

# 1. STRATEGIC SECURITY AND CONTROLING AND COMBATING WEAPONS OF MASS DESTRUCTION

[Related topics: 2.13, 2.15, 4.2, 4.8, 4.11, 5.1, 5.2, 5.8, 5.12]

## HIGHEST PRIORITY TOPICS FOR FY 09 (1.1 THROUGH 1.7)

### 1.1 Examine the role of nuclear weapons in U.S. security policy.

- What should be the U.S. declaratory policy on nuclear weapons?
- What impact does US nuclear policy have on its extended deterrence commitments?
- How do nuclear weapons fit into the broad range of policy issues?
- How should the next administration address the role of U.S. nuclear weapons?
- What impact do the laws of armed conflict have on nuclear weapon employment in the post-Cold War environment?
- Discuss suggested changes to nuclear doctrine and/or roles and missions for nuclear weapons in the post-Cold War environment.
- What measures of effectiveness should be used in assessing tradeoffs among the different legs of the triad?
- Discuss or suggest possible force structure requirements that might better enable the U.S. to expedite realization of the new Triad.
- What is the future of the ICBM force, the bomber force, the SSBN force?
- What are the likely strategic consequences of next nuclear use by an adversary or by the United States?
- What are the arms control implications of dual-use long-range ballistic missiles? (i.e. common missiles delivering conventional or nuclear weapons)

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Priority: 1a

Key Terms: nuclear missions, non-nuclear weapons, global strike, New Triad, deterrence, extended deterrence, declaratory policy

### 1.2 What are the tradeoffs of nuclear weapons versus advanced conventional weaponry?

- When can/should one be substituted for the other?
- Is increasing reliance on conventional global strike marginalizing U.S. nuclear weapons and undermining U.S. nuclear deterrence?
- Does U.S. conventional preeminence create unintended incentives for nuclear proliferation?
- Do today's non-nuclear force capabilities meet future deterrence requirements?
- What are the deterrence advantages to each approach?

- How does this impact an adversary's view of USAF force capabilities?
- Consider the international political, diplomatic, and strategic responses to the development of advanced conventional strategic strike capabilities.

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Priority: 1a

Key Terms: nuclear weapons, non-nuclear weapons, global strike, advanced conventional weapons, precision-guided munitions

### **1.3 What are the nuclear force structure requirements for extended deterrence?**

- Does our existing nuclear force structure support this?
- Is the current debate over the Reliable Replacement Warhead (RRW) and the lack of modernization diluting our overall nuclear deterrence capabilities?
- Does the current US approach to extended deterrence and nuclear policy inspire confidence in our allies?

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Priority: 1a

Key Terms: nuclear weapons, force structure requirements, deterrence, confidence building measures

### **1.4 How do existing arms control agreements limit the integration of advanced technology into modern operational concepts?**

- Discuss the impact of advances in technology (such as UCAVs, hypersonic weapons, non-lethal weapons, air launched cruise missiles) in relation to any of the following treaties and agreements:
  - CFE and the adapted CFE regime
  - START
  - CWC

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Priority: 1a

Key words: UCAV, hypersonic weapon, non-lethal weapon, ALCM

### **1.5 Strategic arms control beyond START.**

- What are the options to continued reliance on START?
- Are any START provisions relevant to a future agreement?
- What verification provisions are required, if any?
- What states would be parties to an agreement?

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Priority: 1a

Key Terms: START, Moscow Treaty, SORT

**1.6 How can the USAF better protect its personnel and installations in a high threat or post CBRN environment?**

- What functions should/should not be outsourced due to CBRN or high-threat environments? Discuss the political and legal implications of outsourcing.
- How should this issue apply to third country nationals?
- What are the primary considerations for commanders when making decisions about protecting civilians from CBRN effects?
- What are the legal implications for protecting non-military personnel? (e.g. vaccination, protective gear, training.)
- Identify the best practices (including other services).
- Ensure they are prepared to survive and operate in a post-CBRN event or high-threat environment?
- How far can a military installation commander go to respond to a CBRN incident off the installation under immediate response authority and what, if any, immediate response actions require application of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. § 5121 et seq) before they can be implemented?

