

Executive Summary

Report on Activities and Programs for Countering Proliferation and NBC Terrorism

May 1999

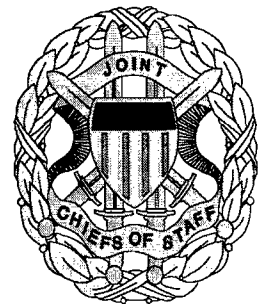
Counterproliferation

Program

Review

Committee

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Executive Summary

Congress directed, in the 1994 National Defense Authorization Act (NDAA), that the Counterproliferation Program Review Committee (CPRC) be established to review activities and programs related to countering proliferation within the Office of the Secretary of Defense (OSD), Department of Energy (DOE), U.S. Intelligence, and the Joint Chiefs of Staff (JCS). The high level national commitment to counter proliferation threats is reflected in the CPRC's membership. It is chaired by the Secretary of Defense and composed of the Secretary of Energy (as Vice Chair), the Director of Central Intelligence (DCI), and the Chairman of the Joint Chiefs of Staff (CJCS). The CPRC is chartered to make and implement recommendations regarding interdepartmental activities and programs to address shortfalls in existing and programmed capabilities to counter the proliferation of nuclear, biological, and chemical (NBC) weapons of mass destruction (WMD) and their means of delivery. In the 1997 NDAA, Congress broadened the CPRC's responsibilities and specified that the CPRC also review activities and programs of the CPRC-represented organizations related to countering paramilitary and terrorist NBC threats. The findings and recommendations of the CPRC's annual review for 1999 are presented in this, its sixth annual report to Congress.

Organizationally, the Deputy Secretary of Defense has been designated by the Secretary of Defense to perform the duties of CPRC Chairman, and the Assistant to the Secretary of Defense for Nuclear and Chemical and Biological Defense Programs (ATSD(NCB)) has been designated by Congress as CPRC Executive Secretary. The CPRC Standing Committee, established in 1996, meets regularly and is actively working to perform the duties and implement the recommendations of the CPRC. The Standing Committee is composed of the ATSD(NCB) (as Chair); the Director, Office of Nonproliferation and National Security, DOE (as Vice Chair); the Special Assistant to the DCI for Nonproliferation; the Deputy Director for Strategy and Policy, Joint Chiefs of Staff (Plans and Policy, J-5); and the Assistant Secretary of Defense for Special Operations/Low-Intensity Conflict (ASD(SO/LIC)).

To guide its program review process, the CPRC established the Areas for Capability Enhancements (ACEs) to characterize those areas where progress is needed to enhance both the warfighting capabilities of the Combatant Commanders, including the Commanders-in-Chief (CINCs), and the overall ability to satisfy the demands of U.S. nonproliferation and counterproliferation policy. The ACEs define those priority areas where additional capabilities are needed to meet the challenges posed by the proliferation of NBC weapons and their means of delivery (NBC/M), including those posed by paramilitary and terrorist NBC threats. They also serve as a basis to assess progress in meeting the mission needs of the CPRC-represented organizations for countering proliferation. The ACEs are reviewed annually to ensure that they continue to reflect the integration of the warfighting needs of the CINCs and the overarching national security objectives they support.

The ACEs reflect evolving needs and shortfalls that change as threats evolve and become better understood and as research and development (R&D) and acquisition programs mature, enabling new operational capabilities. Updated and current ACEs serve to improve the focus of future programmatic and managerial efforts to counter NBC/M proliferation and NBC terrorist

threats. Each CPRC-represented organization individually prioritizes the ACEs in accordance with their own departmental mission needs to more accurately reflect each organization's response to countering proliferation and NBC terrorism. The counterproliferation ACEs for 1999 are listed in Table 1. Based on the 1998 CINC Counterproliferation Requirements, the 1999 ACEs were extensively modified from the 1998 ACEs.

Table 1: The Counterproliferation ACEs for 1999

ACE Priorities			Areas for Capability Enhancements (ACEs)
DoD	DOE	US INTELL	
1	-	-	Individual and Collective Protection Against NBC Agents to Enable Sustained Operations on the NBC Battlefield
2	-	-	Medical Protection Against NBC Agents, to Include Vaccine Stockpile Availability
3	3	2	Detection, Identification, Characterization, and Warning of CW/BW Agents
4	-	8	Ballistic Missile Active Defense
5	-	-	Provide Decontamination Capabilities on the Battlefield and in the Joint Rear Area
6	2	5	Support for Special Operations Forces and Defense Against Paramilitary, Covert Delivery, and Terrorist NBC Threats
7	-	12	Cruise Missile Defense
8	7	1	Collection, Analysis, and Dissemination of Actionable Intelligence to Counter Proliferation
9	1	4	Detection, Tracking, and Protection of NBC/M and NBC/M-Related Materials and Components
10	-	6	Target Planning for NBC/M Targets
11	-	7	Detection, Characterization, and Defeat of Underground Facilities with Minimal Collateral Effects
12	6	3	Detection, Characterization, and Defeat of NBC/M Facilities with Minimal Collateral Effects
13	-	11	Prompt Mobile Target Detection and Defeat
14	4	-	Provide Consequence Management for Terrorist Use of NBC Weapons (including support to Domestic Consequence Management)
15	8	10	Support Export Control Activities of the U.S. Government
16	5	9	Support Inspection and Monitoring Activities of Arms Control Agreements and Regimes

