

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)						DATE		
						February 2000		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				
RDT&E, Defense-Wide/Advanced Technology Development - BA3				Counterproliferation Support; 0603160BR				
Cost (In Millions)	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	Cost to Complete
Total 0603160BR Cost	51.9	80.6	77.4	76.9	80.3	82.1	83.8	Continuing
Project BB - Small Business Innovative Research (SBIR)	0.0	0.0	1.7	1.7	1.8	1.8	1.9	Continuing
Project BJ - SOF Counterproliferation Support	12.8	19.3	19.6	17.6	18.3	18.7	19.2	Continuing
Project BK - Counterforce	39.1	61.3	56.1	57.6	60.2	61.6	62.7	Continuing

A. Mission Description and Budget Item Justification - In August 1994, DoD established the Counterproliferation Support Program specifically to address the DoD shortfalls in counterproliferation operational capabilities documented in the May 1994 Report to Congress titled *Report on Nonproliferation and Counterproliferation Activities and Programs*. Counterproliferation Support Program funds were designed to leverage DoD acquisition programs to meet the counterproliferation priorities of the Commanders-in-Chief (CINCs) of the Combatant Commands and accelerate deployment of enhanced capabilities to the field. Specifically, the goal of the Counterproliferation Support Program was to improve specific military counterproliferation capabilities by (1) building upon ongoing programs in the Services, DoD agencies, Department of Energy and United States Intelligence; (2) focusing on the most critical counterproliferation shortfalls to address major gaps in deployed capabilities (as reflected in the CINCs' priorities and the Counterproliferation Review Committee's (CPRC) prioritized list of counterproliferation Areas for Capability Enhancement); (3) leveraging existing program funding to more rapidly field capabilities by accelerating the deliverables of DoD programs; (4) identifying and enhancing development of high payoff technologies to accelerate capabilities to the warfighter; (5) identifying and promoting key non-material initiatives that complement technological advances; (6) transitioning Counterproliferation Support Program projects to the Services as soon as practicable; and (7) procuring counterproliferation unique development products for CINCs.

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A. Mission Description and Budget Item Justification (cont'd)

Counterproliferation (CP) is the activity in DoD to combat the spread of nuclear, biological, and chemical (NBC) weapons and their means of delivery. Activities include arms and export control, intelligence collection and analysis, counterforce, active defense, passive defense, and consequence management. Effective in October 1998, DoD created a single agency, the Defense Threat Reduction Agency (DTRA), which is responsible for all the counterproliferation activities except active defense and intelligence. The DTRA now manages the former Counterproliferation Support Program. Focusing counterproliferation activities in DTRA will improve integration and further leverage warfighter capabilities. The funds in this program element support development, integration and demonstration of enhanced capability for the warfighter.

During its first year of operation, DTRA faced many challenges in the process of focusing agency organization and resources to the threat reduction mission. This has required a transition from predecessor agencies' legacy programs and support baseline resources to integrated DTRA programs and resources. Particular attention has been devoted to realigning the research and development investment programs.

To better support the DTRA program and resource structure, a new program element (PE) code construct has been designed and approved. The projects designated in this PE are products of this realignment.

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Project BB - Small Business Innovative Research (SBIR) - This project provides the means for stimulating technological innovation in the private sector, strengthens the role of small business in meeting DoD research and development needs; fosters and encourages participation of minority and disadvantaged businesses in technological innovation; and increases the commercial application of DoD supported research and development results. These efforts are responsive to PL 102-564.

FY 2001 Plans

SBIR Total (\$1,725K)

Support the Small Business Administration (SBA) National Direction by actively seeking small business contractors to perform innovative research.

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Project BJ - Special Operations Forces (SOF) Counterproliferation Support - In 1995 the SecDef assigned the core task of countering the proliferation of weapons of mass destruction (WMD) to SOF. This project directly supports SOF contributions to the nation's effort to counter the spread of WMD. Efforts in this project include the defeat of hard and deeply buried targets (HDBT), explosive ordnance disposal (EOD), and maritime efforts to prevent the spread of WMD technology. This project supports requirements that apply to all three of the efforts identified above.