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Priority: 1a

Key Terms: Mission essential personnel, total force, contractor integration, military outsourcing, force protection, Reserve, Guard.

**1.7 How can we deter, persuade, and prevent non-state actors from acquiring, using, and/or proliferating WMD?**

- Are different policy instruments required for deterring states and non-state actors?
- Does state-sponsorship alter this equation? How?
- Is it practical for terrorists to acquire or employ sophisticated delivery systems, including ballistic missiles?
- How is deterrence unique to each actor?
- What constitutes WMD use? (Is it only nuclear weapons? Advanced IEDs? Chemical weapons? Biological weapons? Other?)

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Priority: 1a

Key Terms: WMD acquisition and use, deterrence, non-state actors, state-sponsored terrorism

**OTHER TOPICS FOR FY 09 GROUPED BY SUB-TOPIC AND PRIORITY (1.8-1.51):**

***STRATEGIC SECURITY***

**1.8 What are potential impacts of nuclear weapons on the overall USAF force structure?**

- What impact will this have on the overall USAF force structure?
- How will this impact future levels of readiness?

- Does this impact the USAF's overall ability to modernize?
- How should the USAF structure its nuclear forces to meet international US commitments for extended deterrence?

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Priority: 1

Key Terms: nuclear weapons, force structure requirements, USAF modernization, readiness, extended deterrence

### **1.9 What is the impact of the “long war” on terrorism on the USAF?**

- What are the overall effects on the USAF resulting from the War on Terrorism?
- What are the impacts on force structure?
- Examine the strategic effects on the USAF of employing personnel in non-traditional USAF roles “in lieu of” taskings?
- Does this adversely impact USAF strategic air power?
- Is the USAF force structure capable of supporting counterinsurgency operations?
- What does this mean for the transformation of the USAF?
- Is an asymmetrical response or a symmetrical response more appropriate?

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Priority: 1

Key Terms: Long War, In Lieu Of, counterinsurgency

### **1.10 What are the implications of Conventional Trident Missiles (CTM) on the USAF?**

- What are the international implications to great power relationships of conventional PGS strike systems such as CTM, Conventional Strike Missiles, common aero vehicles (CAV), etc. (e.g., China, Russia)?
- What would be the political, financial, operational, compliance, and implementation ramifications of deployments of such systems?
- Will existing arms control agreements conflict with U.S. policy and AF doctrine for space?
- Examine the political, financial, and operational ramifications and impact on conventional ICBM programs.

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Priority: 1

Key Terms: CTM, PGS, CAV, START

**1.11 What is the potential impact on strategic stability of deploying U.S. missile defenses outside of the continental United States?**

- Consider any of the following regions:
  - India-Pakistan
  - Northeast Asia
  - Middle East (Syria, Israel)
  - China-Taiwan
  - Eastern Europe
  - Russia

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Priority: 1

Key Terms: missile defense, regional stability, crisis management

**1.12 What technical or political events might lead the U.S. to resume nuclear testing?**

- Stockpile issues?
- Adversary nuclear testing?
- Other changes in the global/international security environment?

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Priority: 2

Key Terms: Nuclear, CTBT, LTBT, FMCT, Testing

**1.13 Examine post-Cold War deterrence-related issues.**

- What does post-Cold War deterrence mean?
- Who are we trying to deter?
- What actions/events are we trying to deter?
- What are the requirements necessary for deterrence to function?
- How do we define deterrence success/failure?
- What are the consequences if deterrence fails?

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Priority: 2

Key Terms: deterrence, minimum deterrence, strategic deterrence, inter-war deterrence

**1.14 What should the US response be to a successful nuclear weapon test by another state?**

- Peer competitor (e.g., Russia, China)?
- Regional Competitor (e.g., Iran)?
- Non-aligned country (e.g., India, Brazil)?
- U.S. rationale and conditions to allow testing?
- Should the U.S. respond by increasing the nuclear stockpile? By resuming its own testing?

