

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>	<b>DATE</b> <b>February 2004</b>
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<b>BUDGET ACTIVITY</b> <b>05 System Development and Demonstration (SDD)</b>	<b>PE NUMBER AND TITLE</b> <b>0604222F Nuclear Weapons Support</b>
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Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	13.091	13.244	13.301	14.150	14.807	19.949	20.355	0.000	0.000
4236 Engineering Analysis	2.099	2.056	3.129	3.656	3.983	6.717	6.841	0.000	0.000
4807 Nuclear Weapons & CP Technologies	5.312	5.635	5.719	5.899	6.071	6.168	6.264	0.000	0.000
5708 Nuclear Weapons Support	5.680	5.553	4.453	4.595	4.753	7.064	7.250	0.000	0.000

1. In FY 2004, Project 654807, Agent Defeat Weapons, was renamed Nuclear Weapons & CP [Counterproliferation] Technologies to better depict current efforts. This action did not change program content.
2. Effective in FY 2005, the Air Force Nuclear Weapons and Counterproliferation Agency (AFNWCA) funding has been consolidated in Projects 654236, Engineering Analysis, and 654807, Nuclear Weapons & CP Technologies. The Air Armament Center's Nuclear Weapons Directorate (AAC/NW) funding has been consolidated in Project 655708, Nuclear Weapons Support. This was done to improve budgeting and funds management/execution for the respective organizations. There is no change to the overall program budget, planned activities, or programmed level of effort.

**(U) A. Mission Description and Budget Item Justification**

The Air Force Nuclear Weapons and Counterproliferation Agency (AFNWCA) and the Air Armament Center's Nuclear Weapons Directorate (AAC/NW) are tasked with maintaining and providing the core Air Force (AF) nuclear weapons, nuclear weapon systems, and counterproliferation expertise. These organizations provide technical and programmatic guidance and accomplish independent analyses for all Air Force nuclear weapon, nuclear weapon systems (to include weapons development/sustainment, interoperability, safety/security/reliability, stockpile management/retirement); nuclear certification and nuclear certification management; counterforce/counterproliferation technology assessments and development; and counter chemical, biological, radiological, and nuclear (C-CBRN) support to the warfighter.

Specific mission tasking includes:

- Analyze and document nuclear weapons issues related to risk assessment, data collection, model development, and weapon effectiveness in support of the Joint Department of Defense (DoD)-National Nuclear Security Administration (NNSA) Surety Plan, Department of Energy (DOE) Stockpile Stewardship plan, DoD/DOE Long Range Planning Assessment, and the DoD/DOE Annual Weapon Assessment
- Support DoD and Joint DoD/DOE weapons acquisition activities for the sustainment and/or development of nuclear weapons, delivery systems, support systems, weapon storage facilities, and technical orders to include nuclear certification as required
- Identify, evaluate, and assess current and projected counterproliferation systems operating in Air Force specific and/or joint environments
- Support current operations regarding Chemical, Biological, Radiological, and Nuclear (CBRN) counterforce strikes
- Participate in the acquisition process as appropriate for those projects identified or planned for development.

Specific AF weapons and weapon systems for which these agencies provide nuclear/counterproliferation expertise and have responsibilities include:

- The B61, B83, W62/Mk12, W78/Mk12A, W87/Mk21, W80, and retired nuclear weapons in AF custody
- Nuclear weapon delivery systems to include the Minuteman III and Peacekeeper Intercontinental Ballistic Missiles (ICBMs); the Air-Launched Cruise Missile (ALCM),

## Exhibit R-2, RDT&amp;E Budget Item Justification

DATE

February 2004

## BUDGET ACTIVITY

**05 System Development and Demonstration (SDD)**

## PE NUMBER AND TITLE

**0604222F Nuclear Weapons Support**

and the Advanced Cruise Missile (ACM); and the B-52, B-2, F-15, F-16, PA 200, and Joint Strike Fighter (JSF)

