Homeland Defense & Security Information Analysis Center

NUCLEAR DETERRENCE

Presented by:

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Introduction – Robert J. Hill, Lt Col, USAF (ret)

Air Force (1990 – 2013): Space/Nuclear Operations (13S), Political-Military Affairs (16P)

- **Nuke Ops**: 10th (Strategic) Missile Squadron "First Aces" (MMII/MMIII) – last cadre "Cold War" missileers
- **Space Ops**: Milstar Satellite Communication (*Survivable NC3*)
- **DTRA Treaty Inspector**: START, Russian ICBMs/SLBMs, site treaty negotiations, intel, training officer
- **OSD Treaty Compliance Office**: All treaties (primary strategic), MDA, intel, START U.S. Delegation
- **DTRA Liaison to USEUCOM, NATO-SHAPE**: All treaties, nuclear stockpile, CWMD planning, intel, DOE/NNSA
- **HQ USEUCOM J3**: NC2/NC3, NATO/Israeli missile warning, MDA, special missions, intel, U.S. Delegation
- **HQ AFSPC A8**: Arms control lead, all treaties, 19 compliance officers/6 bases, intel, international affairs

A&AS Contract Support (2013 – Present)

- **OSD Treaty Compliance Office**: Treaty on Open Skies, final U.S. treaty positions, intel
- **HQ USCYBERCOM J5/J3**: NC3 governance/policy, NC3 cybersecurity, NC2 requirements, EAP-CJCS, intel
- **DTRA Nuclear Strategy Division**: Subject matter expert, policy, strategy, planning, doctrine, requirements
- **Nuclear Deterrence Domain Lead**: Corporate SME for all business development and strategy

Miscellaneous

- **14 Years Policy/Strategic Level:** OSD (5 yrs), USEUCOM (5 yrs), AFSPC (1 yr), USCYBERCOM (3 yrs)
- **Interagency Engagement:** DoS, US Embassies, DHS, CISA, USCG, USSS, DOE, NNSA, DOJ, FBI, DOT/FAA
- **IC Engagement:** OUSD(I), DIA, NGA, NSA, CIA, FBI, NRO, DOE/I&C, DHS/I&A, Treas/OIA, Services, CCMD J2s

Overview

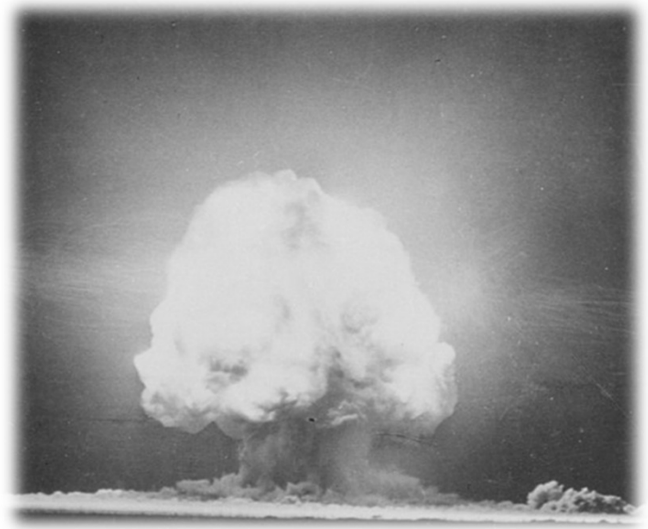
- Background
  - Nuclear Weapons Development
  - Strategic Environment – Cold War
  - Strategic Environment – Great Power Competition
  - Russia
  - China
- Nuclear Deterrence
  - Quotes
  - Capability
  - Commitment
- Key Takeaways
- For More Information