The CPRC focused its annual activity and program review on identifying key R&D and acquisition program accomplishments and milestones illuminating planned near-, mid-, and long-term capability improvements. The CPRC has determined that a prudent, time-phased response to the challenges posed by NBC/M proliferation and NBC terrorist threats is in place and solidly under way. Although it will take several years to achieve the goals and objectives of the numerous programs responding to these challenges, the CPRC can report that progress continues to be made in many ACE priority areas. This progress continues to strengthen U.S. capabilities for countering proliferation and NBC terrorism and includes: i) the rapid fielding of essential capabilities; ii) coordinating and focusing interorganizational R&D and acquisition activities; iii) expanding international cooperative activities; and iv) improving the integration, management, and oversight of activities and programs related to countering proliferation and NBC terrorism.

Commensurate with the seriousness of the threat, the Department of Defense (DoD), DOE, and U.S. Intelligence have each made serious commitments to enhance national capabilities to counter the proliferation of NBC/M and NBC terrorist threats. The combined DoD/DOE investment for Fiscal Year (FY) 2000 is over \$6.2 billion compared to over \$6.4 billion in FY 1999, approximately a 2.7% decrease. DoD's investment for FY 2000 is over \$5.7 billion, approximately a 3.0% decrease from last year's investment of more than \$5.9 billion. DoD budgets the bulk of its counterproliferation investment in the areas of missile defense (DoD ACE priorities 4 and 7); individual and collective protection against NBC agents to enable sustained operations on the NBC battlefield (DoD ACE priority 1); supporting the inspection, monitoring, and verification of arms control agreements (DoD ACE priority 16); detection, identification, characterization, and warning of CW/BW agents (DoD ACE priority 3); consequence management of terrorist use of NBC weapons (DoD ACE priority 14); supporting Special Operations Forces (SOF) and defending against paramilitary, covert delivery, and terrorist NBC threats (DoD ACE priority 6); and target planning for NBC/M targets (DoD ACE priority 10). It must be emphasized that counterproliferation efforts leverage the substantial investments made in maintaining the requisite military forces and defense infrastructure necessary to provide for the basic common defense of the United States. All budget figures in this report are from the President's Budget.

DOE continues to increase its investment in nonproliferation activities with \$520.2 million requested for FY 2000, a \$5 million increase over last year. As part of its core national nonproliferation program, DOE focuses on the tracking and control of nuclear-weapons-related materials and components (DOE ACE priorities 1, 7 and 8), supporting the inspection and monitoring of arms control agreements (DOE ACE priority 5), and defending against and managing the consequences of covert delivery and NBC terrorist threats (DOE ACE priorities 2 and 4). DOE is also continuing its technology development efforts in the detection, identification, and characterization of CW/BW agents (DOE ACE priority 3). The investments of U.S. Intelligence in programs to counter proliferation are discussed in a separately bound "Intelligence Annex" to this report.

Since the May 1998 CPRC report was submitted, the following key activities have been undertaken and accomplishments achieved by DoD, DOE, and U.S. Intelligence to enhance the interdepartmental response to countering NBC/M proliferation and NBC terrorist threats.