- What are the possible changes to the global/international security environment?

- Should the U.S. advocate another nuclear treaty?

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Key Terms: nuclear weapons, testing, proliferation

**1.15 What would be the international political, diplomatic, and strategic consequences of (and responses to) the next use of a nuclear weapon, whether by the U.S. or some other nation or non-state actor?**

- Examine possible consequences of first use of nuclear weapons by another state or a non-state actor during peacetime or conflict.
- Examine the circumstances of first use, consequence management, and the international response.
- What role will nuclear forensics play?
- What would be the impact on the NPT?
- How could the norm of non-use be restored?
- How would further use be deterred?

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Priority: 2

Key Terms: nuclear weapons, first-use, NPT

**1.16 Explore and discuss alternative or non-traditional employment of nuclear weapons, either by states or non-state actors that might surprise the U.S., and explain the implications for current national defense thinking.**

- High-altitude nuclear detonation generating electro-magnetic pulses in regional scenarios.
- The implications of a 3<sup>rd</sup> party threat or employment of nuclear weapons in a manner that might inhibit U.S. response options.
- The implications of third party nuclear employment on extended deterrence.
- The potential for others to develop next-generation or “exotic” nuclear weapons based on new processes, new/different materials, or designs.

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Priority: 2

Key Terms: Nuclear, NPT, CTBT, strategic surprise, HAND, EMP

**1.17 Examine U.S.-China strategic security relations.**

- What would be the usefulness of institutionalizing a strategic dialogue with China on missile defense, regional security, energy security, and deterrence?
- What is the impact of globalization on the above aspects of U.S.-China relations?
- What are the implications of China-Russia relations for U.S. security?

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Priority: 2

Key Terms: strategic dialogue, Sino-American relations, missile defense, regional security, energy security, deterrence

**1.18 How do we engage U.S. allies (East Asia, Europe, Russia, and South Asia) in U.S. missile defense programs and initiatives?**

- What is their potential role in the U.S. missile defense posture?
- How important is international cooperation to the success of U.S. missile defense policies?
- How should regional efforts to acquire missile defense capabilities (e.g., Japan, Israel, NATO, etc) be integrated with U.S. global missile defense priorities and objectives?
- How will the U.S. missile defense capabilities be integrated into NATO's strategic concept and NATO's emerging missile defense program?
- Examine case studies in cooperative missile defense systems, such as:
  - U.S.-Israel and Arrow program
  - U.S.-Germany-Italy and MEADS (Medium Air Defense System). Examine the "black box problem."
  - U.S.-Russia and JDEC (Joint Data Exchange Center), TMDX.
  - U.S.-Japan and sea-based TMD.

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Priority: 2

Key Terms: missile defense, NATO and strategic concept, Arrow program, MEADS, JDEC, TMDX, cooperative missile defense

**1.19 Explore and discuss the current status of extended U.S. deterrence guarantees.**

- Conduct a survey of the extent of U.S. deterrence.
- What is the nature of our commitment? i.e. Politically binding? Legally binding? Other?
- What are the force requirements for extending deterrence?
- What is the form of those commitments?
- What are the expectations of our allies?
- How do we assess credibility?

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Priority: 2

Key Terms: Extended deterrence, policy, nuclear, NPT

**1.20 What is the future of Russian strategic nuclear policy?**

- Is Russian force structure connected to the U.S. approach?
- What are current Russian advances in nuclear capabilities?
- What is the possibility of a renewed nuclear arms race?

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Priority: 2

Key Terms: Russia, START, SORT, nuclear weapons

**1.21 The global initiative to combat nuclear terrorism.**

- How can the U.S. identify and enhance partner capacity?
- What can be done to increase the capabilities of our allies?
- Recommended approaches to increase levels of cooperation.

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Priority: 2

Key Terms: Nuclear terrorism, partner capacity, alliances

**1.22 Discuss the pros and cons of the U.S. strategy for the global nuclear energy partnership.**

- Ensuring that the global expansion of commercial and civilian nuclear energy is pursued while minimizing proliferation potential.
- Ensuring the development of proliferation resistant and safe next-generation nuclear reactors.
- Ensure the securing of the fuel cycle.
- What are the security implications of the global increase in nuclear energy?