BACKGROUND

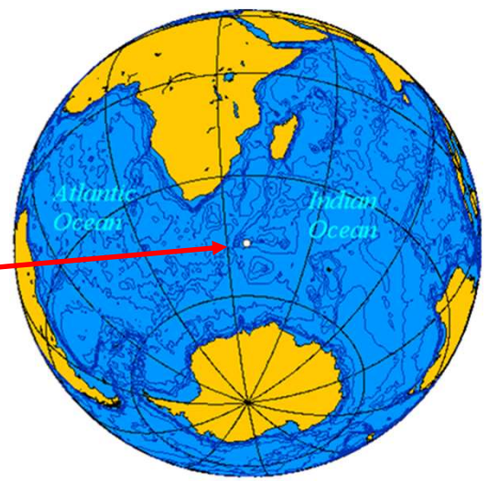
Nuclear Weapons States

- **United States**: Atomic Bomb (1945), Hydrogen Bomb (1952)
- **Soviet Union**: Atomic Bomb (1949), Hydrogen Bomb (1955)
- **United Kingdom**: Atomic Bomb (1952), Hydrogen Bomb (1957)
- **France**: Atomic Bomb (1960), Hydrogen Bomb (1968)
- **China**: Atomic Bomb (1964), Hydrogen Bomb (1967)
- **India**: Atomic Bomb (1974), Hydrogen Bomb (1998)
- **Pakistan**: Atomic Bomb (1974), Hydrogen Bomb (1998)
- **North Korea**: Atomic Bomb (2006*), Hydrogen Bomb (2017)
- ***Israel*** / South Africa****: Vela Incident (1979)

UN Security Council Permanent Members



"Trinity"



Strategic Environment – “Cold War”

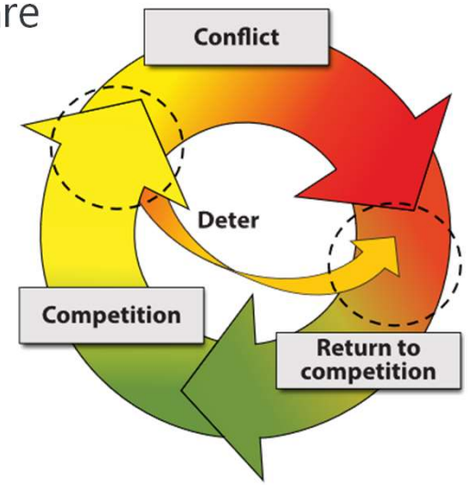
- **Start**: March 12, 1947 (Truman Doctrine)
- **Two Superpowers**: United States vs. Soviet Union
- **Two Economic Systems**: Capitalism vs. Communism
- **Two Alliances**: NATO vs. Warsaw Pact
- **Proxy Wars**: Korean Conflict, Congo Crisis, Vietnam Conflict, Angolan Civil War, Ogaden War
- **Close Calls**: Suez Crisis (1956), Cuban Missile Crisis (1962), NORAD Glitch (1979), Able Archer ’83
- **End**: December 26, 1991 (Dissolution of the Soviet Union)

Strategic Environment – "Great Power Competition"

- **China and Russia** (re)asserting their influence regionally and globally
  - *"Today, they are fielding military capabilities designed to deny America access in times of crisis and to contest our ability to operate freely in critical commercial zones during peacetime."* – 2017 NSS[1]
- **Tripolar Powers**: United States vs. Russia / United States vs. China / Russia vs. China
  - ***Nuclear Flashpoints***: United States vs. DPRK / China vs. India / India vs. Pakistan / Israel vs Iran
- **Varying Political Systems**: Democratic vs. Authoritarianism vs. Communism vs. Nationalism vs. Theocracy
- **Varying Alliances**: NATO* vs. Russia/Belarus / U.S.-Japan vs. China / AUKUS / "Six Assurances"
- **Gray Zone**: Cyber attack, info ops, energy manipulation, unconventional warfare

"We think of being at peace or war…our adversaries don't think that way.[1]"

Gen Joseph F. Dunford, USMC
19th Chairman
Joint Chiefs of Staff



Russia

- **Nuclear power** → 1949
- Strategic peer to U.S.
- 6,257 nuclear warheads
- ~68 Strategic Bombers
- 527 Intercontinental Ballistic Missiles (ICBMs) (MIRV)
- 10 Ballistic Missile Submarines
- **~86% modernized**
- *Significant* non-strategic nuclear forces …

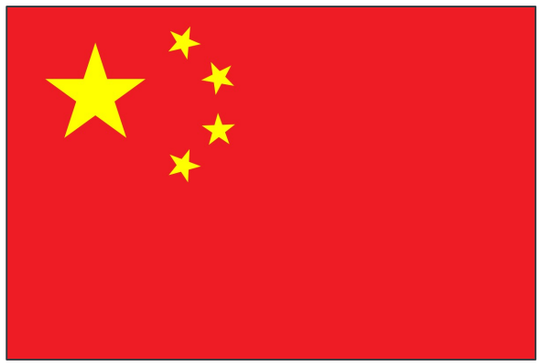
Russia - Viewpoints

"Whoever tries to interfere with us should know that Russia's response will be immediate and will lead you to such consequences as you have never experienced in your history."