Summary of Key DoD Activities

- ***DoD's Counterproliferation Initiative.*** The Defense Counterproliferation Initiative (CPI) is the DoD-wide effort to address the threats posed by the proliferation of NBC/M. The CPI supports our national counterproliferation policy, first by contributing to U.S. government efforts to prevent the acquisition of NBC weapons or reverse it when it has occurred. If prevention fails, DoD must have the capabilities needed to deter the use of NBC weapons and to defend against their use. Finally, DoD wants to ensure that U.S. forces are equipped and trained to prevail in future Smaller-Scale Contingencies (SSCs) and Major Theater Wars (MTWs) wherever they may face NBC/M threats.
- ***DoD's Counterproliferation Council.*** To ensure that DoD's broad counterproliferation policy objectives are met and that implementation of the CPI is integrated and focused, the Secretary of Defense established the Counterproliferation Council (CPC) in April 1996. The CPC is composed of senior DoD civilian and military officials and meets on a regular basis. They focus on the potential impact of NBC/M proliferation on the Department's ability to fight two nearly simultaneous MTWs, as well as on Joint and Service doctrine and exercises and Service organizing, equipping, and training for integrated operations in an NBC-contaminated environment.
- ***Defense Threat Reduction Agency.*** As a result of the Defense Reform Initiative (DRI), the DoD formed the Defense Threat Reduction Agency (DTRA) from several key elements of the DoD with responsibilities for countering the proliferation of NBC weapons. DTRA was established on 1 October 1998 to serve as a single contact point for the full spectrum of activities involved with reducing the threat of NBC weapons, such as protecting critical technologies, controlling NBC/M through treaties and agreements, providing advanced capabilities to actively prevent the proliferation of and deny sanctuary to NBC, and helping sustain our nuclear deterrent. The Director of DTRA reports to the Under Secretary of Defense for Acquisition and Technology (USD(A&T)).
- ***Threat Reduction Advisory Committee.*** The Threat Reduction Advisory Committee (TRAC) was organized by USD(A&T) as part of the DRI and the formation of DTRA. The Deputy Secretary of Defense has tasked the Committee to be responsive to the entire DoD and to make recommendations on the reduction of the threat from nuclear, biological, chemical, and conventional and special weapons, sustainment of the nuclear weapons deterrent, chemical and biological defense, counterproliferation, technology security, weapons effects, and other matters related to DTRA's mission. The TRAC provides a unique link between the civilian government scientific and technical communities and the Executive Branch.
- ***DoD's Counterproliferation Support Program.*** The Counterproliferation Support Program (CPSP), was specifically established in 1994 by the NPRC/CPRC to address DoD shortfalls in counterproliferation capabilities. Oversight of this program is provided by ATSD(NCB), while day-to-day management of the program is provided by the DTRA Counterproliferation Support and Operations Directorate and the Chemical Biological Defense Directorate. The CPSP uses its budget to leverage DoD R&D and acquisition programs to meet the counterproliferation priorities of the CINCs and to accelerate the deployment of enhanced capabilities to the field.

Currently, the CPSP is targeting several of the 16 ACEs where leveraged support can be decisive. The CPSP also conducts technology development activities with the DOE National Laboratories, the U.S. Intelligence Community, and several DoD agencies and organizations.

- ***The Counterproliferation CONPLAN 0400.*** The CJCS' *Counterproliferation CONPLAN 0400*, which directs CINC planning to implement national level counterproliferation policy in terms of operational objectives and supporting tasks, has been coordinated by the Joint Staff. The CJCS CONPLAN 0400 was used by the CINCs to develop their own area-specific counterproliferation CONPLANS (Concept Plan), which have been submitted to the Joint Staff for review. As part of the continuing process to improve the CINCs' counterproliferation capabilities, the Joint Staff will review and update the CJCS CONPLAN 0400 in FY 1999.
- ***The CINCs' Counterproliferation Required Capabilities.*** In FY 1998, the Deterrence/Counterproliferation (D/CP) Joint Warfighting Capability Assessment (JWCA) team conducted a series of Operational Planning Workshops (OPWs) with the Warfighting CINCs. The OPWs resulted in revalidated lists of CINC counterproliferation requirements and required capabilities necessary to conduct the counterproliferation mission from a military warfighting perspective. The prioritized lists will be used by the D/CP JWCA to identify CINC counterproliferation shortfalls. The D/CP JWCA is in the process of assessing the ability of current programs to meet CINC Counterproliferation Requirements. This assessment will facilitate Joint Requirements Oversight Council (JROC) validation of CINC warfighting requirements by reviewing warfighting deficiencies and recommending program alternatives. The D/CP JWCA is also assessing the Warfighting CINCs' In-Theater near- and mid-term fixed site biological detection requirements. This assessment will result in a prioritized and validated list of CINC fixed site biological detection requirements and program recommendations.
- ***U.S. Strategic Command Counterproliferation Activities.*** U.S. Strategic Command (USSTRATCOM) provides a deliberate counterproliferation planning support capability to the Theater CINCs. The centerpiece of this program is the Unified Command-accepted Counterproliferation Analysis and Planning System (CAPS). CAPS is a classified planning resource created by Lawrence Livermore National Laboratory to support near-real-time nodal analyses and collateral effects predictions for counterproliferation missions.
- ***Ongoing Advanced Concept Technology Demonstrations (ACTDs).*** To accelerate the fielding of advanced technologies and capabilities to counter NBC/M threats, there are two active ACTDs and one additional ACTD is planned: i) the Counterforce CP2 ACTD is providing expanded options for defeating hardened and underground NBC/M targets while minimizing collateral effects; ii) the Joint Biological Remote Early Warning System (JBREWS) ACTD is providing enhanced capabilities for early warning of BW attacks; and iii) the proposed Restoration of Operations (RestOps) ACTD is preparing for a start in FY 2000, to deal with restoring operations at a port or airfield in-theater following a chemical or biological attack.
- ***Hard, Deeply Buried, and Tunnel Target Defeat Programs.*** The Joint Service Hard and Deeply Buried Target Defeat Capability acquisition program has analyzed over 60 weapon

system concepts and plans to recommend a small subset for further development to the Defense Acquisition Board in August 1999. The DTRA Hard Target Defeat program continues to evaluate technology and operational needs for detecting, characterizing, and defeating this class of targets.