Details of this program have been classified per CJCSM 5225-01 dated 23 Oct 96.

Project BJ - SOF Counterproliferation Support (cont'd)

FY 1999 Accomplishments

SOF Projects (\$12,763K)

Specific details are classified.

FY 2000 Plans

SOF Projects (\$19,263K)

Specific details are classified.

FY 2001 Plans

SOF Projects (\$19,555K)

Specific details are classified.

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Project BK - Counterforce - The purpose of this project is to develop technologies, demonstrate prototype systems in an operationally realistic environment, support operators in the definition of the concept of operations, and provide combatant commanders with enhanced capabilities in response to potential adversaries who have the capability to develop and/or employ nuclear, biological and chemical (NBC) weapons of mass destruction (WMD) in future regional conflicts involving the U.S. or its allies. The U.S. requires the capability to attack and neutralize NBC research, production, storage, operations and support, and command and control facilities while mitigating collateral effects resulting from expulsion and release of NBC agents. The potential target sets include fixed, aboveground and underground, hardened and unhardened, and tunnel facilities. The project is structured to exploit ongoing technology programs wherever possible. The project emphasis is on functional kill as well as hard kill and on mitigating collateral effects through advanced weapon development and greatly enhanced target attack planning to optimize weapon employment. The goal is the development of an enhanced counterforce mission capability to include penetrating weapons, WMD combat assessment, and the supporting planning tools. Prototype or modified systems integrating these technologies will then be evaluated in demonstrations, and, in some cases, a residual operational capability is provided to combatant commanders.

This project emphasizes technology demonstrations to include Advanced Technology Demonstrations (ATD) and Advanced Concept Technology Demonstrations (ACTD). Three demonstrations are currently planned, the Second Counterproliferation (CP2) Counterforce ACTD, the Hard Target Defeat (HTD) program, and the Nuclear Facility Defeat (NFD) demonstration.

The CP2 ACTD objective is to develop, demonstrate, and deliver enhanced standoff, counterforce capabilities in conjunction with operational concepts to combatant commanders for planning attacks and timely, reliable defeat of WMD related facilities while minimizing collateral hazards. The CP2 ACTD depends on the technology base and products in PE 0602715BR, Project BD for planning tools and on test planning and execution support in PE 0602715BR, Project BE for the operational demonstrations. The Navy and Air Force

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Project BK - Counterforce (cont'd)

provide weapons technologies to this ACTD. The CP2 ACTD has been approved by the Deputy Under Secretary of Defense (Advanced Systems and Concepts) (DUSD(AS&C)), and the management plan was signed in April 1999. USEUCOM is the operational sponsor with USACOM and USSTRATCOM participating. The CP2 ACTD started in FY98 and will be completed in FY03.

The HTD program objective is to develop and demonstrate end-to-end capabilities for the functional defeat of hard targets, particularly tunnels, and assess developing weapon and sensor concepts against such targets. The program does not develop new sensors; it assesses existing or emerging technologies being developed by others. The HTD program develops technologies under PE 0602715BR, Project BF and transitions them to this program for demonstration. The demonstrations require test planning and execution support from PE 0602715BR, Project BE. The currently planned HTD demonstration ends in FY03. HTD customers are USPACOM, USSTRATCOM, USSOCOM, and the Air Force's Air Combat Command.

The products from NFD demonstrations will enable the National Command Authority (NCA) and combatant commands to deny critical nuclear production, processing, fabrication and storage capability of an adversary, without the prohibitive political consequences of large radiation releases downwind of the target. Once the intelligence community determines the adversary's nuclear production cycle, critical facilities can be targeted to eliminate overall capability. NFD provides methods to functionally kill selected facilities and to predict and minimize resulting collateral effects. Additionally, this program will enhance our ability to predict the consequences of terrorist action against nuclear facilities. The NFD program develops technologies under PE 0602715BR, Project BF, and transitions them to this program for demonstration. The demonstrations require test planning and execution support from PE 0602715BR, Project BE. NFD demonstration starts in FY03.