Escalate to De-escalate Doctrine

- Use non-strategic nuclear weapons early to obtain battlefield advantage
- Overcome conventional inferiority

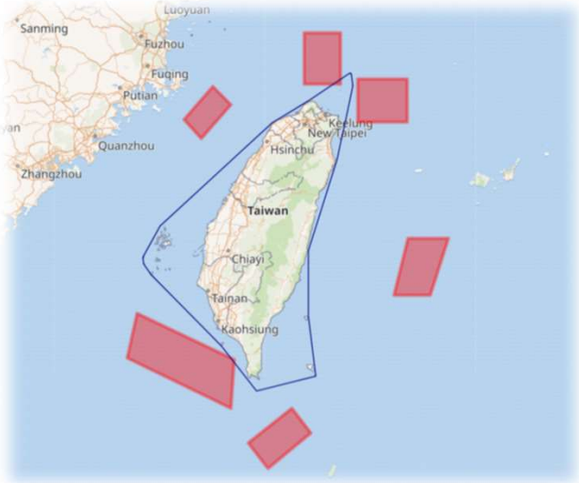
China



- **Nuclear power** → 1964
- Future strategic peer
- ~320 nuclear warheads (~*1,000 by 2030*)
- ~ 231 Strategic Bombers
- ~90 Intercontinental Ballistic Missiles (ICBMs) (MIRV)
- Four (4) Ballistic Missile Submarines
- **Constructing 250+ ICBM silos**
- Tested nuclear-capable hypersonic glide vehicle

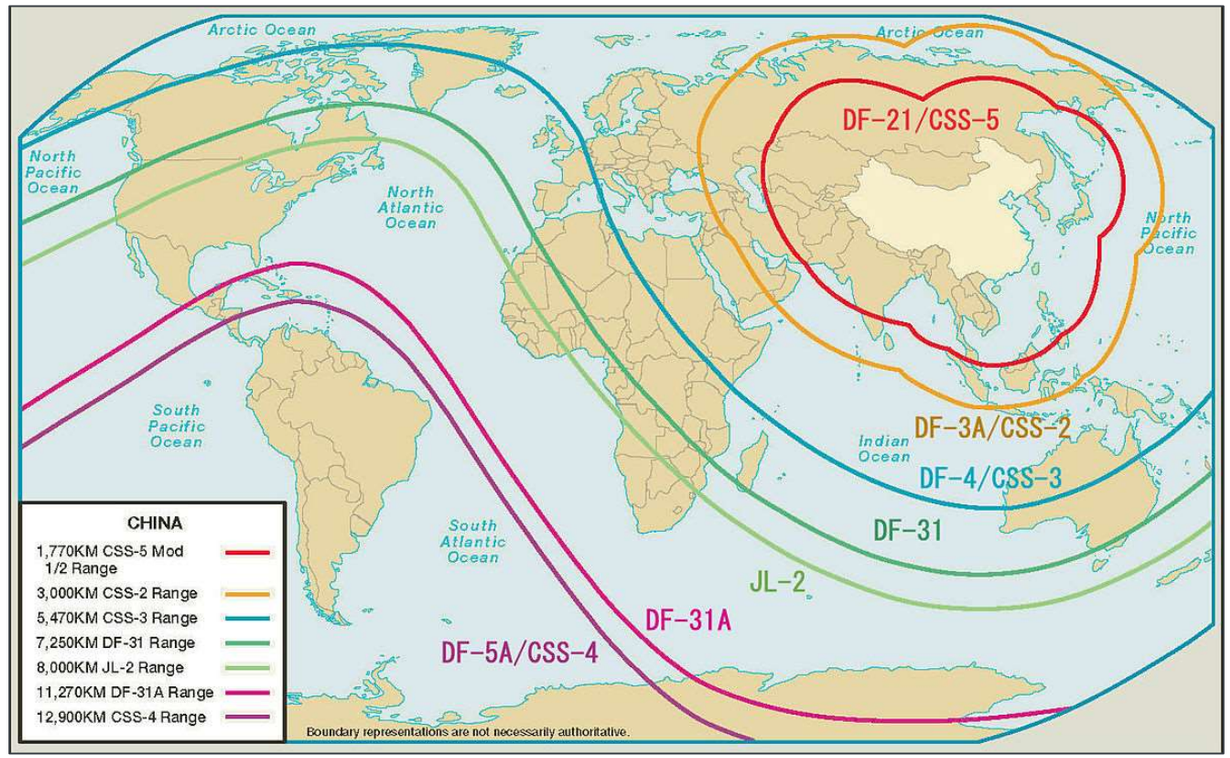
China - Viewpoints

"Taiwan independence separatism is the biggest obstacle to achieving the reunification of the motherland, and the most serious hidden danger to national rejuvenation.[1]"