- **Key Active Defense Activities.** Following a family of systems approach, DoD continues to press forward with development and deployment of systems for improving active defense against ballistic missile, air, and cruise missile threats. These Active Defense Systems can be grouped into the general capability categories of Lower Tier (LT) and Upper Tier (UT) systems. LT systems (those that engage threats endo-atmospherically or inside the atmosphere) are the Patriot Advanced Capability-3 (PAC-3), the Navy Area Defense System (NADS) and the Medium Extended Air Defense System (MEADS). The first two, PAC-3 and NADS, are being developed by the United States, without Allied participation. Both are scheduled for fielding starting in FY 2000/01. In contrast, MEADS is a United States/Germany/Italy cooperative development effort with fielding slated to begin in FY 2010+. UT systems (those that operate entirely or predominantly outside the atmosphere) are the Theater High Altitude Area Defense (THAAD), the Navy Theater Wide (NTW) and the National Missile Defense (NMD) systems. The Airborne Laser (ABL), another missile defense system, is designed for intercepts during the boost phase of a threat missile trajectory. In terms of first unit equipped or fielding dates for TMD systems, the following is the established deployment order: PAC-3, NADS, ABL, THAAD, NTW Block I, MEADS, and NTW Block II. Elements of the PAC-3 system are already being deployed with procurement of additional assets underway. PAC-3 and NADS testing and upgrades development are continuing. For NMD, a Lead System Integrator has been named and the program is proceeding toward a third quarter FY 2000 Deployment Readiness Review (DRR), with a deployment decision within 12 months of the DRR. In various stages of development, each of the above systems experiences periodic schedule extensions to compensate for increases in cost and technical risks as well as testing challenges.
- **DoD Medical NBC Training and Research and Development Programs.** Primary NBC passive defense medical training programs are provided by the U.S. Army Medical Department Center and School (USAMEDDC&S), U.S. Army Medical Research Institute of Chemical Defense (USAMRICD), the U.S. Army Medical Research Institute of Infectious Disease (USAMRIID) and the Armed Forces Radiobiology Research Institute (AFRRI). The research to develop medical countermeasures against NBC is also executed at AFRRI (nuclear), USAMRIID (biological), and USAMRICD (chemical). Integration of the training and research programs ensures incorporation of developments in medical countermeasures into the training of medical personnel and allows direct interaction between research scientists and medical providers.
- **The Domestic Preparedness Initiative.** ASD/Reserve Affairs (RA) has policy oversight of this program and the lead for transitioning the program over to the Department of Justice. The Army has the lead for program implementation. Led by ASD/RA, DoD is: i) conducting "Train the Trainer" programs for emergency responders in the 120 largest U.S. cities; ii) establishing a Joint Chemical Biological Rapid Response Team and enhancing the Chemical Biological Incident Response Force (CBIRF); iii) supporting R&D activities to improve

consequence management capabilities; iv) establishing satellite broadcast training and Chemical/Biological and Stress Management Special Medical Augmentation Response Teams for the medical management of CW/BW casualties; and v) working closely with the Federal Bureau of Investigation (FBI), the Federal Emergency Management Agency (FEMA), and other federal, state, and local authorities to provide DoD-unique CW/BW response capabilities and expertise to improve overall intergovernmental emergency response.

- **Key U.S. Air Force Counterproliferation Activities.** The Air Force published a comprehensive Master Plan for Counterproliferation in December 1997. This document describes Air Force strategy as a force developer and provider by assessing capabilities, defining Air Force counterproliferation requirements to support the warfighting CINCs, identifying shortfalls and deficiencies across the counterproliferation mission spectrum, and prescribing measures to meet them. The *Counter Chemical and Biological Operations Roadmap* was evaluated during its first annual review to further define Air Force counterproliferation capabilities and programmatic details. Two of the three major studies initiated last year, *Sustaining Air Mobility Operations in a WMD Environment* and *Counter Chemical and Biological Warfare Operations, Counterforce*, were completed and are being briefed throughout the Air Force. The third study, *Fighting the Base*, is expected to be completed in May of 1999. Further, a *USAF Full-Spectrum Threat Planning and Response Guide* handbook was produced to provide U.S. Air Force personnel at installations in CONUS and abroad with information for pre-incident threat response planning and for post-incident threat response plan activation and execution in response to a biological, nuclear, incendiary, chemical, or explosive event.
- **Other Key DoD Activity and Program Accomplishments.** Well over 100 DoD programs are strongly supporting national efforts to counter NBC/M proliferation and NBC terrorist threats. Over the past five years, substantial progress has been made in these programs and other activities to improve fielded counterproliferation, nonproliferation, and NBC counterterrorism capabilities and to establish the necessary groundwork for continued advances. Selected accomplishments of these activities and programs are highlighted in Table 2.

