

9. CPRC Findings and Recommendations

9.1 The Integrated Response to Countering Proliferation

Table 9.1 summarizes the integrated programmatic response of DoD and DOE in addressing the counterproliferation ACEs. Key organizations are matched to the ACE priorities they address. For simplicity, the ACEs are listed by DoD priority. The programmatic response of U.S. Intelligence is discussed in the Intelligence Annex. Considerable R&D and acquisition activities are underway in each ACE priority area by multiple DoD Agencies (including through the Chemical and Biological Defense Program (CBDP) and the Counterproliferation Support Program (CPSP)), OSD, the Services, Joint Staff, and DOE.

Table 9.1: Integrated Response to Addressing the Counterproliferation ACEs

Counterproliferation ACE	Key DoD and DOE Programs to Counter Proliferation*
1. Detection, Identification, and Characterization of BW Agents	<ul style="list-style-type: none"> • DoD: CBDP, CPSP, DARPA and Joint Service Programs • DOE: Chemical Biological Nonproliferation Program (CBNP)
2. Detection, Characterization, and Defeat of NBC/M Facilities with Minimal Collateral Effects	<ul style="list-style-type: none"> • DoD: DSWA, CPSP, and Air Force Programs • DOE: Production Detection R&D Program
3. Detection, Characterization, and Defeat of Underground Facilities with Minimal Collateral Effects	<ul style="list-style-type: none"> • DoD: DSWA, CPSP, and Joint Service Programs • DOE: Production Detection R&D Program
4. Theater Ballistic Missile Active Defense	<ul style="list-style-type: none"> • DoD: BMDO, Service, DARPA, and Joint Staff Programs
5. Support for Special Operations Forces and Defense Against Paramilitary, Covert Delivery, and Terrorist NBC Threats	<ul style="list-style-type: none"> • DoD: OSD, Joint Service, DSWA, and CPSP Programs • DOE: Nuclear Emergency/Terrorism Response and CBNP Programs
6. Provide Consequence Management	<ul style="list-style-type: none"> • DoD: OSD, Joint Service, and CPSP Programs • DOE: Nuclear Emergency/Terrorism Response and CBNP Programs
7. Cruise Missile Defense	<ul style="list-style-type: none"> • DoD: DARPA, BMDO, Service, and Joint Staff Programs
8. Collection, Analysis, and Dissemination of Actionable Intelligence to Counter Proliferation	<ul style="list-style-type: none"> • DoD: DARPA, Joint Service, and CPSP Programs • DOE: Intelligence Programs
9. Robust Passive Defense to Enable Sustained Operations on the NBC Battlefield	<ul style="list-style-type: none"> • DoD: CBD, Joint Service, DSWA, DARPA, and CPSP Progs. • DOE: CBNP Program
10. BW Vaccine RDT&E and Production to Ensure Stockpile Availability	<ul style="list-style-type: none"> • DoD: CBD and JVAC Programs
11. Target Planning for NBC/M Targets	<ul style="list-style-type: none"> • DoD: DSWA, DARPA, Joint Service, and CPSP Programs
12. Prompt Mobile Target Detection and Defeat	<ul style="list-style-type: none"> • DoD: DARPA, Air Force, and CPSP Programs
13. Detection, Tracking, and Protection of NBC/M and NBC/M-Related Materials and Components	<ul style="list-style-type: none"> • DoD: Navy, OSD, and CPSP Programs • DOE: Diversion/Smuggling Detection R&D and MPC&A Programs
14. Support Export Control Activities of the U.S. Government	<ul style="list-style-type: none"> • DoD: OSD, DTSA, and CPSP Programs • DOE: Nuclear Export Controls Program
15. Support Inspection and Monitoring Activities of Arms Control Agreements and Regimes	<ul style="list-style-type: none"> • DoD: OSIA, CTR, DSWA, OSD, and Air Force Programs • DOE: Nuclear Test Monitoring and NPT Regime Programs

* U.S. Intelligence programs are discussed in the Intelligence Annex

9.2 Integrated Shortfalls and Areas for Progress

Table 9.2 summarizes key DoD and DOE capability shortfalls and candidate areas for progress to address these shortfalls for each of the counterproliferation ACEs. While no claim of completeness should be inferred from these lists, they are indicative of the CPRC's concerns in meeting its responsibility to ensure the development and deployment of highly effective technologies and capabilities in support of U.S. counterproliferation and counterterrorism policy.

9.3 Findings and Recommendations

The CPRC finds, as evidenced by the numerous program and activity accomplishments cited in the 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. Indeed, "countering proliferation" is an established and institutionalized priority within each of the CPRC-represented organizations. These efforts reflect the President's firm commitment to stem NBC/M proliferation and counter NBC terrorism. Much has been done, but much remains to do. Moreover, as decision makers, policy makers, and warfighters continue to reprioritize their nonproliferation, counterproliferation, and 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. The CPRC's recommendations for 1997 are summarized in Figure 9.1 and discussed below.

