf> \*\*References – USIA: U.S. Information Agency – Arms Control and Disarmament – Glossary of Terms, USDoD: U.S. Department of Defense Dictionary of Military and Associated Terms, CP&MT: NATO-Russia Glossary of Contemporary Political and Military Terms

United States

Non-strategic nuclear forces

Those nuclear-capable forces located in an operational area with a capability to employ nuclear weapons by land, sea, or air forces against opposing forces, supporting installations, or facilities. Such forces may be employed, when authorized by competent authority, to support operations that contribute to the accomplishment of the commander’s mission within the theatre of operations. (USDoD)

Theater nuclear forces

Nuclear forces designed for localized military missions. (USIA)

Strategic nuclear forces

Land-based ballistic missiles with ranges over 5500 kilometres, modern submarine-launched ballistic missiles, and heavy bombers. (USIA)

#### Nuclear forces refers to the stockpile of warheads that nation states assign to operational roles and/or missions even if not in weapon format

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Who owns the world’s nuclear weapons?

Despite progress in reducing nuclear weapon arsenals since the Cold War, the world’s combined inventory of nuclear warheads remains at a very high level: nine countries possessed roughly 12,500 warheads as of early-2023.

Combined, the United States and Russia now possess approximately 89 percent of the world’s total inventory of nuclear weapons, and 86 percent of the stockpiled warheads available for use by the military. Currently, no other nuclear-armed state sees a need for more than a few hundred nuclear weapons for national security, although many of these states are increasing their nuclear stockpiles.

Globally, the overall inventory of nuclear weapons is declining, but the pace of reductions is slowing compared with the past 30 years. Moreover, these reductions are happening only because the United States and Russia are still dismantling previously retired warheads.

In contrast to the overall inventory of nuclear weapons, the number of warheads in global military stockpiles – which comprises warheads assigned to operational forces – is increasing once again. The United States is still reducing its nuclear stockpile slowly. France and Israel have relatively stable inventories. But China, India, North Korea, Pakistan and the United Kingdom, as well as possibly Russia, are all thought to be increasing their stockpiles (see map):

A picture containing text, map, screenshot, font

Description automatically generated

Of the world’s approximate 12,500 nuclear warheads, roughly 9,576 are in the military stockpiles for use by missiles, aircraft, ships and submarines. The remaining warheads have been retired but are still relatively intact and are awaiting dismantlement). Of the 9,576 warheads in the military stockpiles, some 3,804 are deployed with operational forces (on missiles or bomber bases). Of those, approximately 2,000 US, Russian, British and French warheads are on high alert, ready for use on short notice (see table):

Estimated Global Nuclear Warhead Inventories, 2023

HANS M. KRISTENSEN, MATT KORDA, AND ELIANA REYNOLDS, FEDERATION OF AMERICAN SCIENTISTS, 2023

A picture containing text, screenshot, software, font

Description automatically generated

#### Conventional-nuclear force entanglement conversations are ensured with this term because it questions the “status” and “role” that nuclear forces play within national military strategy

Justin Anderson and James R. McCue ’21, \*Dr. Anderson is a senior policy fellow at the Center for the Study of Weapons of Mass Destruction at National Defense University, \*\*Lt Col USAF and serves as a nuclear strategist at the Defense Threat Reduction Agency, “Deterring, Countering, and Defeating Conventional-Nuclear Integration”, Strategic Studies Quarterly – Perspective, Spring 2021, https://www.airuniversity.af.edu/Portals/10/SSQ/documents/Volume-15\_Issue-1/Anderson.pdf

An important component of their approach is integrating conventional and nuclear-capable forces into their political-military strategies. For advanced militaries, nuclear-capable forces include delivery systems that are solely devoted to a nuclear role and dual-capable platforms that can carry either conventional or nuclear weapons (and whose status and armaments may be unclear to a potential opponent). All three states have developed and deployed both long-range “strategic” nuclear-armed missiles and theater-range (i.e., short-, medium-, or intermediate-range) nuclearcapable delivery systems, with the latter serving alongside, or intermixed with, their conventional forces.2 These integrated forces provide these actors with the ability to develop combined arms theater campaign plans bringing conventional and nuclear capabilities to bear against US and allied forces within a future potential regional conflict.3 As stated by Brad Roberts, former deputy assistant secretary of defense (DASD) for nuclear and missile defense policy, the “United States must expect that nuclear weapons would play a role in regional wars against Russia or China,” as both Moscow and Beijing have incorporated nuclear coercion, and potential employment, into their “theories of victory” for these types of conflicts.4 Roberts further assesses that North Korea’s nuclear weapons and missile development programs may have granted it “operationally attractive” options for a “credible anti-access area-denial strategy” against the United States and South Korea within a future conflict on the Korean Peninsula.5 Keith Payne, who also previously served in this DASD role, shares many of these same concerns. In 2018 he noted, “We must understand how to deter Great Powers and nuclear-armed Rogues from exploiting limited nuclear threats and/or escalation for coercive purposes in support of their respective goals to change established orders and borders in Europe [and] Asia.”6

For US policy makers, it is important to recognize that present efforts to address the challenge posed by conventional-nuclear integration (CNI) can be informed by the Cold War, when the Soviet Union attempted to utilize a combination of conventional forces and theater-range nuclear delivery systems to threaten and attempt to fracture the North Atlantic Treaty Organization (NATO).7 The United States met this challenge with its own integrated conventional-nuclear force, with the allied regional defense posture relying on the US arsenal of “non-strategic” nuclear weapons to counter the Warsaw Pact’s significant advantage in conventional forces.8 Critically, however, the present CNI threat from adversaries combines both of these concepts. Russia, China, and North Korea field integrated forces to challenge US regional defense alliances and deterrence postures while also viewing CNI as necessary to offset what they assess as contemporary US advantages in conventional forces.

As a result, while aspects of the present situation echo the Cold War, today’s CNI environment is more complex than in the past era. The United States must address the challenge of three potential adversaries fielding integrated conventional and nuclear forces, to include new theater-range, nuclear-capable mobile missiles recently fielded by each state. Our proposed counter-CNI strategy seeks to adapt to today’s multipolar context, a half century of technological achievement, and the important fact that the United States is less reliant on nuclear weapons to impose costs on an opponent’s military forces within future regional conflicts than its potential adversaries. US policies and strategies for countering the evolving and cross-cutting CNI threat thus requires an integrated, but not mirror-imaged, response. It should leverage US conventional and nuclear-capable forces to enhance regional deterrence and defeat options, without mimicking potential adversaries by overly and dangerously relying on the threat or use of nuclear weapons in theater to prevail in a potential future regional conflict.