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Priority: 2

Key Terms: nuclear energy, minimizing proliferation, fuel cycle

**1.23 What are the major threats to U.S. security?**

- Is the threat of terrorism exaggerated?
- Nonstates vs states
- Rise of China
- Immigration
- Russian revanchism
- End of the Westphalian nation-state system

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Priority: 2

Key Terms: Terrorism, strategy, grand strategy, Russia, great power, Westphalia

**1.24 Are operations in Iraq and Afghanistan a model for the future?**

- Discuss the future of the U.S. military in the context of lessons learned in Iraq and Afghanistan.
- What are the lessons learned?
- What improvements are necessary?

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Priority: 2

Key Terms: Terrorism, strategy, Iraq, lessons learned

**1.25 What are the likely repercussions of radical Islamists controlling Pakistan's nuclear arsenal?**

- Security implications in Southwest Asia
- U.S. response
- U.S. options

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Priority: 2

Key Terms: Terrorism, strategy, Pakistan, nuclear weapons

***CONTROLLING WMD***

**1.26 Revisiting space arms control.**

- Satellite navigation PNT.
- How will space debris issues affect future operations and international agreements?
- What is the future of the Outer Space Treaty and PAROS?

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Priority: 1

Key Terms: space weapons, space debris

**1.27 How can the U.S. create a viable and verifiable cyber arms control regime?**

- What is the correct structure for a possible verification regime?
- What is the likelihood of universality for such a regime?
- What are the long-term impacts?

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Priority: 1

Key Terms: OST, Space, ASAT

**1.28 Would START, INF, or other international agreements need to be modified to optimize the role of conventional ICBMs or other conventional alternatives to nuclear delivery systems?**

- What are the alternatives to existing arms control treaties?
- What would be the impact on preexisting treaties?
- What is the post Cold War role of ICBMs?

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Priority: 1

Key Terms: START, INF, ICBM

**1.29 Are emerging technologies being limited by existing arms control agreements?**

- Discuss the impact of advances in technology (e.g. UCAVs, hypersonic weapons, non-lethal weapons, air-launched cruise missiles) in relation to any of the following treaties and/or agreements:
  - CFE or the adapted CFE regime
  - START
  - CWC (e.g. relationship between the regime and non-lethal weapons)
- Do they limit the integration of advanced technology into modern operational concepts in unintended ways?
- Explore and discuss the escalatory nature of advanced conventional weapons.

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Priority: 1

Key Terms: UCAVs, hypersonic weapons, non-lethal weapons, air-launched cruise missiles

**1.30 Re-evaluate the continued utility of legacy Cold War arms control agreements.**

- Open Skies Treaty
  - Conduct a cost/benefit analysis of the Open Skies Treaty regime.
  - Are there cost effective alternatives to the Open Skies treaty?
  - Has the implementation of the Open Skies Treaty met or exceeded the initial expectations of the treaty's negotiators?
- START
  - Is modification of this treaty required to account for new conventional strategic strike capabilities?
- Comprehensive Test Ban Treaty
- INF Treaty
- Ballistic Missile Launch Notification Agreement

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Priority: 1

Key Terms: OS, START, CTBT, INF, BMLNA

**1.31 Assess the continuing viability of the INF Treaty.**

- Discuss Russian concerns with INF.
- Discuss the implications of Russian withdrawal.
- Is the treaty still effective?

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Priority: 1

Key Terms: INF, Russia

**1.32 What benefits does the U.S. derive from the Cooperative Threat Reduction program?**

- Has CTR proven of value overall? How do you evaluate the effectiveness of CTR?

- Are there alternatives to CTR that would achieve the same end?
- Is the United States providing an indirect subsidy for Russian weapons programs?
- Is CTR expandable to other countries, such as Iran, India, or Pakistan?
- Is the CTR expandable to other arenas in addition to nuclear and CW programs, such as BW, or missile technologies, etc?