Summary of Key DOE Activities

- **Chemical and Biological Agent Detection R&D.** This program was established in recognition of the Department's significant expertise in the chemical and biological sciences resident at the National Laboratories. The development and selection of R&D projects is closely coordinated with DoD and U.S. Intelligence. Projects have been funded based on the Laboratories' expertise and potential to address CW/BW military defense needs and the consequence management needs of civilian first responders.
- **Detecting and Characterizing Worldwide Production of Nuclear Materials and Weapons.** DOE continued development of complementary active and passive remote sensing technologies to detect and characterize foreign nuclear materials production activities. Acquisition of special nuclear materials is the most important step in nuclear weapons proliferation. Therefore, the ability to detect the processes associated with the production of special nuclear materials is a

Table 2: Highlights of DoD's Response to the Counterproliferation ACEs

DoD ACE Priority	Selected Accomplishments in DoD Counterproliferation Programs
1. Individual and Collective Protection Against NBC Agents to Enable Sustained Operations on the NBC Battlefield	<ul style="list-style-type: none"> • Continued deployment of critical NBC detection and warning, individual and collective protection, and decontamination systems for use throughout the battlespace • Continuing advances in NBC medical defense RDT&E • Additional funding for NBC defensive equipment to meet operational requirements
2. Medical Protection Against NBC Agents, to Include Vaccine Stockpile Availability	<ul style="list-style-type: none"> • Fulfilled DoD-prescribed stockpile level of anthrax vaccine • Decision to vaccinate U.S. forces against anthrax; vaccinations under way
3. Detection, Identification, Characterization, and Warning of CW/BW Agents	<ul style="list-style-type: none"> • Accelerated development of advanced early warning BW agent detection systems • Continued RDT&E in simultaneous chemical and biological detection and identification
4. Ballistic Missile Active Defense	<ul style="list-style-type: none"> • Several programs restructured to accelerate/decelerate acquisition and reduce technical risk (THAAD, PAC-3, MEADS, NADS, NTW, JLENS, NMD) • THAAD and ABL components exercised in various field exercises • System operational requirements JROC-validated (THAAD, NTW) • Navy initiated actions to accelerate Navy Area TBMD ship deliveries within FYDP • Navy Area TBMD "Linebacker" software deployed on 2 ships. Missiles delivered FY00. • Technology sharing and synergy with ballistic missile defense programs is continuing • Completed construction of Mission Control Station and began equipment build-up and testing for SBIRS Increment 1 (DSP Consolidation); completed SBIRS Low (Increment 3) Source Selection
5. Provide Decontamination Capabilities on the Battlefield and in the Joint Rear Area	<ul style="list-style-type: none"> • Continued RDT&E of modular decontamination system • Continued procurement of M17 lightweight decontamination apparatus • Continued R&D efforts for sorbent decontamination
6. Support Special Operations Forces and Defense Against Paramilitary, Covert Delivery, and Terrorist NBC Threats	<ul style="list-style-type: none"> • Continued development of specialized technologies and equipment prototypes to assist SOF and Explosive Ordnance Disposal teams in countering CW/BW threats • Enhanced coordination of Joint Service exercises and readiness sustainment activities • Facility assessments to enhance U.S. force protection well under way and now repeating visits to high threat locations
7. Cruise Missile Defense	<ul style="list-style-type: none"> • MEADS program funded at \$150M level (FY00-02); proof-of-principle demo in FY02 • JLENS program restructure approved by OIPT and EXCOM, Jan. 99; contingency capability developed by FY10
8. Collection, Analysis, and Dissemination of Actionable Intelligence to Counter Proliferation	<ul style="list-style-type: none"> • <i>Athena</i> counterproliferation intelligence "information space" under development to support mission planning and operations • See the Intelligence Annex to this report for additional programs
9. Detection, Tracking, and Protection of NBC/M and NBC/M-Related Materials and Components	<ul style="list-style-type: none"> • Integrated Specific Emitter Identification device into Fleet • Conducted training sessions for Kazakhstan, Kyrgyzstan, Uzbekistan, Georgia, and Moldova
10. Target Planning for NBC/M Targets	<ul style="list-style-type: none"> • User acceptance of integrated planning and weaponeering tools (IMEA) by DIA, JCS-J2T, CINC EUCOM to support operations Desert Viper, Desert Fox, and other contingencies • CW/BW agent defeat models for planning tools under development • Counterproliferation Analysis and Planning System (CAPS) • Dragon Fury/ATHENA • Agent Defeat Weapon Planning Tools
11. Detection, Characterization, and Defeat of Underground Facilities with Minimal Collateral Effects	<ul style="list-style-type: none"> • Completed construction on the full-scale Tunnel Defeat Demonstration test bed • Completed strike operations plan to obtain weapon delivery and effectiveness against tunnels • See ACE #12 data
12. Detection, Characterization, and Defeat of NBC/M Facilities with Minimal Collateral Effects	<ul style="list-style-type: none"> • CPI ACTD completed; residual items included the AUP with the HTSF, TUGS, TMSF, and TFFM • Separate procurement funds have been provided for additional AUPs with the HTSF in addition to the ACTD residual deliverables • Agent defeat weapons system concepts collected from industry and DoD/DOE labs for evaluation
13. Prompt Mobile Target Detection and Defeat	<ul style="list-style-type: none"> • Demonstrated operational utility of C4I systems for rapid dissemination of intelligence to users
14. Provide Consequence Management for Terrorist Use of NBC Weapons (including support to Domestic Consequence Management)	<ul style="list-style-type: none"> • Provided consequence management training for First Responders to respond to CW/BW attacks • Provided satellite broadcast training on medical management of BW casualties • Establishing regional Army Special Medical Augmentation Response Teams