#### CNI definition proper – avoids questions of accidental entanglement, has to be a purposeful strategy by a nationstate

Justin Anderson and James R. McCue ’21, \*Dr. Anderson is a senior policy fellow at the Center for the Study of Weapons of Mass Destruction at National Defense University, \*\*Lt Col USAF and serves as a nuclear strategist at the Defense Threat Reduction Agency, “Deterring, Countering, and Defeating Conventional-Nuclear Integration”, Strategic Studies Quarterly – Perspective, Spring 2021, https://www.airuniversity.af.edu/Portals/10/SSQ/documents/Volume-15\_Issue-1/Anderson.pdf

CNI is a subset of the broader phenomena of nuclear-conventional “entanglement,” a term referring to the ways and means by which conventional and nuclear forces may intersect, interconnect, and/or overlap.10 Importantly, entanglement does not necessarily attribute intentionality to this interrelationship. Research on this subject often focuses on areas of entanglement that may be unintentional and, therefore, are either reversible or can be otherwise addressed to reduce the risk that overlap could lead to nuclear crisis or conflict.11

We define CNI as the deliberate, calculated decision by a state actor to combine conventional and nuclear-capable forces for the purpose of realizing strategic, theater, and/or tactical military objectives that it assesses cannot be achieved through the use of conventional forces alone. This intentionality extends across a spectrum of activities associated with fielding military forces. These include researching and developing delivery systems and weapons that can fit into an integrated force (such as dual-capable missiles that can carry conventional or nuclear warheads); organizing, training, and equipping both conventional and nuclearcapable military forces; preparing, planning, and training these forces to operate together; and openly conducting tests or exercises for combined operations, demonstrating how one type can support or enable the other and/or making clear to outside audiences that nuclear-capable forces are integral to theater war-fighting concepts. The focus here is on the integration of conventional and nuclear-capable forces by Russia, China, and North Korea as actors that represent potential adversaries of the United States. It is important to note, however, that CNI is a broader phenomenon that also extends to states such as Pakistan, which has integrated short- and medium-range nuclear-capable forces into strategies and plans for defending its territory against a potential cross-border offensive by large numbers of Indian conventional forces.12

## Nuclear posture

**Everyone cites this Narang card**

**Narang says that nuclear posture includes capabilities, employment doctrine, command-and-control procedures, and is operational.**

**Makes a distinction between operational and declaratory nuclear doctrine.**

**Operational: is what generates deterrent power. What an adversary can credibly do with nuclear weapons.**

**Declaratory: what a country outwardly claims are its nuclear doctrine.**

**Not many people say the term also includes declaratory. Narang says there is some overlap but doesn’t specify further. Only person who disagrees is Miranda, who says that declaratory posture is equally important. Miranda never says ‘nuclear posture’ includes declaratory posture, but writes using the phrase ‘declaratory nuclear posture.’**

### Most widely-cited definition

#### ‘Nuclear posture’ refers to capabilities, employment doctrine, and command-and-control procedures.

Vipin Narang 14. Frank Stanton Professor of Nuclear Security and Political Science and member of the Security Studies Program at the Massachusetts Institute of Technology, Ph.D in Government from Harvard University, previous fellow at Harvard University’s Olin Institute for Strategic Studies, a predoctoral fellow at Harvard University’s Belfer Center for Science and International Affairs, and a Stanton junior faculty fellow at Stanford University’s Center for International Security and Cooperation. *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict*. 2014. Stanford University Press.

I fill this vacuum in the first part of the book by analyzing the experiences of the regional nuclear powers, or the non-superpower states that have developed independent nuclear forces: China, India, Pakistan, Israel, South Africa, and France.3 I discuss these states’ choices about nuclear strategy in terms of nuclear posture. Nuclear posture is the incorporation of some number and type of nuclear warheads and delivery vehicles into a state’s overall military structure, the rules and procedures governing how those weapons are deployed, when and under what conditions they might be used, against what targets, and who has the authority to make those decisions.4

**---[FOOTNOTE FOUR BEGINS]---**

As a definitional aside, the focus is intended to be on a state’s observable nuclear posture as defined above, as opposed to a state’s declared nuclear doctrine. A state’s nuclear posture is essentially its peacetime nuclear orientation and procedures for deployment and signaling during crises. Because of the challenges of studying doctrines in general, and nuclear doctrines in particular—which are highly classified, often unarticulated, untested, and of questionable credibility—I have chosen to focus on a critical component of doctrine, a state’s nuclear posture, in order to gain some leverage on the questions of interest.

**---[FOOTNOTE FOUR ENDS]---**

Nuclear posture is best thought of as the operational, rather than the declaratory, nuclear doctrine of a country; while the two can overlap, it is the operational doctrine that generates deterrent power against an opponent. To put it bluntly, states care more about what an adversary can credibly do with its nuclear weapons than what it says about them. I thus use the term “nuclear posture” to refer to the capabilities (actual nuclear forces), employment doctrine (under what conditions they might be used), and command-and-control procedures (how they are managed, deployed, and potentially released) a state establishes to operationalize its nuclear weapons capability. This can also be thought of as “nuclear strategy,” and I use these terms interchangeably with both referring to the preceding definition. As Tara Kartha colorfully put it, without a nuclear posture or strategy, “a much vaunted [nuclear] test remains simply a loud bang in the ground.”5

#### Excludes declaratory nuclear doctrine, includes operational doctrine.

Vipin Narang 10. Ph.D. candidate in the Department of Government at Harvard University, Research fellow at Harvard’s Befler Center for Science and International Affairs. “Posturing for Peace? Pakistan’s Nuclear Postures and South Asian Stability.” Winter 2009/10. *International security* 34.3, 38-78. <https://www.jstor.org/stable/pdf/40389233.pdf?refreqid=excelsior%3A1ce820c92cf66857df85f067d7561e72&ab_segments=&origin=&initiator=&acceptTC=1>

Most of the proliferation literature focuses on the acquisition of nuclear weapons, viewing the ability to assemble a single functional nuclear weapon as the critical threshold in a state’s ability to deter conflict.5 The mere acquisition of nuclear devices, however, neither constitutes an operational nuclear arsenal nor produces a uniform deterrent effect.6 It is the incorporation of some number and type of nuclear warheads and delivery vehicles into a state’s overall military structure and the rules and procedures governing how those weapons are deployed, when and under what conditions they might be used, against what targets, and who has the authority to make those decisions that broadly constitute a state’s nuclear posture and that generate a speciªc deterrent effect. Thus, a key missing variable in the proliferation literature is a state’s nuclear posture. In this article I use the term “nuclear posture” to refer to the capabilities, deployment patterns, and command and control procedures a state uses to manage and operationalize its nuclear weapons capability.

Nuclear posture is best thought of as a state's operational, rather than declaratory, nuclear doctrine; it is a state's operational doctrine, or nuclear posture, that generates deterrent power against an opponent - states care more about what an adversary does with nuclear weapons than what it says about them. As such, differences in nuclear posture can generate variation in a state's ability to deter different types and levels of conflict, as well as induce trade- offs with respect to securely managing its nuclear arsenal.7 In the Cold War, the United States and the Soviet Union evolved nuclear postures to eventually establish some degree of dynamic stability between them, and various postures had differential deterrent effects.8 Similarly, regional nuclear powers9 - which face systemic and domestic constraints different from those of the superpowers - have adopted varied, but identifiable, nuclear postures across a spectrum of capabilities, management procedures, and levels of transparency, with each having different deterrent effects. I identify three distinct types of regional power nuclear postures: a catalytic posture, an assured retaliation posture, and an asymmetric escalation posture.

### --Supporting evidence

#### Capabilities, deployment patterns, and command and control.

Shashank Joshi 12. “IV. The Implications of a Nuclear Iran.” 12/13/12. Whitehall Papers 79.1, 75-129. DOI: 10.1080/02681307.2012.746032

If Iran does decide to make one or, as would be more likely, more nuclear weapons, and successfully does so, it would then face a choice over its nuclear posture and doctrine. Nuclear posture refers to the ‘capabilities, deployment patterns, and command and control procedures a state uses to manage and operationalize its nuclear weapons capabilities’.6 Nuclear doctrine refers to the declaratory side of those operational arrangements, such as a state's articulated conditions for using nuclear weapons. In practice, posture and doctrine are interdependent, and may be considered together.