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Priority: 2

Key Terms: Cooperative Threat Reduction (CTR), Russia, United States

### *COMBATING WMD*

#### **1.33 Is the USAF correctly postured to implement the national strategy to combat Weapons of Mass Destruction (WMD)?**

- One of the highest national priorities is ensuring the capability to dissuade, deter, and defeat adversary use of weapons of mass destruction. This requires that DOD have an array of capabilities across eight disparate mission areas. In the USAF, the capabilities to address these mission areas are widely scattered across functional communities, field operating agencies, and the MAJCOMs. Does the USAF have the correct organization and capabilities to accomplish this mission?
- As USSTRATCOM moves toward creating a centralized approach to addressing these missions, how should the USAF organize to support these emerging requirements?
- Evaluate how the USAF can best support Warfighter capability across the range of Combating WMD mission areas.
- What is the optimal organizational structure for ensuring a robust capability for USAF to meet COCOM requirements related to countering the WMD threat?
- Does the USAF have the necessary capabilities to adequately conduct the combating WMD mission?

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Priority: 1

Key Terms: National Strategy to Combat WMD, National Military Strategy to Combat WMD, USSTRATCOM, C-CBRN roles and responsibilities, venue, timing, lifecycle, gaps, institutional, strategy, implementation.

#### **1.34 How successful has U.S. counterproliferation policy been? What adjustments need to be made?**

- How well does the public understand these policies?
- How effective are current approaches?
- Assess international efforts to combat WMD (e.g. PSI, UNSCR 1540)
- Assess the implementation of the strategy to combat WMD.
- Provide suggestions and recommendations.

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Priority: 1

Key Terms: counterproliferation policy, PSI, strategy

**1.35 Assess the effectiveness of the global nonproliferation regime.**

- Should the NPT remain the cornerstone of the international nonproliferation regime?
- How should the international nonproliferation regime be broadened?
- How should U.S. diplomatic efforts emphasize the idea that peaceful nuclear energy is not an unconditional right?
- Propose suggestions for improving supplier regimes.
- Suggest a strategy for the U.S. to assist other nations in rationalizing their national export control laws in an effort to standardize laws that apply to all states.
- Are multilateral organizations still relevant with regard to these efforts?
- Suggest ways to improve international cooperation within the NPT regime.
- Reassess the “core agreement” within the NPT between nuclear weapons states and non-nuclear weapons states.
- How can regional security frameworks bolster the international nonproliferation regime?
- To what extent has proliferation really occurred?

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Priority: 1

Key Terms: NPT Review Conference, Nuclear Weapons states, Non-nuclear Weapons states, Nuclear Suppliers Group

**1.36 Examine the potential C-CBRN roles and missions across the Services for remotely controlled, unmanned vehicles (land, air, & sea).**

- What are the current limiting factors to employing such vehicles (resources, technology of the vehicle, technology of the on-board package, CONOPS, etc.)?
- What types of packages could be useful on such an asset (standoff/point detectors, EO/IR camera, agent collection sampler)?
- How can these be used for improvements in passive defense (current CONOPS) and offensive operations (in conjunction with an Agent Defeat weapon)? How about the other pillars of C-CBRN?
- Can a modular, flexible suite of packages be developed for use on a variety of vehicles (across all mediums, and for all Services/Agencies)?
- Can DOD leverage the needs of other agencies to reduce R&D/acquisition costs in the development process, or are the capabilities each group needs just too different?
- How can these vehicles be employed to do this mission? Physically launched by personnel? Launched by another weapon system (from the belly of an aircraft)? Launched automatically from a pre-positioned location without physical contact by personnel?

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Priority: 1

Key Terms: Remotely controlled unmanned vehicles, unmanned aerial vehicles, UAV, aerostats

**1.37 Examine and assess the roles and responsibilities of the various DOD and government authorities in passive defense and consequence management.**

- What activities should be classified as passive defense?
- What activities should be classified as consequence management?
- What should the role of the DOD (particularly the Air Force) be in domestic consequence management following a CBRN event?
- What should the role of the DOD (particularly the Air Force) be in foreign consequence management following a CBRN event?