--- Logistical movement aircraft to include the C-130, C-141, and C-17

--- Associated programmatic efforts for logistics/maintenance handling support, test equipment, trainers, and facilities

--- Advanced Concept Technology Demonstrations (ACTD)

Customers include:

--- Department of Defense agencies (e.g., Office of Secretary of Defense (OSD), Defense Threat Reduction Agency (DTRA), Joint Staff, and Combatant Commanders of nuclear-committed unified/specified commands such as U.S. Strategic Command (STRATCOM), European Command (EUCOM), Central Command (CENTCOM), and U.S. Forces Korea (USFK))

--- Air Force organizations/agencies (e.g., Air Staff, Major Commands (MAJCOMs), Air Force Safety Center (AFSC), Central Tactical Air Forces (CENTAF), Pacific Air Forces (PACAF), and U.S. Air Forces Europe (USAFE))

--- Department of Energy organizations/agencies to include NNSA, the national laboratories (e.g., Sandia National Laboratories (SNL), Los Alamos National Laboratory (LANL), and Lawrence Livermore National Laboratory (LLNL)), and manufacturing complexes (e.g., Pantex and Kansas City Plant)

--- North Atlantic Treaty Organization (NATO), NATO member military services (e.g., Belgium, German, and Italian Air Forces), and Supreme Headquarters Allied Powers Europe (SHAPE)

--- Central Intelligence Agency, Defense Intelligence Agency, National Reconnaissance Organization, and their military counterparts

Efforts in this program are essential to maintaining current and future safety, security, and reliability levels for weapons in the AF nuclear stockpile as well as their delivery and support systems. This program also addresses current and future AF nuclear deterrence and counterproliferation needs.

These efforts are Budget Activity 5, System Development and Demonstration, because they include system specific programs that lead to approved life extension programs for and/or modifications to AF nuclear weapons, weapon systems and support systems to ensure their continued safety, security, reliability, certification, and operational effectiveness as well as developing new weapons or modifications to existing weapons and/or weapon systems to meet evolving counterforce and/or counterproliferation mission requirements.

## Exhibit R-2, RDT&amp;E Budget Item Justification

DATE

February 2004

BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604222F Nuclear Weapons Support

(U) **B. Program Change Summary (\$ in Millions)**

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Previous President's Budget	13.091	13.396	13.627
(U) Current PBR/President's Budget	13.091	13.244	13.301
(U) Total Adjustments	0.000	-0.152	
(U) Congressional Program Reductions		-0.152	
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
(U) <u>Significant Program Changes:</u>			
--- FY 2004 changes reflect congressional rescissions			
--- No significant technical or schedule changes since submission of the FY 2004 President's Budget Request.			

**Exhibit R-2a, RDT&E Project Justification**

DATE  
**February 2004**

BUDGET ACTIVITY <b>05 System Development and Demonstration (SDD)</b>				PE NUMBER AND TITLE <b>0604222F Nuclear Weapons Support</b>			PROJECT NUMBER AND TITLE <b>4236 Engineering Analysis</b>		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
4236 Engineering Analysis	2.099	2.056	3.129	3.656	3.983	6.717	6.841	0.000	0.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

Effective in FY 2005, the Air Armament Center's Nuclear Weapons Directorate (AAC/NW) activities funded in Project 654236, Engineering Analysis, will be transferred to Project 655708, Nuclear Weapons Support, while the Air Force Nuclear Weapons and Counterproliferation Agency (AFNWCA) activities funded in Project 655708, Nuclear Weapons Support, will be moved to this project. Funding associated with these activities will also be realigned. There will be no change to the overall Program budget, planned activities, or programmed level of effort.

**(U) A. Mission Description and Budget Item Justification**

Provide scientific/engineering, logistical, operational, and programmatic/technical management expertise and analysis capability required in the critical areas of nuclear weapons development/modification, life extension, safety/surety/reliability/operational effectiveness, operations and management, testing, certification, and counterproliferation/ counterforce operations.

