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Exhibit R-2, RDT&E Budget Item Justification						Date: February 2005			
Appropriation/Budget Activity RDT&E, Defense Wide/BA-3			R-1 Item Nomenclature Joint Capability Technology Demonstration (JCTD), PE 0603648D8Z						
Cost (\$ in Millions)		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
JCTD		0.000	0.000	35.000	35.000	35.000	35.000	35.000	35.000

A. Mission Description and Budget Item Justification

BRIEF DESCRIPTION OF ELEMENT: Beginning in FY 2006, a new Advanced Concept Technology Demonstration (ACTD) business process will be initiated which will take the successful ACTD program and update it to meet the Department’s transformational goal of becoming capability vice threat based in its focus. The program will be referred to as the Joint Capability Technology Demonstration (JCTD) program. The JCTD program will include many of the positive aspects of the ACTD program, but will be revamped to meet the defense challenges of the 21st century. The new process will integrate the ACTD program with the new Joint Capabilities Integration and Development System (JCIDS) developed by the Joint Chiefs of Staff (JCS). Beginning in FY 2006, the Department estimates a three to five year transition period from the current ACTD process to the improved JCTD program. Eventually, JCTDs will replace ACTDs, providing an even faster process that focuses on joint and transformational technologies that are initiated in Science and Technology (S&T) and carried through the difficult transition stage, sometimes referred to as the “S&T valley of death.”

The new JCTD business model includes a Defense Acquisition Executive (DAE) pilot program which will take a limited number of “joint peculiar” JCTDs past milestone B, through engineering and manufacturing, and into procurement, followed by initial sustainment---a “cradle to grave” approach. The piloted program envisions using joint acquisition activities like the Joint Program Sustainment and Development (JPSD) program office, or even U.S. Special Operations Command (USSOCOM), to provide the necessary program management functions. The DAE pilot program will give overall programmatic oversight of JCTDs that are deemed uniquely joint (i.e., capability directly supports more than one Military Service) and/or transformational. The new JCTD demonstration model will specifically address congressional concerns and recommendations made by the General Accountability Office (GAO) regarding the ACTD program.

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The appropriation, Program Element (PE) and Budget Activity (BA) structure for the new JCTD process includes the following:

- JCTD PE 0603648D8Z (RDT&E/DW BA-3)
- JCTD PE 0604648D8Z (RDT&E/DW BA-4)
- Defense Acquisition Executive (DAE) PE 0605648D8Z (RDT&E/DW BA-5)
- JCTD Procurement (funded in Procurement Defense Wide, OSD Major Equipment: PE 0902198D8Z).

An initial allocation of resources (\$40M) from the ACTD PE has been shifted into these program elements starting in FY 2006, which explains the reduction in the ACTD FYDP line shown in this budget exhibit. During the transition period additional resources will be shifted into the various JCTD program elements until a fully resourced program is established which will support a minimum of ten new JCTDs each year. It is envisioned that the BA-3 JCTD PE will eventually replace the current ACTD BA-3 PE. However during the transition period the JCTD and ACTD program elements will use combined resources to ensure continuity of ongoing ACTDs and program flexibility for the new JCTDs. During this period the program will sometimes be referred to as the JCTD/ACTD program to show the blended and transitioning nature of the process. To establish resource visibility and accountability and to ensure a fully leveraged program, the Military Services and the Defense Advanced Research Projects Agency (DARPA) will also create new program elements in BA-3 and/or BA-4. These program elements will be established during the transition period and will be specifically titled and associated with the JCTD process.

JCTDs are initiated at the Budget Activity three (BA-3) level and are thereby pre-acquisition demonstrations, characterized by Technology Readiness Levels 4, 5 or 6. Although not fully developed for production, these newly initiated JCTDs can provide the path for transition of Science and Technology to acquisition and are low-to-moderate risk vehicles for pursuing those objectives. In seeking ways to speed transition and fielding of innovative joint capabilities, the JCTD Program will pioneer a transformational new model for Department of Defense acquisition with the addition of funding in BA4, BA5 and Procurement to provide a path for those capabilities that are so transformational that they require a purposeful transition to acquisition to avoid some of the delay issues which sometimes hamper the ACTD program. JCTDs will be aligned with the Joint Capabilities Interoperability Development System (JCIDS) seeking to enhance CoCom inputs into the JCIDS process. The Defense Wide RDT&E funding managed by the Deputy Under Secretary of Defense for Advanced Systems and Concepts (DUSD(AS&C)) will support demonstration of military utility and deployment of interim capability

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including an “extended user evaluation,” providing the Combatant Commanders, Services, Agencies, and operators with adequate time to address transition issues of supportability, maintainability and training identified by the JCTD/ACTD.