"Taiwan may represent the most dangerous flash point for war.[1]"

LTG H.R. McMaster, USA (ret)
Former National Security Advisor



NUCLEAR DETERRENCE

Quotes

Admiral Charles A. Richard, USN
Commander, United States Strategic Command

__Every operational plan in the DoD__, and every other capability we have, rests on the assumption that strategic deterrence, and in particular __nuclear deterrence__, will hold. If strategic or nuclear deterrence fails, integrated deterrence and no other plan or capability in the DoD will work as designed. The Nation's nuclear forces underpin integrated deterrence and enable the U.S., our Allies and partners to prevent and, if necessary, confront aggression around the globe using all instruments of national power.[1]

There is a real possibility that a regional crisis with Russia or China could escalate quickly to a conflict involving nuclear weapons, if they perceived a conventional loss would threaten the regime or state. Consequently, the U.S. military must shift its principal assumption from "nuclear employment is not possible" to __"nuclear employment is a very real possibility,"__ and act to meet and deter that reality. We cannot approach nuclear deterrence the same way. It must be tailored and evolved for the dynamic environment we face.[2]

Nuclear Deterrence

- Deterring adversaries from using nuclear weapons
- Deterring adversaries from direct conventional conflicts
- Communicating that losses will far exceed any perceived gains
- **Cold War Theories and Strategy**

Bernard Brodie

RAND Corporation

Strategy in the Missile Age

Escalation and the Nuclear Option

The Future of Nuclear Deterrence in U.S. Strategy

Herman Kahn

RAND Corporation

On Thermonuclear War

Thinking About the Unthinkable

On Escalation: Metaphors and Scenarios

Thomas Schelling

RAND Corporation

The Strategy of Conflict

Strategy and Arms Control

Arms and Influence

Nuclear Deterrence "Formula"

Capability	+	Commitment	=	Nuclear Deterrence
Credible		***Credible***		***Credible***

Credibility *is the necessary common denominator*

CAPABILITY

Nuclear Deterrence – Capability

Nuclear Warheads

Nuclear Delivery Systems

Nuclear Command & Control

Nuclear Deterrence – Capability (Nuclear Enterprise)

National Nuclear Security Administration

"Makes the bombs"

"Drops the bombs"

Nuclear Deterrence – Capability (Development)

Nuclear Deterrence – Capability (Demonstration)

Nuclear Deterrence – Capability (Development)

National Security Strategy

Presidential Policy Directive

National Defense Strategy

DoD Issuances

National Military Strategy

Joint Strategic Campaign Plan

Policy → ***Strategy*** → ***Planning***

Operational Plans

Integrated Priority List

Program Objective Memorandum

National Defense Authorization Act

Defense Budget

Requirements → ***Resourcing*** → ***Authorization & Appropriation***

- ✓ Delivery Systems
- ✓ Nuclear Command & Control
- ✓ Nuclear Manpower
- ✓ Nuclear Support

?

Credibility

Nuclear Deterrence – Capability (Demonstration)

COMMITMENT

Nuclear Deterrence - Commitment

Deter Adversaries

But if deterrence fails…

Deliver Nuclear Warheads

Nuclear Deterrence – Commitment (Formulas)

National Policy + Communication + National Resolve

National Policy = Declaratory Policy + Adversary Threats + Arms Control Treaties

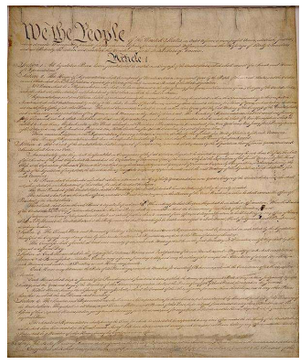
Communication = Strategic Messaging + Adversary Perception

National Resolve = Political Dynamics + Will of the People

"Formulas" help identify credibility areas

Nuclear Deterrence – Commitment (National Policy)