The project milestones supporting the planned demonstrations and product delivery are broken into six major product areas or subprojects: WMD combat assessment, collateral effects prediction, target response, CP Analysis and Planning System (CAPS), weapons, and operational demonstrations.

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1. WMD Combat Assessment. This subproject has evolved from the former CP1 ACTD sensor subproject to provide WMD combat assessment capabilities. This effort will provide improved warfighting capabilities against the spectrum of NBC facilities. This subproject will leverage existing programs to (1) evaluate near-term technologies; (2) define concepts of operation and system architecture for WMD combat assessment; (3) produce data fusion and mission planning modules to meet user requirements on existing platforms; and (4) integrate WMD combat assessment capabilities onto delivery systems, such as unmanned air vehicle (UAV) and expendable mini-UAV platforms. Further, the effort will demonstrate the ability to confirm, identify, and assess the release of radiation or biological/chemical agents in support of attacks on NBC facilities and assist in predicting transport patterns by updating pre-strike predictions of the potentially hazardous plume with real-time data. The WMD combat assessment subproject will not develop its own sensors, but will leverage ongoing chemical sensor efforts within the chemical and biological defense community to minimize program risk for applying this technology to counterforce missions. This subproject will also monitor the progress of point biological agent detectors for potential incorporation into the WMD combat assessment system.

2. Collateral Effects Prediction. The collateral effects effort provides predictive tools for a variety of applications supporting NBC target attack planning to include NBC expulsion and dispersion resulting from attacks on WMD facilities as well as acts of terrorism and hostile use of WMD. Requirements include high-resolution weather models, weather measurement systems, and population databases. A key element in developing these collateral effects codes is chemical/biological expulsion tests and modeling. Modeling of chemical/biological expulsion sources will be based on theoretical model and empirical data. Codes will be validated from existing data, other predictive models and special collateral effects experiments. For NFD, small-scale testing, nuclear experimentation and engineering analysis of baseline nuclear facilities will be conducted. Models and software tools to extend the baseline analysis to site-specific nuclear fuel cycle facilities will be developed. The collateral effects tools will provide pre-attack prediction and post-

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attack assessment. The Hazard Prediction and Assessment Capability (HPAC) is a major product that predicts the release and transport of NBC materials and the subsequent collateral effects. The high resolution weather prediction capability, another area of emphasis in the subproject, will provide timely wind, cloud, and precipitation data necessary for NBC collateral effects predictions. Weather data currently does not have the resolution or quality necessary. This weather data will also be available to other users in the theater such as Joint Warning Network (JWARN). These tools will also be integrated into the target attack planning tools to assess the consequences of attacks on WMD facilities.

3. Target Response. This effort will provide a new target attack planning, combat assessment capability and a major upgrade for existing theater-level planning capabilities for defeating or denying NBC facilities and capabilities. This effort builds upon the Integrated Munition Effects Assessment (IMEA) planning tool developed for CP1. IMEA provides a forward deployable, target planning capability for NBC targets. IMEA is an integration of the Munitions Effects Assessment (MEA) tool providing targeting solutions using conventional weapons for a variety of structures and equipment and the HPAC developed under the Collateral Effects Prediction subproject. The integrated capability supports the warfighters in the attack planning phase with target response and collateral effects prediction, and in the post-attack phase with combat assessment and re-strike decision support. Upgrades to IMEA for the CP2 ACTD include additional target types (including complex facilities), additional weapons (including multiple weapon effects), additional platforms, more operator-friendly displays, more WMD material types, weather interfaces and sources, and more detailed weapon input parameters (such as angle of attack). The ultimate CP2 IMEA product will be able to run stand alone or in a web-based client-server distributed architecture as it migrates into the Integrated Target Planning Tool Set (ITPTS) suite of tools, the second deliverable during CP2. The ITPTS will provide a spectrum of planning capabilities from deliberate to crisis. ITPTS provides the warfighter a standardized weaponeering framework that greatly increases weaponeering efficiency and fidelity while minimizing warfighter training requirements. It expedites cross service weaponeering and joint planning. The ITPTS architecture provides cross