Budget Activity Justification: These efforts are Budget Activity 5, System Development and Demonstration, because they include system specific programs to identify and develop life extension programs for as well as solutions to problems and/or deficiencies in Air Force nuclear weapons, nuclear weapon systems, and the supporting infrastructure.

**(U) B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Accomplishments/Planned Program			
(U) Nuclear Weapons Systems Support Activities [NOTE: Effective in FY 2005, these activities, which are performed by AAC/NW, will be moved to Project 655708, Nuclear Weapons Support]	0.385	0.593	
--- Perform independent nuclear surety analyses; analyze weapon system software and hardware; develop nuclear certification requirements plans; perform compatibility and safety certification analysis; develop and manage master certification web-based database/list			
--- Manage testing in support of nuclear and aircraft compatibility certification; manage and maintain nuclear hardness database; conduct special safety studies, nuclear weapon storage and maintenance facilities assessments, and weapons safety assessments for alterations, modifications, and limited life component replacements; and support management o maintenance and logistic activities of the weapon specific Project Officers Groups (POG)			
--- Provide technical support to and administer the various weapon system Project Officer's Groups (POG); support technical order management; perform weapon system software and hardware analysis; provide logistics analysis; revis and verify nuclear weapons loading, delivery, warhead mate and demate, and explosive ordnance disposal (EOD) technical orders; provide technical support to Department of Defense (DoD)/Department of Energy (DOE) agencies or EOD issues			
--- Provide technical expertise for continued nuclear weapons integration of Air Force (AF) nuclear weapons on US an			

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>	DATE <b>February 2004</b>
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<b>BUDGET ACTIVITY</b> <b>05 System Development and Demonstration (SDD)</b>	<b>PE NUMBER AND TITLE</b> <b>0604222F Nuclear Weapons Support</b>	<b>PROJECT NUMBER AND TITLE</b> <b>4236 Engineering Analysis</b>
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non-US aircraft systems --- Provide logistical/technical expertise in support of the modification/sustainment of AF nuclear weapons and deliver systems; participate in nuclear weapon POG activities (U) Nuclear Weapons Program Activities [NOTE: Effective in FY 2005, this task will include efforts performed by AFNWCA that were previously funded in Project 655708, Nuclear Weapons Support]	1.414	1.161	2.067
--- Provide Air Force (AF) acquisition program management direction/support for modifications/alterations of nuclear weapons ----- Direct/participate in Joint DoD/DOE concept assessments, feasibility studies and option down-selects, and/or design definition and cost studies for the development or sustainment of AF nuclear weapons ----- Manage/coordinate the activities of the nuclear weapon-specific project officers groups (POG) ----- Provide technical analysis and test expertise to support life extension options for AF nuclear weapons/warheads, resolve inactive stockpile issues, use control, long term storage, and dismantlement issues --- Provide technical expertise to support development, fielding, and updates of nuclear weapon military characteristics (MC) and stockpile-to-target sequence (STS) documents; document and support all weapons safety analyses, program actions, and agreements; and conduct special studies on stockpile related matters --- Conduct development flight testing for weapon modification programs			
(U) Counterproliferation Technologies Activities [NOTE: Effective in FY 2005, this task will include efforts performed by AFNWCA that were previously funded in Project 655708, Nuclear Weapons Support]	0.300	0.302	1.062
--- Provide technical support and engineering for joint DoD/DOE feasibility studies and option down-select for candidate weapons for countering hard and deeply buried targets as well as weapons of mass destruction --- Lead the development of new analytical methodologies that support these assessments --- Support for counterproliferation operational and assessment efforts other than agent defeat weapon (ADW) efforts; develop analytical methodologies to support these assessments			
(U) Total Cost	2.099	2.056	3.129

<b>(U) C. Other Program Funding Summary (\$ in Millions)</b>		<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	

(U) Not Applicable

(U) **D. Acquisition Strategy**  
 RDT&E projects performed by AFNWCA and AAC/NW are direct funded. Other government agency efforts are funded by MIPRs as needed. Contractor-conducted efforts are accomplished via firm fixed price (FFP) or cost plus award fee (CPAF) contracts awarded as the result of open competition.