Declaratory Policy + **Adversary Threats** + ** Constraint ** **Arms Control Treaties**



National Security Strategy

Nuclear Posture Review

Presidential Policy Directive

Annual Threat Assessment

New Strategic Arms Reduction Treaty

Comprehensive Test Ban Treaty

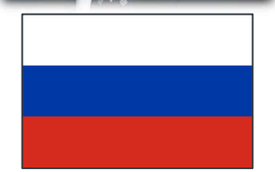
Nuclear Non-Proliferation Treaty

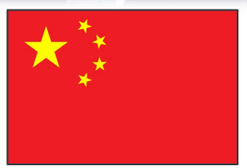
Threshold Test Ban Treaty

Limited Nuclear Test Ban Treaty

Nuclear Deterrence – Commitment (Communication)

Strategic Messaging + ** Constraint ** ***Adversary Perception***

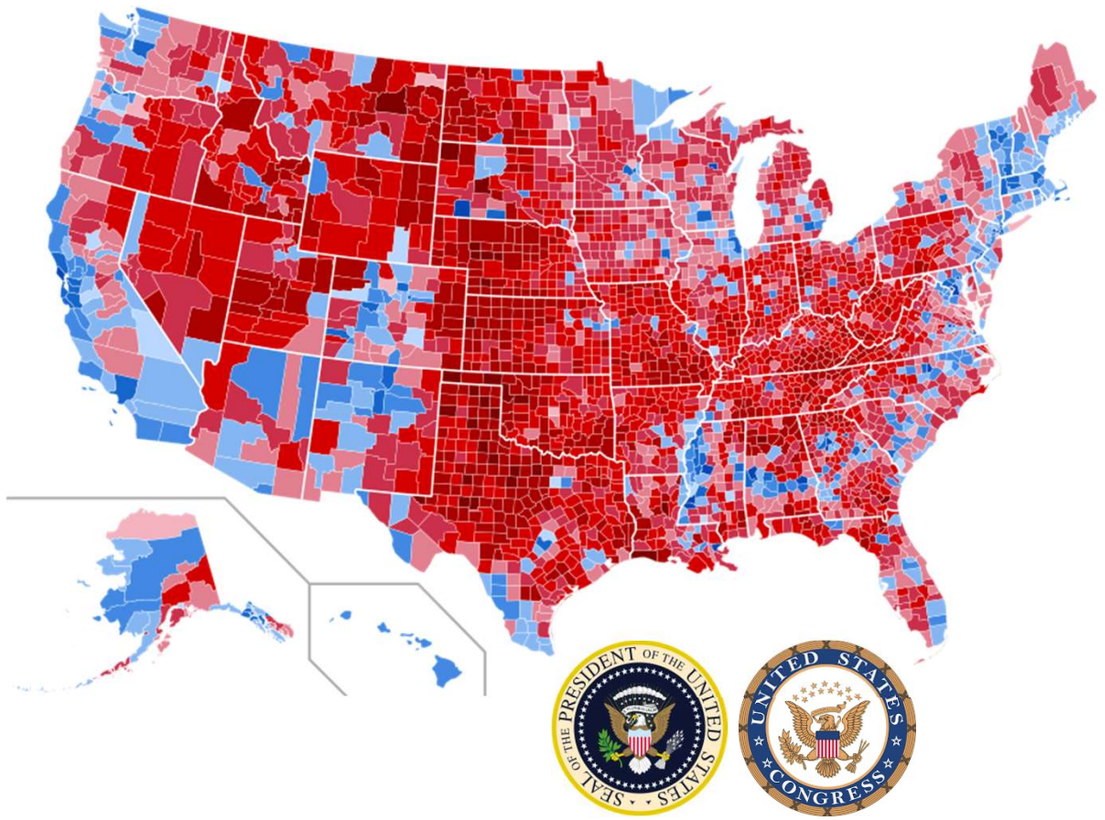




Culture ***Politics*** ***Language*** ***Economics*** ***History*** ***Religion***

Nuclear Deterrence – Commitment (National Resolve)