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Priority: 1

Key Terms: Consequence Management, CBRN, Passive Defense

**1.38 Assess current definitions of weapons of mass destruction (WMD) and discuss whether they are adequate to capture current and emerging threats.**

- What criteria should be considered when proposing a definition (e.g. effects-based vs. threshold-based, political aspects, others)?
- Are some threats so distinctive they should be addressed separately? For example, should high-yield explosives be included as WMD with chemical, biological, radiological, and nuclear (i.e., CBRN) weapons?
- Should weapons of mass disruption be included in the definition? Why or why not?
- Are there technologies that might be captured by too broad of a definition that the United States would not like to see denoted as WMD (e.g., directed energy weapons)?
- What is the potential proliferation or legal implications of differing definitions?
- Reference and build upon the Seth Carus NDU monograph.

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Priority: 1

Key Terms: Weapons of Mass Destruction, WMD, CBRN, definition, effects-based, threshold, high-yield explosives, weapons of mass effects, weapons of mass disruption

**1.39 Propose a Joint concept of operation for accomplishing air interdiction of commercial and private aircraft in support of the Proliferation Security Initiative (PSI).**

- Include a notional vignette(s) that describes joint PSI air interdiction operations conducted in the CENTCOM and/or PACOM AOR.
  - Address what types of joint assets and capabilities should be required for detecting, tracking, intercepting, escorting suspect aircraft to a landing site, and for searching, securing, exploiting, and eliminating WMD-related material.
- Include a review of PSI and other types of air interdiction exercises and lessons learned.
- Review a recent table-top exercise. Provide an analysis of the results.

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Priority: 1

Key Terms: Proliferation Security Initiative (PSI), capabilities, equipment, policy, ROE, aerial interdiction, drug war, no-fly zone, maritime interdiction, WMD interdiction, case study.

**1.40 How should the USAF handle Allies/Coalition/U.S. Joint Forces that are not at the same level of readiness to counter CBRN threats?**

- Should the USAF provide them with equipment, medical supplies, personal or collective protection?
- What is the appropriate level of support required?
- How should we train/exercise Joint/Coalition forces to operate in a CBRN environment?
- Is technology transfer a concern? Should it be?
- Conduct a case study analysis (e.g. examine Joint operational experience in the Gulf War or OIF).

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Priority: 1

Key Terms: Force protection, passive defense, Joint, Allies, doctrine, civilian, military, CBRN, force protection, operations, fixed-site, policy, coalition, biological warfare, chemical weapons, CW, BW, CBW, CBRN, WMD

**1.41 What are the proliferation implications and security concerns related to increasing reliance on transnational corporations?**

- Should materials and expertise transfers within/between multi-national companies be monitored and if so, how?
- How should the U.S. government engage the biotech industry to address potential transfers?

- Identify potential areas of proliferation concern with regard to transnational corporations.
- Examine dual-use export control legislation and multilateral agreements. Assess their implications for transnational corporations. Identify areas for improvement in these regimes.
- What are the strategies to identify and track dual-use technology in this context?
- What are the strategic implications of increased outsourcing?

POC: Lt COL Nancy Rower, INSS (719)-333-2717, DSN 333-2717,  
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Priority: 2

Key Terms: Proliferation, transnational corporation, technology transfer, dual-use technology, export controls, biotech industry.

#### **1.42 What changes are needed to permit aeromedical evacuation in a CBRN environment?**

- What are the national policies on medevac of contaminated patients or remains?
- What is the capacity for the evacuation of contaminated patients?
- Identify differences for naturally occurring disease environments.
- What are the requirements for noncombatant evacuation operations (NEO)? What are the political/legal ramifications for the evacuation of contaminated civilians?
- Is there a medical evacuation requirement? Is there a mobile medical unit requirement?
- Investigate the potential for medical CRAF (Civil Reserve Air Fleet) in the event of a contaminated casualty surge—would CRAF provide back-flow from theater?
- What modalities are necessary?
- How should levels of decontamination be determined prior to transport?
- Are there case studies for comparison?
- What are the work-arounds in lieu of transporting?