The FY 1998 President's budget addresses priority programs for countering NBC/M proliferation and NBC terrorism. *Therefore, the CPRC recommends that the FY 1998 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 1998 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 terrorism needs and requirements as high priority items in their FY 1999 and out-year budgets.*

In light of the CPRC's finding that the need to enhance U.S. national capabilities to counter proliferation has become established and institutionalized within the DoD, DOE, and U.S. Intelligence, the CPRC has not identified specific programmatic options for FY 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. However, key areas for progress addressing certain specific aspects of the ACE priorities have been identified for special consideration during budget development activities (listed in Table 9.2).

Table 9.2: DoD and DOE Capability Shortfalls and Areas for Progress

DoD ACE Priority	Capability Shortfalls	Areas for Progress
1. Detection, Identification, and Characterization of BW Agents	<ul style="list-style-type: none"> • Rapid early warning and identification of BW agents 	<ul style="list-style-type: none"> • Remote/early warning identification and improved detector sensitivity/selectivity • Agent nonspecific detectors
2. Detection, Characterization, and Defeat of NBC/M Facilities with Minimal Collateral Effects	<ul style="list-style-type: none"> • Adverse weather precision standoff attack • Counterforce effectiveness and multiple attack options (surgical strike to non-lethal functional kill) with minimal collateral effects 	<ul style="list-style-type: none"> • All-weather precision standoff weapons and enhanced lethality payloads • Improved detection/characterization, functional kill, and agent defeat concepts
3. Detection, Characterization, and Defeat of Underground Facilities with Minimal Collateral Effects	<ul style="list-style-type: none"> • Counterforce effectiveness against deeply buried and tunneled targets • Location and characterization of underground targets • Identification of functional vulnerabilities • See also ACE priority 2 and 8 entries 	<ul style="list-style-type: none"> • Improved penetrating munitions • Remote sensors for target and geology characterization • Improved target functional analysis • See also ACE priority 2 and 8 entries
4. Theater Ballistic Missile Active Defense*	<ul style="list-style-type: none"> • NBC warhead sure kill and collateral effects mitigation • Probability of threat missile intercept and leakage 	<ul style="list-style-type: none"> • Concepts to reduce leakage • Warhead lethality enhancement • Agent defeat warheads/devices
5. Support for Special Operations Forces and Defense Against Paramilitary, Covert Delivery, and Terrorist NBC Threats	<ul style="list-style-type: none"> • Detection and safeing of NBC weapons and devices • Neutralization of NBC/M infrastructure elements with minimal collateral effects • Risk to SOF personnel 	<ul style="list-style-type: none"> • CW/BW agent defeat devices • Specialized assault/breach equipment • SOF standoff/remote capability • Improved NBC detection and transport modeling in urban environment
6. Provide Consequence Management	<ul style="list-style-type: none"> • NBC weapon effects prediction in urban environments • NBC decontamination in urban environments • Integrated federal, state, and local agency operations • Medical response 	<ul style="list-style-type: none"> • Improved modeling • Non-corrosive decon. techniques • Rapid mass casualty triage and care • Integrated operations and training
7. Cruise Missile Defense	<ul style="list-style-type: none"> • Attack early warning and leakage • Post-engagement NBC collateral effects mitigation 	<ul style="list-style-type: none"> • Counter low observables detection • Agent defeat weapons/devices
8. Collection, Analysis, and Dissemination of Actionable Intelligence to Counter Proliferation	<ul style="list-style-type: none"> • Prediction and identification of proliferation activities • Prediction and assessment of NBC/M delivery force order of battle and operations • Location and characterization of underground facilities 	<ul style="list-style-type: none"> • High fidelity proliferation pathway analysis and prediction tools • Wide area underground facility detection
9. Robust Passive Defense to Enable Sustained Operations on the NBC Battlefield	<ul style="list-style-type: none"> • Detection and warning of CW/BW contamination of food and water and prepositioned equipment • NBC protection for civilian port workers • NBC decontamination for fixed sites, ports, and airfields and for sensitive equipment • Availability of collective protection shelters 	<ul style="list-style-type: none"> • Unattended protection, detection, and warning concepts • Low cost civilian protection gear • Improved efficiency protective gear • Nonaqueous and wide area decon. • Improved, low cost collective protection
10. BW Vaccine RDT&E and Production to Ensure Stockpile Availability	<ul style="list-style-type: none"> • Lack of FDA-approved BW defense vaccines • Time required for FDA licensure • Stockpile availability for noncombatants • Protection against multiple BW agents and strains 	<ul style="list-style-type: none"> • Broad spectrum vaccines • Provisions for emergency/expedited FDA approval of BW vaccines
11. Target Planning for NBC/M Targets	<ul style="list-style-type: none"> • Centralized planning to support multiple counterforce options 	<ul style="list-style-type: none"> • “NBC-smart” targeting tools
12. Prompt Mobile Target Detection and Defeat	<ul style="list-style-type: none"> • Identification and track of NBC/M forces • Rapid response targeting, standoff detection, and strike 	<ul style="list-style-type: none"> • Target “finger printing” and data fusion • Tags and high sensitivity NBC sensors • Unmanned strike options
13. Detection, Tracking, and Protection of NBC/M and NBC/M-Related Materials and Components	<ul style="list-style-type: none"> • Security costs • Reliability/motivation of foreign security personnel • Wide area, continuous surveillance 	<ul style="list-style-type: none"> • Reliable automation and telepresence • Improved foreign MPC&A • Improved unattended sensors
14. Support Export Control Activities of the U.S. Government	<ul style="list-style-type: none"> • Detection of NBC/M and related components • Proliferation prediction and trends analysis 	<ul style="list-style-type: none"> • Rapid and reliable detection concepts • Improved analysis tools
15. Support Inspection and Monitoring Activities of Arms Control Agreements and Regimes	<ul style="list-style-type: none"> • Treaty implementation costs • Remote/standoff monitoring capabilities • Support for nonproliferation, IAEA sample analysis, and accountability of alternate nuclear materials 	<ul style="list-style-type: none"> • Improved automation of monitoring and inspection routines • Enhanced sensor systems and monitoring instrument integration • Additional sample analysis laboratories • Resolution of alternate nuclear materials technical issues