B. Program Change Summary

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
Previous President’s Budget	0.000	0.000	0.000	0.000
Current President’s Budget	0.000	0.000	35.000	35.000
 Total Adjustments:	 0.000	 0.000	 -35.000	 -35.000
Congressional reductions				
Congressional Rescissions				
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				
ACTD Transfer (0603750D8Z)			-35.000	-35.000

C. Other Program Funding Summary: The new JCTD Program provides a “cradle to grave” path for transformational joint capabilities. The initial funding lines are outlined in the table below. Refer to the specific Budget Exhibit for more details on each funding line.

ACTD and JCTD Program Funding Summary	APPN	BA	PE	LINE #	FY 2004	FY 2005	FY 2006	FY 2007
Advanced Concept Technology Development (ACTD)	RDT&E	3	0603750D8Z	44	212.570	212.915	163.649	163.744
Joint Capability Technology Demonstration (JCTD)	RDT&E	3	0603648D8Z	36	0.000	0.000	35.000	35.000
Joint Capability Technology Demonstration (JCTD)	RDT&E	4	0604648D8Z	83	0.000	0.000	3.000	3.000
Defense Acquisition Executive (JCTD Pilot Program)	RDT&E	5	0605648D8Z	99	0.000	0.000	1.000	1.000
Procurement (JCTD Pilot), Major Equipment-OSD Def Wide	Proc	1	0902198D8Z		0.000	0.000	1.000	1.000
Total:							40.000	40.000

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D. Acquisition Strategy: N/A

E. Performance Metrics: The JCTD/ACTD performance metrics are centered on how fast relevant joint and/or transformational technologies can be demonstrated and fielded to the joint warfighter. These metrics are driven by the overall business process which includes six parts: (1) selection focus; (2) ability to spin-off spiral technologies; (3) time necessary to complete a final demonstration; (4) adequately resourced projects with appropriate oversight; (5) capability to complete an independent assessment of the technology; and (6) the number of successful capabilities that are actually transitioned to the warfighter. The table below defines these metrics and helps compare/contrast the current ACTD program with the new JCTD business process model.

Performance Metric	ACTD	JCTD
Project Selection Focus	Threat Based: Shared Military Service and CoCom influence	Capability Based: Greater CoCom influence looking at nearer term needs..
Spiral Technologies	No Metric currently established	Spiral Technology available within one year of JCTD initiation.
Final Demonstration Completed (Starting Point: Approved ID)	3 to 4 years after initiation (Implementation Directive (ID) Signed)	50% completed by the end of the 2 nd year. All JCTDs completed by the end of the 3 rd year.
Shared Funding and Visibility of resources	OSD provides no more than 30% of the budgeted resources. Funding provided from many different program elements.	OSD provide significantly more funding (more than 50% depending on the cost of the JCTD), especially in the first two years.
Military Utility Assessment (MUA) conducted by an independent activity	MUA traditionally tied to a specific planned exercise for evaluation	JCTDs not necessarily tied to an exercise. Greater flexibility to establish military utility via operational “real-world” demonstration or specifically designed test/venue
Transition of technology	70% of ACTDs transition at least one product to sustainment	80% of JCTDs transition at least 50% of their products to sustainment

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Exhibit R-2a, RDT&E Project Justification						Date: February 2005		
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A. Mission Description and Budget Item Justification

BRIEF DESCRIPTION OF ELEMENT: Beginning in FY 2006, a new Advanced Concept Technology Demonstration (ACTD) business process will be initiated which will take the successful ACTD program and update it to meet the Department’s transformational goal of becoming capability vice threat based in its focus. The program will be referred to as the Joint Capability Technology Demonstration (JCTD) program. The JCTD program will include many of the positive aspects of the ACTD program, but will be revamped to meet the defense challenges of the 21st century. The new process will integrate the ACTD program with the new Joint Integration and Development System (JCIDS) developed by the Joint Chiefs of Staff (JCS). Beginning in FY 2006, the Department estimates a three to five year transition period from the current ACTD process to the improved JCTD program. Eventually, JCTDs will replace ACTDs, providing an even faster process that focuses on joint and transformational technologies that are initiated in Science and Technology (S&T) and carried through the difficult transition stage, sometimes referred to as the “S&T valley of death.”