Political Dynamics +



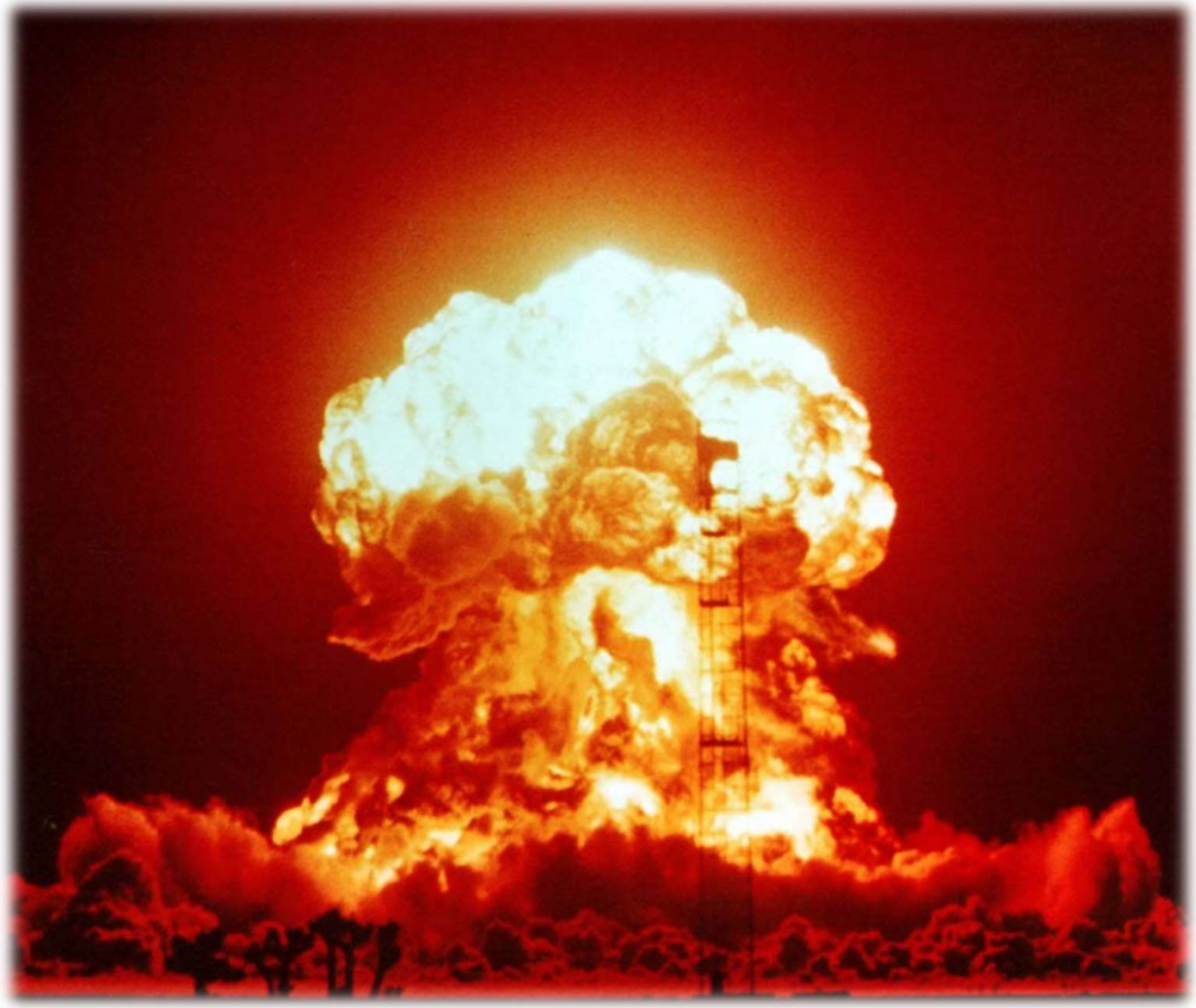
** Constraint **

Will of the People

KEY TAKEAWAYS

Key Takeaways

- Great Power Competition is back
- Strategic tripolar nuclear world
- Nuclear weapons use is a *reality* again
- Nuclear deterrence is *essential*
- Credibility is *complex* and *necessary*



For More Information

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WEBLINKS

Department of Defense
https://www.defense.gov/Multimedia/Experience/Americas-Nuclear-Triad/

Nuclear Matters Handbook 2020
https://www.acq.osd.mil/ncbdp/nm/NMHB2020rev/index.html

National Nuclear Security Administration (NNSA)
https://www.energy.gov/nnsa/maintaining-stockpile

United States Strategic Command
https://www.stratcom.mil

Air Force Global Strike Command
https://www.afgsc.af.mil

U.S. Navy Strategic Systems Programs
https://www.ssp.navy.mil

QUESTIONS