Table 2: Highlights of DoD's Response to the Counterproliferation ACEs, continued

DoD ACE Priority	Selected Accomplishments in DoD Counterproliferation Programs
15. Support Export Control Activities of the U.S. Government	<ul style="list-style-type: none"> • Reviewed over 20,000 export license applications for military and dual-use technologies • Improved quality and timeliness of information exchange and associated consultations among member nations of the Wassenaar Arrangement resulting in greater harmonization of export control policies
16. Support Inspection and Monitoring Activities of Arms Control Agreements and Regimes	<ul style="list-style-type: none"> • Technology R&D for CW/BW, nuclear, and strategic arms control treaty implementation, monitoring, and verification • Continued inspection, monitoring, and escort support for NBC weapon arms control treaties • Continued development of a global continuous threshold monitoring network and data fusion knowledge base and communications network for CTBT verification • Under CTR in the FSU, 362 ICBMs dismantled; 343 ICBM silos destroyed; 136 SLBM launchers eliminated; 49 heavy bombers dismantled

critical proliferation prevention capability, and the ability to detect such production remotely is a powerful deterrent. A highlight during the past year was the airborne demonstration of both a hyperspectral infrared imaging spectrometer and a long-range infrared LIDAR system, both capable of detecting and identifying proliferation-related effluents.

- **Monitoring Worldwide Nuclear Testing.** Fulfilling the President's CTBT Safeguards program, the DOE's CTBT R&D mission is to carry out research and development for the U.S. agencies responsible for monitoring compliance with the CTBT and for operating the U.S. National Data Center for CTBT monitoring. DOE provides technologies, algorithms, hardware, and software for systems that will detect, locate, identify, and characterize nuclear explosions in a cost-effective manner. In addition, DOE's CTBT R&D program supports the international Preparatory Commission in numerous ways, such as supplying experts in all technical areas including on-site inspection and supporting U.S. policy efforts. Program initiatives include: i) prototyping and commercializing infrasound and radionuclide monitoring systems; ii) improving hydroacoustic data analysis; iii) supplying on-site inspection technology expertise; iv) building automated data processing tools including development of a Knowledge Base to manage regional and monitoring-station-specific parameters that can be accessed by automated processing systems and human analysts at the U.S. National Data Center; v) continuing design and production of satellite-based nuclear detonation detection systems for deployment on Air Force Global Positioning System (GPS) and Defense Support Program (DSP) satellites; and vi) developing enhanced regional seismic propagation parameters for regions of high monitoring interest that will facilitate improved location and discrimination algorithms, especially for low-magnitude underground events. These satellite systems include optical, X-ray, gamma ray, neutron, and electromagnetic pulse (EMP) sensors.
- **Securing Nuclear Materials in Russia and States of the Former Soviet Union (FSU).** Material protection, control, and accounting (MPC&A) cooperation is now under way at over 53 sites across Russia and the FSU, providing improved security for approximately 650 metric tons of weapons-useable nuclear material. This is enough material to produce more than 40,000 nuclear weapons. Cooperation now includes virtually all known sites possessing such materials. In addition, transportation, training, and regulatory development projects are under way to assist Russia in its nuclear materials management infrastructure.