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Exhibit R-3, RDT&E Project Cost Analysis										DATE February 2004		
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604222F Nuclear Weapons Support					PROJECT NUMBER AND TITLE 4236 Engineering Analysis		
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2004</u> <u>Cost</u>	<u>FY</u> <u>2004</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2005</u> <u>Cost</u>	<u>FY</u> <u>2005</u> <u>Award</u> <u>Date</u>	<u>Cost to Complete</u>	<u>Total</u> <u>Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
(U) <u>Product Development</u>												
SETA	FFP	Multiple	3.128	1.419	Jan-03	1.416	Feb-04	1.018	Dec-04	Continuing	TBD	TBD
In-House Studies/Analysis	N/A	AFNWCA (Kirtland AFB, NM)						0.919	Oct-04	Continuing	TBD	TBD
Subtotal Product Development			3.128	1.419		1.416		1.937		Continuing	TBD	TBD
Remarks:	Contracts issued annually to Orion International (Albuquerque, NM), RhinoCorp (Albuquerque, NM), TEAS IV (Albuquerque, NM), ITT Systems (Albuquerque, NM), Applied Science Labs (Albuquerque, NM), & Sverdrup (Albuquerque, NM) to provide SETA support; all contracts are less than \$1.0M each											
(U) <u>Support</u>												
A&AS	FFP	ANSER (Arlington, VA)	0.600	0.330	Jan-03	0.340	Feb-04	0.909	Jan-05	Continuing	TBD	TBD
Subtotal Support			0.600	0.330		0.340		0.909		Continuing	TBD	TBD
Remarks:												
(U) <u>Test &amp; Evaluation</u>												
Flight Test/Range Support	MIPR	Multiple	1.260	0.350	Jan-03	0.300	Mar-04	0.283	Mar-05	Continuing	TBD	TBD
Subtotal Test & Evaluation			1.260	0.350		0.300		0.283		Continuing	TBD	TBD
Remarks:	Specific AFMC and ACC test ranges/organizations selected based on test objectives; all MIPRs are less than \$1.0M each											
(U) <u>Management</u>												
Subtotal Management			0.000	0.000		0.000		0.000			0.000	0.000
Remarks:												
(U) Total Cost			4.988	2.099		2.056		3.129		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2004

BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604222F Nuclear Weapons Support

PROJECT NUMBER AND TITLE

4236 Engineering Analysis

Project 654236 - Engineering Analysis

Activity	Fiscal Year 2003				2004				2005				2006				2007				2008				2009			
	Quarter	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
Nuclear Weapons Systems Sustainment *	[Shaded]																											
Nuclear Weapons System Data Management Activities *	[Shaded]																											
Nuclear Certification Activities *	[Shaded]																											
Logistics Program Management Activities *	[Shaded]																											
Nuclear Gravity Bomb Surveillance/Sustainment/Modernization Activities **	[Shaded]																											
ICBM Nuclear Warhead Surveillance/Sustainment/Modernization Activities **	[Shaded]																											
Cruise Missile Nuclear Warhead Surveillance/Sustainment/Modernization Activities **	[Shaded]																											
Annual Nuclear Weapons Assessment **	[Shaded]																											

\* - These activities are consolidated in Project 655708, Nuclear Weapons Support, beginning in FY 2005

\*\* - Includes activities consolidated from Project 655708, Nuclear Weapons Support, beginning in FY 2005