POC: Lt Col John Golden (AMC/A35C, (618) 229-4009 or DSN 779-4009, john.golden5@scott.af.mil) and Lt Col Mitch Stratton (AF/A3SC, (703) 614-1514, DSN 224-1514, mitchell.stratton@pentagon.af.mil)

Priority: 2

Key Terms: aero medical evacuation, BW, contamination, mobile medical unit, med evac, Civil Reserve Air Fleet, decontamination, case study, medivac, CBRN.

#### **1.43 Examine the threat posed by air, sea, and land Unmanned Vehicles and potential countermeasures.**

- What is the threat? How might an adversary use commercial UVs as a warfighting weapon or weapon of terror? Combined with CBRN?

- What role might the USAF be assigned or how can it contribute to defending against UVs? What are effective countermeasures against them?
- Identify the key issues regarding UV delivery of chemical or biological weapons (CBW). Which countries or groups might have the capability to use them as CBRN delivery systems?
- How is it possible to regulate UVs? Assess the extent to which current domestic and international flight regulations apply to UVs.
- Would proliferation prevention measures be effective against this threat? Why or why not?

POC: Mr. Forrest Waller (NDU, (202) 685-4235) wallerf@ndu.edu)

Priority: 2

Key Terms: Unmanned Vehicle, UAV, CBRN delivery, International Civil Aviation Organization, ICAO, Federal Aviation Administration, FAA.

#### **1.44 Recommend a USG prioritization scheme for vaccinations in the event of a global influenza pandemic.**

- US Government personnel versus civilian personnel
- What should the priority be within the government?
- CONUS versus OCONUS USG personnel
- What are the strategic consequences of not considering a prioritization during planning?
- Use 6 months as a planning assumption for vaccine availability after onset of a pandemic.

POC: Lt Col Mitch Stratton (AF/A3SC, (703) 614-1514, DSN 224-1514, Mitchell.stratton@pentagon.af.mil)

Priority: 2

Key Terms: Vaccines, vaccination program, compulsory, voluntary, vaccination, biological, Allies, medical records, acquisition, commanders, anthrax, smallpox, CBRN, WMD, C-WMD, consequence management

#### **1.45 Identify “best practices” of other nations in addressing C-CBRN.**

- Are best practices applicable to U.S. operations? Which can be adopted for use by the United States?
- Examine how Allied forces interact with their local civilian populations when responding to a CBRN incident.
- Focus on countries that have extensive experience with readiness for C-CBRN operations (e.g. Israel, United Kingdom).

POC: Lt Col Robert Drozd (AF/A3SC, (703) 692-9930, DSN 222-9930, robert.drozd@pentagon.af.mil)

Priority: 2

Key Terms: Best practices, passive defense, consequence management, Allies, fixed-site operations, CONUS, doctrine, counterterrorism, civilian, civil-military operations, civil affairs, civil support, force protection, operations, fixed-site, doctrine, policy, Allies, coalition, biological warfare, homeland defense, homeland security, CBRN, CONOPS.

**1.46 Survey and capture recent exercise and wargaming threat scenarios for access denial and terrorism where WMD are employed.**

- Identify realistic scenarios that are underutilized and develop alternative and innovative scenarios for future consideration.
- Conduct a survey of past scenarios.
- Describe how a library of threat scenarios might be developed, maintained, and accessed by exercise or game developers.
- Identify significant trends/areas of omission in WMD scenario development.
- What are the sources and differentiators of WMD scenarios and how have they played out?
- Define important elements that effective WMD threat scenarios should include. Do existing WMD threat scenarios adequately address these elements?
- Brainstorm and develop some innovative WMD threat scenarios that have not been well addressed but merit analysis and game play.

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Priority: 2

Key Terms: Scenarios, access denial, weapons of mass destruction, WMD, force protection, UAV, case study, wargaming, terrorism, CBT simulators.