#### Deployment patterns, potential targets, and circumstances when a state uses nuclear weapons.

Cristobal M. Miranda 16. In fulfillment of M.A. in International Security, University of Arizona School of Government and Public Policy. “Towards a Balanced U.S. Nuclear Weapons Policy.” 2016. https://repository.arizona.edu/bitstream/handle/10150/620870/azu\_etd\_14832\_sip1\_m.pdf?sequence=1&isAllowed=y

While in one sense maintaining a nuclear deterrent force in perpetuity is in inherent conflict with the notion of a distant future involving complete nuclear disarmament, in another sense one can view contemporary deterrence, nonproliferation, and disarmament efforts as potentially complementary and linked since each of these objectives share the overarching goal of preventing the future use of nuclear weapons (Ferguson, Perry & Scowcroft, 2009, p. 93). Efforts by nuclear states to pursue nuclear disarmament, even though such efforts do not yet produce complete disarmament and deterrent forces continue to exist, can engender some international support to nonproliferation policies (Knopf, 2012/2013, p. 94). A middle approach may be possible where nuclear states seek to balance the goals and benefits of nuclear deterrence with nuclear nonproliferation efforts and the long-term vision of nuclear disarmament. Such a balanced approach could also reduce, but not eliminate, some of the inherent dangers of nuclear weapons (Goldstein, 2000, p. 278, 296-298; Hagerty, 1998, p. 37). Timing is a key variable that allows for this middle or balanced approach; nuclear deterrence relationships exist today and can be maintained for the foreseeable future given that the timeline for global nuclear disarmament is decidedly long-term and uncertain. The challenge in the coming years and decades is to shape nuclear deterrence relationships in ways that are conducive to allowing for the future possibility of nuclear disarmament. The following sections of this chapter will develop a “nuclear balance” theoretical model, focusing on how a state can develop a nuclear weapons policy involving nuclear posture and force structure that ensures strategic deterrence and stability while also supporting nuclear nonproliferation and disarmament policies. For the purposes of this theoretical model, the term “nuclear posture” refers primarily to the circumstances in which a state might choose to use nuclear weapons, as well as the deployment patterns of nuclear forces and potential targets; the term “force structure” refers to the size and characteristics of a state’s nuclear deterrent. The terms “nuclear strategy” and “nuclear doctrine” are used interchangeably with nuclear posture. This theory recognizes that the current international nuclear environment is more complex than the bilateral nature of the Cold War nuclear rivalry. Contemporary nuclear states face a dynamic and interconnected set of deterrence relationships that feeds a “security trilemma where actions taken by a state to defend against another state have the effect of making a third state feel insecure. Due to the trilemma, changes in one state’s nuclear posture or policy can have a cascading effect on the other nuclear-armed states” (Koblentz, 2014, p. 3). While the “security trilemma” is a challenge to international security, it also provides a potential opportunity for a given nuclear state to positively influence the evolving nuclear landscape (Koblentz, 2014, p. 31). The nuclear balance theoretical model is realist at its core in that it assumes that the international system will remain an anarchic environment where independent states are primarily responsible for their own security. This model draws upon both defensive and offensive realism. From defensive realism, it adopts the notion of the deterrent utility of small nuclear forces (Waltz, 2013; Glaser, 1998). From the offensive realist school of thought, it emphasizes the notion that nuclear forces, regardless of size, must be modern, flexible, and survivable in order to maintain an effective deterrent (Lieber & Press, 2013; Lieber & Press, 2013, January; Mearsheimer, 2014, p. 227-232). The nuclear balance model also takes into account the dangers of nuclear weapons as derived from organization theory and other dangers such as nuclear terrorism, as well as recognizes the existence of international nuclear norms that support the nonproliferation regime (Sagan, 2013). In a general sense, this theoretical model is consistent with the concept of “analytic eclecticism,” described by Sil and Katzenstein as “an intellectual stance that supports efforts to complement, engage, and selectively utilize theoretical constructs embedded in contending research traditions to build complex arguments that bear on substantive problems of interest to both scholars and practitioners” (Sil & Katzenstein, 2010, p. 411; Paul, 2009, p. 2). While the nuclear balance model is most relevant for NPT-recognized nuclear weapon states given their Article VI legal commitment to eventually disarm, it is possible that any nuclear-armed state could follow such a balanced nuclear weapons policy.

#### Includes technological capabilities, force structure, official statements, and security priorities that affect when and how nuclear weapons are used.

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North Korea’s growing capabilities have reinvigorated policy debate about the regime’s strategic nuclear thinking. While denuclearization remains a top priority, until North Korea dismantles its nuclear program, the question of how Pyongyang might use its newfound capabilities continues to bedevil outside observers.2 The reclusive regime has yet to declare an official nuclear doctrine, and experts are divided over how to best characterize its nuclear posture. Posture, sometimes also called nuclear strategy, goes beyond official doctrine to comprehensively evaluate when and how a state would use its nuclear weapons by assessing its technological capabilities, force structure, official statements, and broader security priorities. To be sure, discerning North Korea’s nuclear posture is fraught with the dual challenges of limited and evolving information about the “Hermit Kingdom,” but understanding the strategies of the newest nuclear-armed state is too important a task to ignore. Pyongyang’s nuclear posture will have far-reaching consequences for deterrence, crisis escalation, and the risks of nuclear proliferation in the Asia Pacific and beyond.3

How can we best characterize North Korea’s nuclear posture, and what indicators allow us to make such an assessment? This article addresses these questions by making two contributions: presenting an updated assessment of North Korea’s nuclear posture and offering a conceptual map to better manage the uncertainty surrounding Pyongyang’s strategic nuclear thinking. First, we argue that North Korea’s nuclear posture is best described as one of strategic ambiguity—mixing features from traditionally distinct postures to generate uncertainty in its adversaries. Existing evaluations typically pigeonhole North Korea into individual boxes within traditional typologies of regional-power nuclear postures, even when there is considerable disagreement over which box fits best.4 Indeed, North Korea watchers have over time assigned the regime to every one of the available boxes within such typologies. Forcing North Korea into one box, however, belies the uncertainty surrounding the Hermit Kingdom and potentially misleads US and South Korean force planning, which must consider the risks involved in choosing the wrong box. We thus propose an alternative interpretation: Pyongyang has a de facto nuclear posture of strategic ambiguity, which relies on a mix of features from traditionally discrete postures to leverage uncertainty and optimize deterrence.

The first step to understanding this posture of strategic ambiguity is to recognize that nuclear postures traditionally serve as a signaling device. Unlike the range of possible military operations and contingencies that nuclear war-fighting strategies can cover, nuclear postures describe the state’s primary envisioned usage of nuclear weapons.5

**---[FOOTNOTE FIVE BEGINS]---**

Vipin Narang, Nuclear Strategy in the Modern Era: Regional Powers and International Conflict (Princeton, NJ: Princeton University Press, 2014). While some analysts use the term nuclear posture synonymously with nuclear strategy, we distinguish nuclear posture both from the range of nuclear war-fighting strategies that a state might contemplate and from declared nuclear doctrine.