* National Missile Defense is associated with this ACE. (See discussion in Section 2.2.)

Recommendations of the CPRC
1997

- Approve the President's FY 1998 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 establishing:
 - validation standards for NBC hazard prediction models
 - an integrated R&D plan for advanced hyper-/ultra-spectral CW/BW detectors
 - an integrated R&D and acquisition plan for unattended ground sensors to improve developer coordination and user acceptance
- Improve Coordination with the NPAC TWG
- Increase International Cooperative Efforts by Expanding Existing Activities to Counter Global NBC/M Proliferation and Terrorist Threats
- Review and Reprioritize the Counterproliferation ACEs to Reflect Progress and Newly Emerging Priorities

Figure 9.1 CPRC Recommendations for 1997

To continue the record of interdepartmental achievement through an integrated response to meeting the counterproliferation ACE priorities, *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 maintain the interorganizational coordination of R&D and acquisition activities and programs and provide the necessary management oversight to ensure that the integrated response of DoD, DOE, and U.S. Intelligence in meeting the ACE priorities, that has characterized their cooperation to date, continues.

The CPRC has identified three specific areas where improved interorganizational coordination can improve the efficiency, cost-effectiveness, and responsiveness of R&D and acquisition activities:

- *Establish "validation standards" for nuclear, biological, and chemical dispersion and hazard prediction models and designate a lead agency for implementation.* The importance, interest, and expertise in this area transcends departmental boundaries. A core working group from the CPRC-represented organizations is already being formed.
- *Establish an integrated cooperative R&D plan for advanced state-of-the-art hyper-/ultra-spectral sensors for chemical and biological detection to improve coordination and*

synergize the efforts of various ongoing R&D activities of the CPRC-represented organizations.

- *Establish an integrated R&D and acquisition plan for unattended ground sensors to improve cooperation within the developer community and enhance prospects for user acceptance and “buy-in” of this maturing technology.* An MoU between DoD and the intelligence community’s Central MASINT Office has been signed; inclusion of DOE is in process.

Because the NPAC TWG and the CPRC share similar goals and objectives for reducing the threat of NBC/M proliferation and terrorism, *the CPRC directs the CPRC Standing Committee to improve coordination and information sharing between its activities and those of the NPAC TWG and explore the possibility of joint cooperative efforts.*

Recognizing the global nature of NBC/M proliferation and NBC terrorist threats, *the CPRC recommends increasing international cooperative efforts to counter these threats by expanding existing cooperative activities in R&D, proliferation prevention, and counterterrorism being conducted by DoD, DOE, and U.S. Intelligence.* To expedite and more efficiently and effectively meet the challenges posed by these global problems, the CPRC continues to encourage and endorse cooperation with our international partners through joint activities and programs, including international information sharing conferences addressing the threats of NBC/M proliferation and terrorism.

The CPRC, through its Standing Committee, will continue to review and update the counterproliferation ACEs, reprioritizing them as required. This process is central to ensure that the ACEs continue to reflect the integration of CINC warfighting priorities 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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