**1.47 How should the U.S. act to preempt or respond to any CBRN use?**

- Would adopting a declared policy of retaliating against CBRN attacks with nuclear weapons enhance the ability of the United States to deter such attacks?
- Are there physical phenomenon associated with a nuclear detonation that would be effective for defeating chemical or biological agents?
- Would the political consequences and collateral weapon effects outweigh the benefit of eliminating the chemical or biological threat?
- What operational deployment doctrines, planning, and procedures should be considered?

POC: Dr. Kerry Kartchner (DOS, (202) 647-5824, kartchke@state.gov) and Lt Col Robert Drozd, (AF/A3SC, (703) 692-9930, robert.drozd@pentagon.af.mil.)

Priority: 2

Key Terms: CBRN, nuclear retaliation, chemical weapons, biological weapons, preemption

**1.48 Evaluate the progress and shortfalls of the U.S. counter-CBRN passive defense program.**

- Assess and streamline the DOD process for modernizing CBRN detection equipment, so the war fighter can have the most current state of the art technology to meet current and projected mission threats.
- Scrub current national and service CBRN threat projections against AF expeditionary mission sets.

- Identify S&T shortfalls and duplications of effort. Propose solutions to cover shortfalls and avoid duplication of effort in S&T (e.g. the development of a forum for national labs & DOD, a single oversight body).
- Examine the role of private industry in detection development.
- Discuss approaches to streamline the R, D, &T process.
- Identify duplication of effort by Air Staff, MAJCOM, and FOAs in the modernization process.

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Priority: 2

Key Word: CBRN, passive defense, C-WMD, WMD

#### **1.49 Evaluate the operational impact of CBRN contamination on critical space systems.**

- What affect do contaminants have on unique materials used in the construction of ground-based space radars (dishes, arrays, and environmental covers aka “golf balls”)?
- Do contaminants interfere with data transmission during operations?
- Does the electromagnetic energy propagated by radars during normal operations affect the contaminate (e.g., increase off-gassing, thereby extending/enhancing the CBRN threat to the surrounding base; mutate/kill bio agents)?
- Can ground radars be decontaminated? How?
- Can space lift vehicles and/or their payloads be decontaminated in a manner similar to large-frame aircraft? If not, how?

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Priority: 2

Key Word: CBRN, contamination, space, lift

#### **1.50 Educational requirements for counter-WMD missions**

- Develop and analyze tasks necessary to train boarding parties and other response force elements supporting a spectrum of PSI activities in WMD technology recognition.
- Compare and contrast WMD search and ID approaches taken by various Services and Agencies/Departments.
- Discuss best practices for identifying and securing various types of WMD.

POC: Dr. Smith, INSS, (DSN 333-2717, (719) 333-2717, james.smith@usafa.edu)

Priority: 2

Key Word: WMD, CBRN, PSI, interdiction, C-WMD

**1.51 Examine the impact of restriction of movement (ROM) including social distancing, quarantine, and isolation on military operations.**

- How does a commander carry out effective operations while adhering to ROM requirements?
- What information is needed to evaluate risks and benefits of continued operations?
- What are the legal and logistical ramifications of imposing ROM? Identify the limits of the commander's authority to impose ROM (see AFI 10-2603).
- Examine lessons learned from quarantines imposed during the spread of Severe Acute Respiratory Syndrome (SARS). Discuss the implications of the successes and shortfalls for military operations.
- What are the key points in making the decision to impose ROM (numbers, extent of contagion, mission impacts, legal impacts on communities and host nations, etc.)?
- Consider the operations impact of ROM associated with containing pandemic influenza.

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Priority: 3

Keywords: Biological warfare, biological defense, Severe Acute Respiratory Syndrome, SARS, quarantine, contagion, restriction of movement, host-nation agreements on restriction of movement, civil authorities, civil support, DODD 6200.3 *Emergency Health Powers on Military Installations*, AFI 10-2603 *Emergency Health Powers on Air Force Installations*.