**---[FOOTNOTE FIVE ENDS]---**

Thus, the nuclear postures of regional nuclear powers such as China, India or Pakistan signal a high probability that these states will use nuclear weapons in a manner that is consistent with available indicators. In this regard, the credibility of nuclear postures can be a factor in managing crisis stability.

#### Includes numbers, types, locations of weapons, delivery systems, and operational status.

NATO 07. North Atlantic Treaty Organization. “NATO/Russia Unclassified.” 2007.

https://www.nato.int/docu/glossary/eng-nuclear/nuc\_glos-e.pdf

Nuclear posture

A term commonly used in NATO to refer to nuclear forces and related subjects such as numbers, types, locations of nuclear weapons and their associated delivery systems, as well as their operational status, including delivery-system readiness levels and weapon-storage locations. See also deterrent force (CP&MT).

### --Excludes declaratory

Eric S. Edelman and Franklin C. Miller 22. \*\*Counselor at the Center for Strategic and Budgetary Assessments. \*\*Franklin C. Miller, Principal of the Sowcrowft Group. “Statement Before the United States Senate Committee on Armed Services.” 9/20/2022. https://www.armed-services.senate.gov/imo/media/doc/Edelman-Miller%20Opening%20Statement%20SASC%20Hearing%20Sept.%2020%2020226.pdf

The challenge of deterring two near-peer or peer nuclear competitors will require

some rethinking about U.S. nuclear posture, declaratory policy, and potentially

arms control. It does not, however, mean that we must reinvent the proverbial

wheel – a theme to which we will return below.

#### Excludes declaratory

https://www.nuclearinfo.org/wp-content/uploads/2020/09/Valuing-and-Devaluing-Nuclear-Weapons.pdf

The argument here highlights just how embedded nuclear weapons are in our political and strategic cultures legitimated by a contingent regime of truth that fixes nuclear weapons in a value regime. Devaluing nuclear weapons is clearly a challenging and international task complicated by conceptions of an irreducible minimum below which it is not considered safe or ‘responsible’ to diminish the values assigned to these weapons. The argument suggests that advocates of nuclear disarmament focus on direct and indirect processes of diminishing the values assigned to nuclear weapons as a necessary part of the disarmament process. Direct measures include changes in nuclear posture to reduce alert status and declaratory policy changes that further restict the conditions for nuclear violence.

### Includes declaratory policy

#### “Nuclear posture” includes nine elements, and excludes things like missile defense and non-nuclear capabilities

Perry & Schlesinger 9 --- Chairman and Vice Chairman of the Congressional Commission on the Strategic Posture of the United States

William J, James R, 2009, “America’s Strategic Posture,” The Final Report of the Congressional Commission on the Strategic Posture of the United States, https://www.usip.org/sites/default/files/file/strat\_posture\_report\_adv\_copy.pdf

It is important to begin here with a definition. The nuclear posture consists of the following elements:

1. The arsenal of operationally deployed strategic nuclear weapons.

2. The arsenal of forward-deployed tactical nuclear weapons.

3. The triad of strategic nuclear delivery systems (land-based missiles, sea-based missiles, and bombers).

4. The delivery systems for forward-deployed systems (including both submarine-launched cruise missiles and aircraft equipped to carry both conventional and nuclear payloads, called dual-capable aircraft).

5. The stockpile of warheads held in operational reserve.

6. A stockpile of fissile material appropriate for use in warheads.

7. The associated command, control, and intelligence systems.

8. The infrastructure associated with the production of all of these capabilities, without which the force will not remain viable, both physical and human.

9. Declaratory policy specifying the role of nuclear forces in U.S. military and national security strategies.

### Includes nuclear doctrine

**The Miranda card also says that nuclear posture is used interchangeably with nuclear doctrine.**

#### Nuclear doctrine, command and control systems, and targeting plans.

Abdul Latif Tunio 07. “New Directions of China’s Nuclear Posture: Capabilities and Limitations.” 2007. *Asia Pacific* 25, 179-187.

The role of nuclear posture is important in the projection of national power. It entails the ambitions of power in determining the national goals. It also plays a crucial role in maintaining a nuclear deterrence. Nuclear postures are mainly expressed by nuclear doctrine, command and control system and the targeting plans of a country. The nuclear doctrine of China stands for credible minimum nuclear deterrence. China developed nuclear weapons as a limited force to prevent nuclear blackmail and to obtain greater international status and prestige. It’s relatively small nuclear forces are intended for retaliation rather than first strike purpose. China has always shown principled stand on nuclear problems and has exercised nuclear restrain against other nuclear powers.

### Includes declaratory---AT: Narrang

**This most clearly includes AFFs that change the roles of nuclear weapons.**

#### ‘Declaratory nuclear posture’

Cristobal M. Miranda 16. In fulfillment of M.A. in International Security, University of Arizona School of Government and Public Policy. “Towards a Balanced U.S. Nuclear Weapons Policy.” 2016. https://repository.arizona.edu/bitstream/handle/10150/620870/azu\_etd\_14832\_sip1\_m.pdf?sequence=1&isAllowed=y

In his study of regional states’ nuclear postures, Narang (2014) focuses on the operational aspects of nuclear doctrine instead of a state’s public statements on nuclear doctrine, arguing that the operational aspects are most relevant for deterrence; this focus on operational capabilities also has the advantage of increasing confidence in the coding of each state’s nuclear posture (p. 4, 21). Given the worst case planning that most state militaries typically conduct, it is logical to focus on the operational capabilities of a potential adversary when examining deterrence relationships; “states care more about what an adversary can credibly do with its nuclear weapons than what it says about them” (Narang, 2014, p. 4). However, declaratory doctrine for a nuclear state, especially one that is democratic, is important and should not be discounted since declaratory nuclear pronouncements are essentially public commitments; a democratic government that disregarded such public commitments could pay a significant political price in relation to domestic opponents and other states (Sagan & Vaynman, 2011, p. 28). Declaratory posture does offer insight on a state’s strategic thinking, serves as a tool to communicate deterrence threats, and can also directly influence a state’s military planning for nuclear weapons employment (Sagan & Vaynman, 2011, p. 29; Sagan, 2009, p. 165). In addition, as Sagan (2009) notes, declaratory nuclear doctrine is important in terms of supporting a state’s nonproliferation and disarmament policies, as well as potentially influencing the nuclear policies of other states (p. 165-166). A state’s declaratory nuclear posture can influence other states by affecting international nuclear norms or standards of responsible behavior regarding the possession and possible use of nuclear weapons (Sagan, 2009, p. 166). A declaratory nuclear posture that involves a broad role or mission for nuclear weapons will generally not support nonproliferation and disarmament policies, which seek to reduce the utility of nuclear weapons. In contrast, a declaratory nuclear posture that restricts the role of nuclear weapons in a state’s security strategy can be seen as potentially supportive of nonproliferation and disarmament objectives. For the purposes of the nuclear balance model, both the declaratory and operational aspects of nuclear posture will be considered. Ideally, the operational and declaratory components of a state’s nuclear posture would be congruent.