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platform interoperability and a common look and feel, independent of weapon or target. In addition, it provides the warfighter critical decision support services for all target classes including those associated with weapons of mass destruction. ITPTS will also predict weapons performance and associated NBC collateral effects, develop targeting solutions that minimize collateral effects, and provide results through appropriate interfaces for a variety of targets including functionally and structurally complex facilities. ITPTS will provide an enhanced interface to the Intelligence Community (IC). The ITPTS will include an interface to the Joint Targeting Toolbox (JTT) and the CP Analysis and Planning System (CAPS). The ITPTS requires significant input from the IC including data regarding NBC facilities, processes, and surrounding populations. CAPS will provide a large part of this input. This effort will support the IC in developing the necessary interfaces to provide for the efficient transfer of intelligence data. The ITPTS "plug and play" architecture is required to accommodate differing concept of operations (CONOPS), theaters, and performers in several geographic locations. This effort will execute a full verification and validation program, in accordance with the Joint Technical Coordinating Group for Munitions Effects Procedures, for all delivered capabilities including extensive field testing at all functional levels.

4. CP Analysis and Planning System. The Counterproliferation Analysis and Planning System (CAPS) responds to the need for comprehensive and timely counterproliferation target planning for combatant commanders. Products from CAPS include databases of country specific proliferation pathways for Nuclear, Biological and Chemical (NBC) weapons. The analysis provides combatant commanders assessments of a country's capabilities and identifies key facilities to effect that capability, thus supporting the combatant commanders in the planning and execution of their CP missions. These analyses are conducted in successive levels of detail called tiers (with tier 1 being broadest/highest). As an output of the analyses, CAPS provides planners with critical elements for taking actions against WMD proliferation programs of suspect countries and analyzes the environmental consequences of these actions. CAPS is conducted in support of CINC CONPLAN 0400 targeting requirements. The Counterproliferation Mission Support Senior Oversight Group (CP MS SOG) Requirements

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Subcommittee and CINC representatives have determined the top 14 CINC priority topics for CAPS analysis. The four major aspects of the program are: 1) integration of intelligence and production process analyses to create country models of proliferation efforts underway in selected countries by identifying the specific function and location of major production sites, and development of a detailed layout of these sites within each country; 2) element analyses of each country model in order to select critical nodes in the country's proliferation pathway, to include facilities essential to research, production, weaponization or storage, which if removed, would require significant time to replace; 3) execution of consequences analyses for possible interdiction/counterforce actions to quantify the level of damage that might occur including possible casualties, economic losses, and environmental issues; and 4) provision of completed analyses via secure means to the user community in a logical and user friendly format, incorporating the latest advances in computer software development.

5. Weapons. Conventional explosive-filled weapons are often relatively ineffective in destroying large underground reinforced concrete facilities. Even if the weapon detonates inside the facility, substantial interior walls and/or floors often confine the blast and fragmentation, thus causing significant overpressure and venting through the penetration hole. In soft buried and aboveground facilities, conventional explosive-filled weapons often result in complete and uncontrolled destruction. The random use of conventional weapons greatly increases the risk of agent dispersal that may result in extensive civilian or force casualties. This subproject will develop, integrate and demonstrate advanced conventional weapons technologies to improve mission effectiveness against NBC facilities while mitigating collateral effects. The focus for CP2 ACTD is to provide combatant commanders with a demonstrated option to attack NBC facilities in a standoff mode. This effort will improve on existing standoff weapon platforms to provide enhanced penetration, advanced fuzing, and enhanced payloads that can reduce collateral effects by neutralizing agents before they are released or reducing the amount released. Standoff weapons to be enhanced include the Tactical Tomahawk Land Attack Missile in a penetrator variant and the Conventional Air Launched Cruise Missile (CALCM). Enhanced payloads will