- ***Initiative for Proliferation Prevention with Russia and FSU States.*** The main objectives of this program are to identify and develop non-military applications for defense technologies and create long-term jobs for FSU weapons scientists and engineers. To date, more than 375 projects have been initiated, including more than 300 laboratory-to-laboratory projects and more than 75 industry cost-sharing projects. About 85% involve institutes in the Russian Federation. While emphasis remains on nuclear technology, the scope of the program includes chemical and biological technologies as well. Because of this program, more than 3,000 former weapons-related technical personnel are now engaged in non-weapons-related projects involving materials science, biotechnology, instrumentation, and medical isotopes.
- ***Nuclear Cities Initiative.*** DOE has launched the Nuclear Cities Initiative to help develop commercial enterprises in the Russian closed nuclear cities. This program will help in the reconfiguration of the Russian nuclear complex and aid U.S. nonproliferation goals by helping Russian nuclear experts remain gainfully employed. Work in 1999 will include establishment of a structure for reviewing and implementing business plans for commercial concepts and linking funds with potential business ideas.
- ***Strengthening the Nuclear Nonproliferation Regime.*** DOE's efforts have helped to promote adherence to the Nuclear Non-Proliferation Treaty (NPT), increase the effectiveness and efficiency of the International Atomic Energy Agency (IAEA), and promote regional nonproliferation measures. DOE, with support from the National Laboratories, provides equipment, technologies, and expertise to the United Nations Special Commission (UNSCOM) on Iraq and the IAEA which assisted in monitoring and performing intrusive inspections in Iraq and North Korea for verifying compliance with the NPT.

Summary of Key U.S. Intelligence Counterproliferation Activities

Many U.S. Intelligence activities cannot be described in this document. The classified Intelligence Annex to this report contains a more thorough discussion of the activities and successes of U.S. Intelligence.

- ***Intelligence Community Support for Counterproliferation.*** In response to the CJCS' Missions and Functions Study and the Counterproliferation CONPLAN 0400, U.S. Intelligence continues to work closely with the Joint Staff in support of the CINCs. The Defense Intelligence Agency's (DIA) Office for Counterproliferation Support, which operates as the Joint Staff's (J-2, Intelligence) executive agent for counterproliferation issues, continues to implement its CJCS-approved Military Intelligence Action Plan.
- ***Strategic Planning Process.*** U.S. Intelligence continues to improve its corporate strategic planning and evaluation process to support counterproliferation efforts. The strategic planning and evaluation process contributes to the National Foreign Intelligence Program (NFIP), the Joint Military Intelligence Program (JMIP), and the Tactical Intelligence and Related Activities (TIARA) Program and Planning Guidance. A major benefit of, and contribution to, this process has been the placement of a number of personnel from DoD and law enforcement—including the U.S. Customs Service—within the DCI's Nonproliferation Center (NPC). This

has had the beneficial effect of integrating intelligence considerations into DoD's planning for counterproliferation needs and actions. In addition, several people are on rotations with such organizations as the Departments of State, Commerce, and Defense, the National Security Council (NSC), and the Central MASINT Office (CMO).

- **Operational Planning Process.** DIA is linking counterproliferation intelligence production more directly to the CINCs planning process. DIA is taking guidance from the Joint Strategic Capabilities Plan and direction from the CINCs' J-2s, J-3s (Operations), and J-5s enabling U.S. Intelligence to more clearly define and satisfy the intelligence requirements necessary to support CINC counterproliferation contingency planning and operations.
- **Intelligence Successes.** Some intelligence successes that can be described here include:
 - Support to State Department efforts to provide actionable information to international regimes involved in inspection and monitoring activities, and to foreign governments and nonproliferation regimes in support of NBC/M interdiction activities.
 - Accomplishments in identifying elements and progress of Iran's program to develop the Shahab-3 missile.
 - Implementation of an expanded intelligence strategy against BW proliferation. This effort has begun with the identification and hiring of a leading biotechnology industry expert to serve as the DCI's Senior Science and Technology Advisor to increase the Community's ability to address BW issues.
 - Characterization of CW agents to allow assessments that provided a reliable intelligence baseline for DoD planners to make decisions on CW detection and medical countermeasure acquisitions.
 - Completed more than 7,000 foreign end use checks in support of the U.S. licensing and export process, checks that the Department of Commerce considered vital to its review of U.S. export licenses.
 - CIA provided early warning of imminent missile tests in three countries, which allowed the Intelligence Community to deploy collection assets to accurately estimate missile technical characteristics.