### Includes NFU

#### Includes No First Use.

Bruce G. Blair 20. Research scholar in the Program on Science and Global Security at Princeton University, co-founder of the Global Zero movement for the elimination of nuclear weapons. “Loose Cannons: The President and US Nuclear Posture.” 2020. *Bulletin of the Atomic Scientists* 76.1, 14-26. https://www.tandfonline.com/doi/pdf/10.1080/00963402.2019.1701279?casa\_token=XxmfEHvhsF8AAAAA:1gAev\_tHm0e5jQkqafrjqd\_zsDBspT6LRlS7DWFM3D4d3EyVthUCWCdoqAk9shAedgOIyZBoduo2cQ

First use of nuclear weapons, the third contingency, is even less stable than the other two, but planners cling to it because of its relative feasibility and its putative advantages in the arena of warfighting.9 The US nuclear posture has always programmed first-use options, including large-scale preemptive strikes against Russian and Chinese nuclear forces. (Preemptive strike designations historically would have appeared in a launch order.) Smaller-scale first-use (and second-use) options first appeared in the mid-1970s under the rubric of “limited attack options.” The latest variant is noted in the Trump administration’s nuclear posture review; it calls for “low”-yield weapons deployed on US strategic submarines for use – first or second – in small numbers in the early phase of a conflict.

#### Nuclear posture includes NFU.

The Hindu Editorial Board 22, “India’s nuclear policy reflects past ideology,” The Hindu, 7/2/22, https://chahalacademy.com/current-affairs/02-Jul-2022/893

The Nuclear Doctrine of India:

The Nuclear Doctrine of India is based on the premise that it will only use nuclear weapons in retaliation for another country's attempt to use nuclear weapons against India, its states, or its army. Without joining the Non-Proliferation Treaty, India became the first country to develop nuclear power. The Doctrine Treaty of India is built on the following pillars:

Establishing and sustaining a credible minimum deterrent.

A "No First Use" nuclear posture means that nuclear weapons will only be deployed in response for a nuclear strike on Indian territory or Indian forces elsewhere;

Nuclear response for a first strike will be huge and aimed to do irreparable harm.

Only the civilian political leadership, through the Nuclear Command Authority, may sanction nuclear retaliation attacks.

Non-use of nuclear weapons against governments that do not possess nuclear weapons;

However, in the case of a massive biological or chemical assault on India or Indian forces anywhere, India will maintain the option of retaliating using nuclear weapons.

The continuation of rigorous limits on the export of nuclear and missile-related materials and technologies, participation in the Fissile Material Cut-off Treaty discussions, and adherence to the nuclear test moratorium.

Persistence in the pursuit of a nuclear-weapon-free world through comprehensive, verifiable, and non-discriminatory nuclear disarmament.

Nuclear Command Authority (NCA)- On January 4, 2003, India formed a three-tier Nuclear Command Authority (NCA) to manage its nuclear weapons.

### Excludes conditions for use

#### Excludes conditions for use.

Jun Bong-geun 16. Professor in the Department of National Security and Unification Studies at the Korea National Diplomatic Academy Institute of Foreign Affairs and National Security. “An Analysis of North Korean Nuclear Doctrines and Its Implications.” 7/27/16. <https://preview.kstudy.com/W_files/kiss9/5n000183_pv.pdf>

This paper aims to analyze and evaluate North Korea’s nuclear strategies, especially the principles and conditions for the use of nuclear weapons, or ‘nuclear doctrine,’ that have appeared in a variety of its laws and statements, and to predict the direction of its nuclear weapons development program and draw implications for our North Korea policies.

‘Nuclear strategy’ widely refers to a state’s deployment and use of nuclear weapons for political and military purposes, and it constitutes part of the state’s broader military and security strategy. Nuclear strategy consists of nuclear capability, nuclear force configuration, and the like on the hardware side, as represented by the term ‘nuclear posture,’ and governing principles for the use of nuclear weapons on the software side, namely, nuclear doctrine. This paper focuses on the analysis of the latter.

### Excludes info-gathering

#### It excludes the information processing architecture surrounding nuclear weapons in favor of a focus on weapons alone.

Paul Bracken 16, Professor of Management and Political Science at Yale University, “The Cyber Threat to Nuclear Stability,” Orbis, vol. 60, no. 2, 2016, pp. 188–203

Strategic Postures

A strategic framework rather than a predictive academic theory is the first requirement for any coherent discussion about nuclear weapons. Without it a debate about strategy and modernization, biases and politics lacking the rational context that serious policy research demands will dominate. Any real problem—modernizing the U.S. nuclear posture, countering China, dealing with North Korea—will be so complex that predictive academic theories are unlikely to be of much use. While a good strategy requires such a framework, it must be tempered by details that are specific to context, country, and time frame.

One such framework was developed in the Cold War and offers insights into the dynamics of a second nuclear age. This nearly forgotten framework was called “max-min,” and it defined a strategic posture in terms of two factors: accuracy and search.1 Accuracy describes how close to its target a system can deliver a warhead. Accuracy is measured in terms of “circular probable error” (CEP), defined as the radius of a circle, centered on the target, within which 50 percent of the warheads are expected to land. A smaller CEP indicates greater accuracy. While the Cold War framework focused on nuclear warheads, the concept applies to conventional precision weapons as well, since they are also capable of destroying non-hardened nuclear targets.

Search is defined as the time it takes to fix a target’s location, measured in hours or days. A surrogate measure of search is the amount of money put into programs and technology. For example, the dollars invested in the U-2 reconnaissance program, anti-submarine warfare (ASW) assets and spy satellites were also measures of search.

Analysts have understood the significance of breakthroughs in accuracy for some time.2 These are the backbone of the precision strike revolution. What is not appreciated yet is that a revolution in search technology in recent years promises to have an equally large impact.

The term “max-min” arises from the idea that in a first strike nuclear attack, the attacker attempts to minimize retaliation while the second striker attempts to maximize the retaliatory blow. When the theory was first developed in the mid-1960s, U.S. policymakers assumed that the Soviet Union would strike first and that the United States would retaliate.

It is important to understand that the two strikes occur sequentially. The order of moves matters. If it changes (e.g., the United States strikes first), so do the results. Therefore, max-min 􀂏 min-max, as in the mini-max theorem of game theory. Thus, this is not game theory. There is no definition of game theory’s mixed strategies, so bluffing analogies with poker—central to game theory analyses of nuclear strategy—do not exist here.3 Max-min deals with long-term competition rather than short-run moves. The time frame of the max-min analysis is thus closer to net assessment.4 The focus is on multi-year efforts to build a strategic posture after analyzing what one’s opponent has chosen. The “moves” are investments in intelligence systems such as ASW, satellites, and other search technologies; and weapons, such as fixed and mobile missiles, bombers, and submarines. Because all of this includes the information processing architecture, as well as nuclear weapons, a better name is “strategic posture.” The term “nuclear posture” is reserved for the weapons alone.

### Contextual evidence

#### The role of nuclear weapons in U.S. security strategy

DoD 95, “Nuclear Posture Review,” Department of Defense, 1995, accessed via WebArchive, https://web.archive.org/web/20090806232307/http://www.dod.mil/execsec/adr95/npr\_.html

The Nuclear Posture Review was chartered in October 1993 to determine what the role of nuclear weapons in U.S. security strategy should be. A 10-month DoD collaborative effort, the NPR was co-chaired by the Office of the Secretary of Defense (OSD) and the Joint Staff. Working groups were comprised of representatives from OSD, the Joint Staff, the Services, and the unified commands. The Deputy Secretary of Defense and the Vice Chairman of the Joint Chiefs of Staff reviewed and directed the progress of the NPR through issue briefs and the development of a final report, which was presented to the Secretary of Defense and the Chairman of the Joint Chiefs of Staff. Some decisions relating to the NPR were raised through the interagency process, including all relevant agencies of the U.S. government, which had the opportunity to review a wide range of options. The President approved the recommendations of the NPR on September 18, 1994.