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explore alternate warhead options to conventional blast/fragmentation with the objective of mitigating collateral effects associated with dispersal of NBC. NFD will assess a suite of current conventional weapon effects against nuclear facilities and corresponding components and develop weapon enhancements such as fuzing and guidance systems that maximizes functional defeat and minimizes collateral effects. HTD will demonstrate a variety of conventional and non-conventional (non-nuclear) weapons to functionally defeat tunnels.

6. Operational Demonstrations. This subproject will improve the operational capability for holding NBC targets at risk with minimum collateral effects. The objective is to integrate available or near-term technologies for WMD combat assessment, weapons, collateral effects prediction, and target planning tools, to evaluate the technologies in an operational context, and to transition improved capabilities rapidly to combatant commands. Specifically, this subproject will enhance and accelerate existing programs to provide integrated target planning, collateral effects prediction codes, a WMD combat assessment system, and advanced weapons to meet NBC target defeat requirements. This subproject will also support demonstration operations to include system operational concept, demonstration planning, scenario development, execution of the demonstration, and post-demonstration analysis. Planning and execution of the demonstration uses a time phased approach to screen candidate technologies for maturity, develop prototype systems and demonstrate enhancements in military capability against a combatant command prioritized subset of all potential NBC target types. This approach results in a cycle of prototype development and testing followed by periods of operational demonstration.

Three operational demonstration series are planned during CP2 ACTD over the period of FY2000-2003 to provide the operational sponsor, United States European Command, and participating commands with the opportunity to assess the utility of the selected technologies. The objective of the first demonstration series in CP2 ACTD, called Dipole Yukon (DY), is to demonstrate the capability to plan and execute chemical/biological (C/B) counterforce missions with the Joint Air-to-Surface Stand-off Missile (JASSM) through

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operationally realistic attacks against a simulated biological weapons storage facility. The objective of the second demonstration, called Dipole Zodiac (DZ), is to assess the suitability of the CALCM with a penetrating warhead and a Predator unmanned air vehicle (UAV) based standoff collateral effects assessment system. The objective of the third demonstration series, called Divine Canberra (DC), is to evaluate the end-to-end set of products of the CP2 ACTD including the target planning tool, in its final operational context, the Tactical Tomahawk Penetrator Variant (TTPV), and remote combat assessment using a small expendable mini-UAV with a chemical point detector on-board (and deployed from the Predator UAV demonstrated in DZ) against a hard chemical production and storage facility.

HTD will conduct demonstrations on tunnels and hard facilities using developed target planning tools and weapon concepts. The currently planned demonstration ends in FY03 and employs a tunnel target with a command, control, communications and intelligence (C3I) function. The objective will be to demonstrate a functional kill capability.

NFD will conduct large-scale demonstrations to validate models and test sensor and weapons systems. Demonstrations will exercise all program elements and refine postulated concepts of operation for combatant commands and mission planners.

For FY 2001, PE 0605160BR, Project P542 funding and activities are transferred to this project.

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Project BK - Counterforce (cont'd)

FY 1999 Accomplishments

WMD Combat Assessment (\$3,198K)

Continued integration, fabrication, demonstration of modifications for standoff chemical agent assessment system.

Evaluated biological detectors for the counterforce role.

Continued development of the High Frequency Active Auroral Research Program (HAARP).

Collateral Effects Prediction (\$6,598K)

Delivered a theater weather server and provided high-resolution predictive weather capability for regional operations.

Continued validation tests for collateral effects modules.

Delivered HPAC 3.2.

Delivered soft chemical facility hazard source term model.