JCTD Selection Process:

During the transition phase the JCTD Program will be combined and integrated with the selection process used for the ACTD program. However eventually the Department will use a deliberate process for drafting demonstration proposals based on the top priorities of the CoComs, versus evaluating pre-developed proposals that may not have been vetted with a CoCom. Military Services, Defense and Non-Defense Agencies, industry and coalition partners will still be invited to submit their technical concepts for consideration representing technological opportunities enabled by recently demonstrated mature technology, however a deliberate effort will be made to craft these concepts into JCTD proposals prior to the Breakfast Club briefings (the traditional ACTD kick-off for project review). CoComs and the JCIDS Functional Capability Boards will be consulted as technical approaches and employment

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concepts are developed. The aim will be to develop capability solutions that can be rapidly demonstrated, confirm military utility, and to accelerate fielding of the best joint and/or transformational solutions.

The proposed JCTD candidates will be briefed to the Joint Requirements Oversight Council (JROC). Similar to the ACTD process, the principal management tools for the JCTD are the Implementation Directive (ID), Management Plan (MP) and the Transition Plan (TP). Each approved JCTD will be described in these top-level documents which provide details of the demonstration/evaluation, the main objectives, approach, critical events, measures of success, transition options, participants, schedule, and funding. The development of JCTD proposals for initiation in FY 2006 will begin in February 2005. Final JCTD candidates will be included in the FY 2006 JCTD/ACTD Congressional Report submitted to the congressional defense committees. JCTD/ACTD BA-3 Program direct funding for new FY 2006 JCTD/ACTDs, including potential midyear starts, is approximately \$45 million (\$35 million from the JCTD PE and \$10 million from the ACTD PE).

The typical timeline of two years for the operational demonstration phase of a JCTD is compressed compared to normal acquisition timelines for fielding an operational capability. Executives and managers for JCTD projects will be encouraged to “spiral out” proven elements of JCTDs with interim Military Utility Assessments (MUAs) that permit rapid technology transition during the course of the demonstration rather than awaiting final demonstration completion to transition technologies to acquisition and sustainment programs of record. These shorter schedules are made possible because JCTDs will incorporate mature, or nearly mature, technology and, therefore, forgo time-consuming technology development and technical risk reduction activities. At the end of the JCTD, the user sponsor will be able to determine if the capability provided by the JCTD technology has sufficient utility to warrant procurement or sustainment. If there are significant shortcomings, their options are either to pursue an advanced technology demonstration to improve performance, return the technology to the research and development technology base for further maturation, or not to pursue the technology any further. In cases where the operational user is satisfied the prototype has significant military utility, the prototype can be retained as an interim capability. The Department then moves quickly to enter the formal acquisition process to acquire needed quantities or, if sufficient, to make fully operational those residual assets already produced as demonstration prototypes. The final demonstration concludes the operational demonstration phase and is the basis for the military utility assessment (MUA). In most cases, a residual support/pre-transition phase (sometimes used for extended user evaluation) follows. After the residual phase (if one is required), the JCTD will be defined as being complete and is now ready for consideration as a Budget Activity four (BA-4) JCTD (PE: 0604648D8Z).

B. PROGRAM ACCOMPLISHMENTS AND PLANS – FY 2004 THROUGH FY 2007:

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FY 2004 Program Accomplishments: Not applicable

FY 2005 Program Plans: Not applicable

FY 2006 and FY 2007 Program Plans:

DUSD (AS&C) will maintain oversight of the JCTD/ACTD program. The FY 2006 review and validation process will begin at the beginning of February 2005, with JROC validation expected during the third quarter of FY 2005. Congressional notification will follow with an anticipated start of approximately ten new JCTD/ACTDs on October 1, 2005---or as soon as appropriated dollars become available. The process will be repeated for FY 2007 JCTD/ACTDs.

C. Other Program Funding Summary: The new JCTD Program provides a “cradle to grave” path for transformational joint capabilities. The initial funding lines are outlined in the table below. Refer to the specific Budget Exhibit for more details on each funding line.

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Total:							40.000	40.000

D. Acquisition Strategy: N/A

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