#### It is the role of nuclear weapons in the US arsenal.

Rachel Elizabeth Whitlark 19, political scientist and assistant professor of international affairs at the Georgia Institute of Technology, “Should Presidential Command over Nuclear Launch Have Limitations? In a Word, No.,” Texas National Security Review, Vol. 2, No. 3, May 2019, 2576-1153

It is also worth mentioning that there are some relevant policies already in place, including specifications of the circumstances under which the United States will use nuclear weapons. According to the Defense Department’s 2018 Nuclear Posture Review, 22 [FOOTNOTE 22 BEGINS] 22 The nuclear posture review is the Department of Defense’s process to determine what role nuclear weapons should have in the U.S. arsenal. Reviews generally happen with each new presidential administration or quadrennially. The 2018 document is accessible here: Nuclear Posture Review, Department of Defense, February 2018, https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEWFINAL-REPORT.PDF. [FOOTNOTE 22 ENDS] nuclear use is circumscribed for all but the most extreme circumstances to defend U.S. vital interests. It articulates that deterrence is the sole purpose of nuclear weapons, and pledges to augment the conventional capabilities the United States will use in combat. Moreover, the document articulates negative security assurances, commitments not to use nuclear weapons against non-nuclear weapons states in good standing with their Nuclear NonProliferation Treaty obligations. President Barack Obama pledged this commitment and Trump has reaffirmed it.

#### Role of nuclear weapons in national security.

Allison B. Bawden 20, Director, Natural Resources and Environment, GAO, “NUCLEAR WEAPONS: NNSA Needs to Incorporate Additional Management Controls Over Its Microelectronics Activities,” GAO, June 2020, https://apps.dtic.mil/sti/pdfs/AD1156500.pdf

According to the 2018 Nuclear Posture Review, the United States will pursue initiatives to ensure a continued capability to develop and produce microelectronics beyond 2025.7 [FOOTNOTE 7 BEGINS] 7Department of Defense, Nuclear Posture Review, (Washington, D.C.: Feb. 2018). The Nuclear Posture Review is produced periodically and describes presidential policy on the role of nuclear weapons in national security. [FOOTNOTE 7 ENDS] Currently, NNSA plans to begin production after 2025 for three nuclear weapon modernization programs, and microelectronics will be needed for those programs.8 Historically, NNSA’s weapon modernization programs have been life extension programs (LEPs), which refurbish or replace nuclear weapons components to, among other things, extend the lives of these weapons and enhance the safety and security of the stockpile. However, NNSA is moving into an era in which its weapon modernization programs will also include weapon modification programs and potentially new acquisitions.

#### It's comprehensive.

Maj. Jon M. Fontenot 95, Major, United States Air Force, “A New Era: From SAC to STRATCOM,” 5/23/95, https://spp.fas.org/eprint/fontenot.htm

Background: The Strategic Air Command (SAC) was created on March 21, 1946 and assigned the mission of deterring aggression through "long range offensive operations in any part of the world" and "maximum range reconnaissance over land or sea". During the first year, SAC's personnel loss was 63 percent and aircraft loss was 78 percent; the losses were due to the demobilization after World War II. But during the next two years, SAC's personnel and aircraft gains helped establish the command. When General Curtis E. LeMay became SAC's third commander, the morale in the command was low. But General LeMay would change the attitude in the command and make the command one of the elite places to work. During his tenure (almost nine years), General LeMay instituted a strenuous training program to make all units combat ready. SAC was very good at its job, but unexpectedly the threat was over--the Warsaw Pact was gone, the Berlin Wall fell, and the Soviet Union dissolved into independent states. General Butler was the chief architect with dissolving SAC and the start-up of the United States Strategic Command (STRATCOM). He worked very closely with General Colin Powell, Chairman of the Joint Chiefs of Staff, on the roles and missions and structure of STRATCOM. The only question was when would the change take place. STRATCOM took over the same mission of SAC, but with one twist. STRATCOM has authority over all nuclear weapons. The future for STRATCOM depends on two items: the Nuclear Posture Review and the restructure of the Single Integrated Operational Plan (SIOP). The Nuclear Posture Review is a comprehensive look at the nations nuclear weapons and how the nation employs them. While SIOP is the means to employ the weapons, the planning takes 18 months. STRATCOM knew this was too long and developed a plan to reduce the time from 18 to 6 months (adaptive force planning).

## Nuclear security enterprise

### Laws and production facilities

#### Nuclear security enterprise == labs and production facilities.

50 Code 2501 (The law. https://www.law.cornell.edu/uscode/text/50/2501)

(6**)The term “nuclear security enterprise” means the physical facilities, technology, and human capital of the national security laboratories and the nuclear weapons production facilities**.

## Nuclear security infrastructure

### Strategic requirements, not stockpile

#### Counter-defined outside of the Stockpile, just looking at strategic requirements.

US Code 50, 2018 (The Law. https://www.govinfo.gov/content/pkg/USCODE-2021-title50/pdf/USCODE-2021-title50-chap42-subchapII-partA-sec2523.pdf)//RJG

With respect to the **nuclear security infrastructure**—

(A) **a description of the modernization and**

**refurbishment measures the Administrator**

**determines necessary to meet the requirements prescribed in—**

**(i) the national security strategy of the**

**United States as set forth in the most recent national security strategy report of**

**the President under section 3043 of this**

**title if such strategy has been submitted**

**as of the date of the plan;**

**(ii) the most recent national defense**

**strategy as of the date of the plan; and**

**(iii) the most recent Nuclear Posture Review as of the date of the plan**;

(B) a schedule for implementing the measures described under subparagraph (A) during the 10-year period following the date of the plan;

(C) the estimated levels of annual funds the Administrator determines necessary to carry out the measures described under subparagraph (A), including a discussion of the criteria, evidence, and strategies on which such estimated levels of annual funds are based; and

(D)(i) a description of—

(I) the metrics (based on industry best practices) used by the Administrator to determine the infrastructure deferred maintenance and repair needs of the nuclear security enterprise; and

(II) the percentage of replacement plant value being spent on maintenance and repair needs of the nuclear security enterprise; and

(ii) an explanation of whether the annual spending on such needs complies with the recommendation of the National Research Council of the National Academies of Sciences, Engineering, and Medicine that such spending be in an amount equal to four percent of the replacement plant value, and, if not, the reasons for such noncompliance and a plan for how the Administrator will ensure facilities of the nuclear security enterprise are being properly sustained.

## Nuclear strategy

**Probably not good. A lot of academic debate about the term, but it’s all theoretical, about the politics involved in determining nuclear strategy, ethics of using the word ‘strategy,’ etc.**

### Governing principles for use/ use conditions

#### Governing principles for use, conditions for use.

Jun Bong-geun 16. Professor in the Department of National Security and Unification Studies at the Korea National Diplomatic Academy Institute of Foreign Affairs and National Security. “An Analysis of North Korean Nuclear Doctrines and Its Implications.” 7/27/16. <https://preview.kstudy.com/W_files/kiss9/5n000183_pv.pdf>

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#### Size of arsenal, delivery systems, circumstances of use.