Initiated urban collateral effects model development.

Developed worldwide land cover and population database for collateral effects casualty predictions.

Target Response (\$8,155K)

Integrated a multiple weapon capability into IMEA to support CP2 demonstrations.

Enhanced WMD component damage prediction models to include multiple weapons.

Executed scale tests/analyses and validated target planning tools.

Initiated development of ITPTS.

Supported SOF project (details are classified).

CP Analysis and Planning System (\$6,000K)

Defined hardware, software validation, and WMD facility analysis and database population requirements for the Counterproliferation Analysis and Planning System (CAPS).

Installed CAPSNET terminals to identified users.

Weapons (\$13,084K)

Fabricated and tested Hard Target Smart Fuze (HTSF) hardware with expanded capabilities.

Conducted CALCM penetrator systems design and integration.

Conducted TTPV penetrator systems integration.

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Project BK - Counterforce (cont'd)

Initiated TTPV penetrator payloads system design.
Initiated TTPV penetrator missile systems design and engineering.
Initiated TTPV penetrator air-vehicle modification design and fabrication.
Continued smart fuze design to meet Navy certification requirements.
Continued TTPV penetrator warhead design, fabrication, and test.
Initiated TTPV penetrator command and control modifications.
Initiated TTPV penetrator system test and evaluation.
Completed scale tests of selected high temperature incendiaries (HTI) and chemical neutralization agents against simulated chemical and biological agents.
Continued modeling and simulation to support enhanced payloads concept screening and down select.

Operational Demonstrations (\$2,156K)

Prepared Dipole East (DE) 169 target (soft metal structure for simulated wet biological demonstration).
Conducted Dipole East 169 demonstration.
Completed target construction for Dipole Yukon 1.

FY 2000 Plans

WMD Combat Assessment (\$9,000K)

Initiate integration, fabrication, and demonstration of air platform modifications to provide chemical agent assessment capability.
Continue integration and test of standoff (remote) chemical assessment system.
Continue to configure, fabricate, and test components for chemical point (contact) detector.
Design agent sample capture approach.
Initiate development of concept of operations, communications, data fusion/display ground station, and interface requirements.
Collateral Effects Prediction (\$4,100K)
Deliver a biological hazard source model and transport capability for soft facilities.
Develop high-resolution databases for real populations and real land surfaces for customer determined locations.

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Develop human effects model for civilian populations to better predict WMD collateral effects (casualties).

Deliver theater weather server with high fidelity weather model.

Deliver initial urban collateral effects capability.

Deliver HPAC 4.0 for Dipole Yukon.

Target Response (\$4,783K)

Deliver IMEA 4.0 software to support CP2 ACTD (Dipole Yukon 1).

Deliver a multiple weapon capability for IMEA.

Demonstrate ITPTS prototype with three integrated tools.

Deliver Joint Air-to-Surface Standoff Missile (JASSM) weapon effects/performance models for IMEA.

Deliver modeling capability for a complex aboveground target.

Initiate Component Vulnerability and Agent Release/Agent Release Model (CVAR/ARM) Validation tests program.

Deliver weapons effects/performance models for the Tactical Tomahawk Penetrator Variant (TTPV).

Deliver cruise missile (TTPV) performance model for IMEA.

CP Analysis and Planning System (\$10,000K)

Begin CAPS analysis on top 14 combatant commanders' requirements as defined by CP MS SOG and complete this analysis to Tier 3-level, the identification of critical buildings at major sites.

Install, or plan the installation of, CAPSNET terminals at all major commands and interested support agencies.

Weapons (\$22,931K)

Develop and qualify CALCM Block II penetrator system.

Conduct TTPV penetrator systems integration.

Continue TTPV penetrator warhead design, fabrication, and test.

Continue TTPV penetrator command and control modifications.

Continue TTPV penetrator payload system design.

Continue TTPV penetrator missile systems design and engineering.