CPRC Findings and Recommendations

The CPRC finds, as evidenced by the numerous program and activity accomplishments cited in this report, that the seriousness of NBC/M proliferation and NBC terrorist threats, and the need to enhance capabilities to counter them, are recognized throughout DoD (including OSD, the Joint Staff, Services, and CINCs), DOE, and U.S. Intelligence. "Countering proliferation" is now an established and institutionalized priority within each of the CPRC-represented organizations. The development of capabilities to counter NBC terrorist threats is also beginning to receive added attention throughout DoD, DOE, and U.S. Intelligence. These efforts reflect the President's firm commitment to stem NBC/M proliferation and negate terrorist NBC threats. Moreover, as decision makers, policy makers, and warfighters continue to reprioritize their nonproliferation, counterproliferation, and NBC counterterrorism policy and strategy objectives, the CPRC will continue to review related DoD, DOE, and U.S. Intelligence activities and programs to ensure that

they continue to meet evolving needs and requirements. The CPRC's recommendations for 1999 are summarized in Figure 1 and discussed below.

The FY 2000 President's budget addresses priority activities and programs for countering NBC/M proliferation and NBC terrorism. *Therefore, the CPRC recommends that the FY 2000 President's budget for each of the CPRC-represented organizations be authorized and appropriated by the Congress.*

Countering proliferation and NBC terrorism are challenges that will have to be addressed for the foreseeable future. Although the activities and programs proposed in the FY 2000 President's budget will continue to produce substantial progress in national capabilities to counter NBC/M proliferation and NBC terrorist threats, areas of capability shortfall will remain. *Therefore, the CPRC directs each represented organization to continue to address nonproliferation, counterproliferation, and NBC counterterrorism needs and requirements as high priority items in their FY 2001 and out-year budgets.* Since the need to enhance U.S. national capabilities to counter proliferation is well established and institutionalized within the DoD, DOE, and U.S. Intelligence, the CPRC has not identified specific programmatic options for FY 2001.

Recommendations of the CPRC

1999

- **Approve the President's FY 2000 Budget for the CPRC-Represented Organizations Addressing Key Priorities in Countering Proliferation and NBC Terrorism**
- **Continue to Address the Needs and Requirements for Countering Proliferation and NBC Terrorism as High Priority Items in Annual Budget Development Processes**
- **Continue Close Coordination of R&D and Acquisition Activities and Programs among DoD, DOE, and U.S. Intelligence, Including the Continuation of Working Groups in the Following Areas:**
 - Establishing validation standards for NBC hazard prediction models
 - Integrated R&D and acquisition planning for unattended ground sensors
- **Expand International Cooperative Activities and Engage International Partners in Countering Global NBC/M Proliferation and NBC Terrorist Threats**
- **Review and Reprioritize the Counterproliferation ACEs to Reflect Progress and Newly Emerging Priorities**

Figure 1. CPRC Recommendations for 1999

The CPRC expects the normal budget development processes of each CPRC-represented organization to be adequate to ensure a robust, integrated program for countering proliferation and NBC terrorism and satisfy congressional direction to formulate future programmatic options. However, key areas for progress addressing certain specific aspects of the ACE priorities have been identified for special consideration during budget development activities (see Section 9, Table 9.2).

The CPRC recommends a continuation of the close coordination of counterproliferation-related R&D and acquisition activities and programs among DoD, DOE, and U.S. Intelligence. To this end, the CPRC directs the CPRC Standing Committee to continue to maintain its interorganizational coordination and oversight of R&D and acquisition activities and programs to ensure that the integrated response of DoD, DOE, and U.S. Intelligence in meeting the ACE priorities, which has characterized their cooperation to date, continues.

Recognizing the global nature of NBC/M proliferation and NBC terrorist threats, *the CPRC recommends continuing the development of international cooperative efforts to counter these threats by expanding existing cooperative activities in R&D, proliferation prevention, and NBC counterterrorism being conducted by DoD, DOE, and U.S. Intelligence and by working with the policy community to engage international partners to participate in cooperative R&D and acquisition efforts in the future.* The CPRC's immediate goal is to facilitate a broad interagency discussion among CPRC-represented organizations to encourage the establishment of additional international cooperative R&D efforts (beyond NATO), while expanding existing cooperative efforts, and, eventually, to explore possibilities for establishing joint acquisition programs. The CPRC continues to encourage and endorse cooperation with our international partners through joint activities and programs, including international information-sharing conferences and outreach programs addressing the threats of NBC/M proliferation and NBC terrorism.

The CPRC, through its Standing Committee, will continue to review and update the counterproliferation ACEs, and reprioritize them as required. This process is central to ensure that the ACEs continue to reflect the integration of CINC warfighting required capabilities and the overarching national security policy and strategy objectives they support. Updated and relevant ACEs assist the CPRC in meeting its program review responsibilities, while improving the focus of future programmatic and managerial efforts among the CPRC-represented organizations to counter NBC/M proliferation and NBC terrorist threats.

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