Adérito Vicente and Susana Cabaço 12. \*\*PhD researcher in Department of Political and Social Sciences (SPS) at the European University Institute (EUI)

Defining Nuclear Strategy. \*\*Post doctorate researcher at Centro de Ciências do Mar. December 2012. “Chapter 6: American Nuclear Strategy: The Management of International Image and Public Opinion.” *Image of U.S. Presidential Administrations: The Cases of George W. Bush and Barak Obama*. Lexington Books.

The expression "nuclear strategy" refers to a military strategy employed by Nuclear Weapons States (NWS), i.e. states that posses nuclear weapons. Therefore, nuclear strategy details how many nuclear weapons to deploy, what delivery systems to put them on, and what kind of policies to adopt regarding the circumstances in which they would be used. It "involves the development of doctrines and strategies for the production and use or non-use of nuclear weapons."

### ‘Nuclear strategy’ = vague

#### Narrow definitions bad

Lawrence Freedman and Jeffrey H. Michaels 22. \*\*Emeritus Professor of War Studies at King’s College London, Institut Barcelona d’Estudis Internacionals. \*\*Senior fellow in American Foreign Policy and International Security at the Institut Barcelona d’Estudis Internacionals. “Casting the atomic canon: (R)evolving nuclear strategy:

A reply.” 5/17/22. https://www.cambridge.org/core/services/aop-cambridge-core/content/view/81FC54153B6E857176D4D1355FBECDC4/S205756372200013Xa.pdf/div-class-title-casting-the-atomic-canon-r-evolving-nuclear-strategy-a-reply-div.pdf

The most important characteristic of our approach, which was there from the first edition, was to discuss nuclear strategy in its broader context. As was acknowledged from the start, the term ‘nuclear strategy’ can be hard to pin down. Unless confined to the realm of pure theory, it must be about the political setting that gives meaning to any threats and possible use of nuclear weapons. It has to go beyond a narrow conception as the threat or use of nuclear weapons to achieve political ends. The book covers the effect these weapons have on alliances, how they were treated as part of efforts to improve relations between adversaries, rather than exclusively for the purpose of deterring or fighting wars, and the importance of particular crises as tests of the strategies but also in shaping attitudes to the weapons thereafter. This approach required synthesising the strategic ideas and military capabilities, on the one hand, with political and other non-military factors, including norms, on the other.

### Misc.

### --Broadest interpretation of ‘nuclear strategy’

#### Use, nonuse, development and disarm, broad definition (national interests).

Robert David Hostetter 85. Dissertation in a Doctorate of Philosophy in Field of Theatre. “The American Nuclear Theatre, 1946-1984 (Drama, Symbolic Action, Strategies, Nuclear-Age Arts.” http://ezproxy.msu.edu/login?url=https://www.proquest.com/dissertations-theses/american-nuclear-theatre-1946-1984-drama-symbolic/docview/303406012/se-2.

Strategy refers to the development of a plan of action for a particular situation, using economic, political, cultural or other means. Strategy occurs in a continuum between policy and tactics. Tactics, the manipulation of specific means and resources, serve the strategy, or plan of action; and strategy, in turn, serves the overall policy, or political purpose. As developed in Chapter 2, military strategy refers to the role of military forces— their use, nonuse, development or disarmament— in serving national or global interests. Similarly, nuclear strategy refers to the role of nuclear technology— its use, nonuse, development or disarmament— in serving national or global interests.

#### ‘Means’ rather than ‘ends,’ use conditions and development for national interests.

Robert David Hostetter 85. Dissertation in a Doctorate of Philosophy in Field of Theatre. “The American Nuclear Theatre, 1946-1984 (Drama, Symbolic Action, Strategies, Nuclear-Age Arts.” http://ezproxy.msu.edu/login?url=https://www.proquest.com/dissertations-theses/american-nuclear-theatre-1946-1984-drama-symbolic/docview/303406012/se-2.

The Problem of Definition. For theorists, strategic thinking frequently denotes a special area of inquiry, but strategy is also commonly identified with the larger arena of policy formation, and sometimes it is linked to the narrower concept of tactics. The definition of these terms and the relationship between them will be the focus here. For definitions of an extended list of terms used in nuclear strategy, see the glossary.

Many theorists have built their concepts of strategy on the premise of Carl von Clausewitz in his monumental treatise of 1832, On War: "War 33 is . . . the continuation of policy with other means." B.H. Liddell Hart faults this definition because it "intrudes on the sphere of policy," which belongs to political, not military leaders; it "narrows the meaning of 'strategy' to the pure utilization of battle, thus conveying 35 the idea that battle is the only means to the strategical end." And Mandelbaum writes:

The power of nuclear weapons is such as to challenge both the statement and exhortation in Clausewitz's dictum. It jeopardizes both the natural limits on violence, and the prospects for imposing further, political controls, that Clausewitz believed kept all actual wars mounting to horrible, senseless, "absolute" extremes.

U.S. military definitions distinguish between strategy, national strategy, and military strategy. The Pentagon defines strategy as "the art and science of developing and using political, economic, psychological, and military forces as necessary . . . to afford the maximum sup- ,37 port to policies. Its similar definition of national strategy is linked to national objectives. And its definition of military strategy emphasizes the use or threatened use of force to secure national objectives. These are reasonable definitions which contain several implications: (1) if particular national policies are ill-conceived, their supporting strategies will most likely be ill-conceived as well; (2) deciding which forces— military, political, economic— are "necessary" and should be developed requires full democratic debate; (3) since strategies (or means) should be consistent with policies (or ends), strategies may become confused with the policies themselves; and (4) developing and using political, psychological and other non-military forces may sometimes take precedence over military forces in securing national policies. Garnett writes that in the nuclear age "modern technology threatens to turn any war into Armageddon," so that concentrating on strategy as war "is little short of madness." He adds:

Today, purely military definitions of strategy have virtually disappeared because they failed to convey either the flavour or the scope of a subject that straddles the spectrum of war and peace, and is as much concerned with statesmanship as with generalship . . . Strategy is more about peace that it is about war.

Political interpretations may blur distinctions between strategic thinking and policy-making. For Garnett, "the distinctions are not clear-cut. If anything, they reflect differences of emphasis rather 40 than differences of subject matter. That is, political problems provide the context for strategic thinking, so definitions of strategy will emphasize "means" rather then "ends."

For Clausewitz, though, tactics referred to the conduct of battle while strategy looks to the purpose of the battle. His principle for judging such purposes was Kritik: it is neither dogma, nor theory, though it uses and tests appropriate theories up to the point of actual analysis; it moves in two simultaneous directions, down into the details of the engagement and up to increasingly higher levels for judging the particular engagement. The move to an ever higher standpoint is not an "ascent into theory," but a move toward a "vantage point" from which to see more aspects of the actual situation. Throughout Clausewitz's chapter on Kritik (book 2, chapter 5), Garry Wills finds the implicit metaphor of seeking "higher ground" from which to see an engagement in its "total context":

One rises above the particular battlefield to see the field in its theater, the theater in its campaign, the campaign in the war, and the war in the overall statecraft of the warring nation. . . . Kritik changes as it rises and must therg|ore keep rising until no higher vantage point is reachable.