Continue TTPV penetrator air-vehicle modification design and fabrication.

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Project BK - Counterforce (cont'd)

- Conduct TTPV penetrator system test and evaluation.
- Conduct enhanced payloads static scaled tests against soft chemical/biological targets.
- Conduct modeling and simulation support for enhanced payload development.
- Conduct design and effectiveness studies for HTD classified weapon concepts.
- Conduct modeling and simulation support for enhanced payloads scale testing.

Operational Demonstrations (\$10,505K)

- Conduct Dipole East 165 and 166 demonstrations.
- Analyze demonstration results and report.
- Complete target construction for Dipole Zodiac demonstration.
- Complete planning exercises for Dipole Yukon 1 demonstration.
- Complete target construction for Dipole Yukon 2.
- Support CP analysis for concept of operations development.

FY 2001 Plans

WMD Combat Assessment (\$8,800K)

- Integrate standoff (remote) assessment system on air platform.
- Test remote assessment system on air platform during Dipole Zodiac.
- Continue to configure, fabricate, and test components for chemical point detector.
- Implement agent sample capture design.
- Conduct simulant and agent tests for sampling, remote and point sensors.
- Continue to develop concept of operations, communications, data fusion/display ground station, and interface requirements.

Collateral Effects Prediction (\$5,900K)

- Deliver final hazard source models for CP2 ACTD standoff weapons.
- Develop modeling for urban internal transport.
- Deliver Meteorological Data Server in IPTS architecture.
- Deliver human effects module integrated with population data.
- Validate weather models and wind field data for priority regional areas.
- Develop IPTS access to HPAC capabilities.
- Deliver HPAC 5.0 for Dipole Zodiac.

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Project BK - Counterforce (cont'd)

Target Response (\$5,000K)

- Deliver IMEA 5.0 software to support Dipole Zodiac and Dipole Yukon 2 (JASSM).
- Deliver CALCM weapon effects/performance models.
- Complete Component Vulnerability and Agent Release/Agent Release Model (CVAR/ARM) validation tests.
- Initiate IMEA C3I facility model validation testing.

CP Analysis and Planning System (\$8,843K)

- Complete CAPS analysis on the top 14 combatant commanders' priorities, to the Tier-5 level, detailed inside-the-building analysis needed for SOF and precision strike operations.
- Begin analysis on the next group of combatant commanders' priorities, to be completed to various Tier levels in the priority order assigned by the CP MS SOG.
- Complete CAPSNET terminal installation at all major commands and interested support agencies.

Weapons (\$17,195K)

- Conduct TTPV penetrator systems integration.
- Continue TTPV penetrator warhead design, fabrication, and test.
- Complete TTPV penetrator command and control modifications.
- Continue TTPV penetrator payload system design.
- Continue TTPV penetrator missile systems design and engineering.
- Continue TTPV penetrator air-vehicle modification design and fabrication.
- Conduct TTPV penetrator system test and evaluation.
- Conduct full scale enhanced payload tests against chemical/biological targets.
- Complete modeling and simulation of selected enhanced payloads concept.
- Continue design and effectiveness studies for HTD classified weapon concepts and conduct preliminary testing.

Operational Demonstrations (\$10,373K)

- Conduct Dipole Yukon 1 demonstration.
- Analyze Dipole Yukon 1 demonstration results and report.
- Conduct all Dipole Zodiac (1 and 2) demonstrations.
- Analyze Dipole Zodiac demonstration results and report.

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B. <u>Project Change Summary</u>	<u>FY1999</u>	<u>FY2000</u>	<u>FY2001</u>
Previous President's Budget	53.0	81.2	75.8
Current President's Budget	51.9	80.6	77.4

Change Summary Explanation:

As part of DTRA's efforts to better focus the Agency organization and resources to the threat reduction mission, funds from PE 0605160BR, Project 542 (CP Architecture Studies and Management Oversight) were realigned to this PE beginning in FY 2001.