Clausewitz used Napoleon's strategic decisions to demonstrate that Kritik both alters tactical (ground-level) judgments and sometimes reverses them in the fullest interest of statecraft.

In light of this principle of critical inquiry, my own definition of strategy stresses political rather than military means, in support of global rather than national ends, since the current policies of many nations seem suicidal. Strategy, then, is the development and use of economic, political, and other forces to support policies which advance global survival. And since even national policies are not necessarily best served by the use of military force, my definition of military strategy emphasizes the role of military force rather than the use of that force. Military strategy, then, is the role of military forces— their use, nonuse, development or disarmament— in serving national or global interests. And nuclear strategy is the role of nuclear technology— use, nonuse, development or disarmament— in serving national or global interests. As Clausewitz suggested, commitment to critical inquiry and the pursuit of higher points of view provide a way to test any particular strategy.

#### More

Robert David Hostetter 85. Dissertation in a Doctorate of Philosophy in Field of Theatre. “The American Nuclear Theatre, 1946-1984 (Drama, Symbolic Action, Strategies, Nuclear-Age Arts.” http://ezproxy.msu.edu/login?url=https://www.proquest.com/dissertations-theses/american-nuclear-theatre-1946-1984-drama-symbolic/docview/303406012/se-2.

According to Mandelbaum, the Eisenhower Administration was the first to ask the "three classic questions" of nuclear strategy: What are the political purposes served by nuclear force? How will that force be deployed? How will the force be used?” Eisenhower's Secretary of State, John Foster Dulles, shaped the answer to the first question when he announced the first formal U.S. nuclear strategy in 1954. His "deterrence theory" promised "massive retaliation" against Russia for aggressive behavior anywhere in the world. This massive retaliation doctrine "stood Clausewitz on his head. Diplomacy was to become the avoidance of nuclear war by other m e a n s . S t r a t e g i s t Albert Wohlstetter answered the question of deployment— the delivery of this "massive retaliation"— with long-range, B52 bombers. They would be based in the U.S., theoretically invulnerable to attack, and could reach targets deep inside the Soviet Union. The third question, about the use of these nuclear weapons, would be answered later.

#### Misc. related criticisms of ‘nuclear strategy’

Robert David Hostetter 85. Dissertation in a Doctorate of Philosophy in Field of Theatre. “The American Nuclear Theatre, 1946-1984 (Drama, Symbolic Action, Strategies, Nuclear-Age Arts.” http://ezproxy.msu.edu/login?url=https://www.proquest.com/dissertations-theses/american-nuclear-theatre-1946-1984-drama-symbolic/docview/303406012/se-2.

The problem of language also becomes evident in the resistance to the overwhelmingly awful dimensions of strategic thinking. Kahn tried to dismiss the problem this way:

Often the reluctance to think about these problems is not caused by the advocacy of any particular Weltanschauung. Rather it is based on nothing sounder than a supernatural fear of the magical power of words (to talk about cancer is to bring on cancer) or of actions (to build shelters is to create the need for their use). Many have this primitive bgjj-ief that speaking of evil or preparing for evil creates evil.

British scholar John Garnett suggests that the language of nuclear strategy is problematic because strategy is "deadly business"; it concerns "the darker side of human nature" and the use of military power. Military power, he says, is the capacity to maim, coerce, kill and destroy, determining not who is right but who will prevail. This power is useful because human beings, their property and societies are easily destroyed.

Inevitably pain, suffering, destruction and death are close to the surface of strategic analysis. . . . The horrors and miseries of war are submerged in the neutral, anodyne jargon of strategic terminology. Strategists talk of "taking out" cities, of making "counterforce" strikes with "collateral damage," of crossing "thresholds," and of engaging in tactical nuclear "exchanges." It is easy to forget that what is being discussed in this clinical fashion is the extermination . . . of human beings by the most dreadful weapons ever invented. . . . No student should forget the grim re|^ities which lie behind the vocabulary of strategic studies.

The sterility of strategic language obscures and resists the awfulness behind it. Another scholar writes:

The lexicon of strategic studies is replete with euphemism: countervalue targeting really means targeting innocent civilians who are hostages to be summarily executed, should conditions be "appropriate"; mutual assured destruction is really mass genocide with a less repugnant name, and so on. this material is heady and potentially macabre, and it is not entirely surprising that even the informed citizen would not be drawn to it.

Freeman Dyson characterizes this problem of language and perception as the problem of two separate worlds— the world of "warriors" and the world of "victims." He writes:

The world of the warriors . . . is overwhelmingly male-dominated. [The warriors] possess a common language— a common style. Their style is deliberately cool, attempting to exclude overt emotion and rhetoric from their discussions, emphasizing objectivity and technical accuracy, concentrating attention on questions of detail which can be reduced to quantitative calculation. . . . The world of the victims is not male-dominated. It is, on the contrary, dominated by women and children. It is, like the Kingdom of Heaven, difficult to enter unless you come to it with a child's imagination. It is a world of youth rather than age. It pays more attention to poets than to mathematicians. The warriors' world describes the outcome of war in the language of exchange ratios and cost-effectiveness; the victims' world describes it in the language of comedy and tragedy.

Dyson, a physicist, proceeds from this description and attempts to build bridges between these two worlds.

The problem of strategic language is also closely linked with the problem of technology. So strategic language alternates between bland oversimplification and the esoterically technical. Lord Solly Zuckerman, former British Ministry of Defense advisor, observes: "Nouns are transformed into verbs, verbs spring out of adjectives and acronyms 25 become part of ordinary speech. While this linguistic process may simplify communication, it often ends by "confounding reality."

## Weapons activities

### ‘Weapons activities = broad’

#### “Weapons activities” is tautologically defined by US Code. Weapons related activities is very broad brush.

US Code 50, 2018 (The Law. https://www.govinfo.gov/content/pkg/USCODE-2021-title50/pdf/USCODE-2021-title50-chap42-subchapII-partA-sec2523.pdf)//RJG

(5) The term ‘**‘weapons activities’’ means each activity within the budget category of weapons activities in the budget of the Administration.**

(6) **The term ‘‘weapons-related activities’’ means each activity under the Department of Energy that involves nuclear weapons, nuclear weapons technology, or fissile or radioactive materials, including activities related to**—

(A) nuclear **nonproliferation**;

(B) nuclear **forensics**;

(C) nuclear **intelligence**;

(D) nuclear **safety**; and

(E) nuclear **incident response**.

### Subset of stockpile missions

#### Weapons related activity is a subset of stockpile missions

National Nuclear Security Agency ’23 (The people in charge of everything. Fiscal Year Report, 2023 https://www.energy.gov/sites/default/files/2023-04/FY23%20SSMP\_FINAL.pdf)//RJG

This appendix describes **the breadth of capabilities maintained by Weapons Activities programs in the Department of Energy’s National Nuclear Security Administration** (DOE/NNSA) nuclear security enterprise **to execute the stockpile mission. These capabilities should not be viewed in isolation or as mutually exclusive, as many overlap and are complementary**. They represent the underlying disciplines, activities, and specialized skills required to meet DOE/NNSA missions. In this document, the capabilities are presented as facets of seven interdependent areas, each containing a suite of capabilities that together address a particular aspect of Weapons Activities. In part, this appendix supports the legislative requirements listed in Appendix A.