UNCLASSIFIED

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2004		
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE		
<b>05 System Development and Demonstration (SDD)</b>	<b>0604222F Nuclear Weapons Support</b>	<b>4236 Engineering Analysis</b>		
		<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) <b>Schedule Profile</b>				
(U) Nuc Wpm Mgmt Sys/Data Management Reviews		1-4Q	1-4Q	
(U) Nuclear Certification Management Reviews		1-4Q	1-4Q	
(U) Engineering Support Progress Reviews		1-4Q	1-4Q	
(U) Logistics Program Management Progress Reviews		1-4Q	1-4Q	
(U) B61 ALT 356/358/359 Activities		1-4Q	1-4Q	1-4Q
(U) ---Phase 6.2/2A Complete		2Q		
(U) ---Phase 6.3 Start/Complete		2Q	3Q	
(U) B61 System Life Extension Program (LEP)		1-4Q	1-4Q	1-4Q
(U) ---Phase 6.1 Start/Complete		4Q	4Q	
(U) ---Phase 6.2/2A Start			4Q	
(U) B61 Ground/Flight Tests		1-4Q	1-4Q	1-4Q
(U) ---Ground Tests		3Q	3Q	3Q
(U) ---Flight Tests		3-4Q	3-4Q	3-4Q
(U) W80 Life Extension Program (LEP) Start (FY01)/Complete (On-going - TBD)		1-4Q	1-4Q	1-4Q
(U) W87 Life Extension Program (LEP) Complete (On-going - TBD)		1-4Q	1-4Q	1-4Q
(U) Mk12A/Mk21 Fuze Replacement Studies/Analysis			2-4Q	1-4Q
(U) Minuteman III (MMIII) Safety Enhanced Reentry Vehicle [W87/Mk21] Program Support		3-4Q	1-4Q	1-4Q
(U) ICBM Nuclear Warhead Force Structure Study			1-4Q	1-4Q



**Exhibit R-2a, RDT&E Project Justification**

DATE  
**February 2004**

<b>BUDGET ACTIVITY</b> <b>05 System Development and Demonstration (SDD)</b>				<b>PE NUMBER AND TITLE</b> <b>0604222F Nuclear Weapons Support</b>			<b>PROJECT NUMBER AND TITLE</b> <b>4807 Nuclear Weapons &amp; CP Technologies</b>			
Cost (\$ in Millions)		FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
4807	Nuclear Weapons & CP Technologies	5.312	5.635	5.719	5.899	6.071	6.168	6.264	0.000	0.000
	Quantity of RDT&E Articles	0	0	0	0	0	0	0		

In FY 2004, Project 654807, Agent Defeat Weapon, was renamed Nuclear Weapons & CP [Counterproliferation] Technologies to better depict current efforts. This action did not change program content.

**(U) A. Mission Description and Budget Item Justification**

Perform engineering analyses of counterforce systems and operations against asymmetric threats (e.g., chemical, biological, radiological, and nuclear (CBRN); and hard and deeply buried targets (HDBT)), prepare recommended solutions resulting from the Agent Defeat Weapon (ADW), Robust Nuclear Earth Penetrator (RNEP) and related efforts to prepare for entry into acquisition. Plan for and transition counterforce (i.e., ADW, RNEP) concepts into either an acquisition or advanced concept technology demonstration (ACTD) program to include identifying funding, technical, schedule, and programmatic content. Prepare the necessary acquisition-related documentation to support program and/or decision reviews. Develop, utilize and evaluate tools required for the employment of current inventoried and new counterforce weapons, including intelligence, surveillance, and reconnaissance (ISR); battle damage assessment (BDA); and target defeat/collateral effects predictions for current and future operations.

Budget Activity Justification: These efforts are Budget Activity 5, System Development and Demonstration, because they are system specific programs that result in identifying and developing new weapons and weapon modifications for existing weapons to meet new and evolving counterforce and counterproliferation mission requirements. Efforts also include the development of target planning computer programs for existing and new counterforce and/or counterproliferation weapons.

**(U) B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Accomplishments/Planned Program			
(U) Support acquisition of Agent Defeat Weapon (ADW) Soft/Fixed Target capability with design/development of the Surface Target Ordnance Package (STOP) hardware (H/W) including the Beta version of target defeat /collateral damage effects prediction tools	2.865		
(U) Support development of ADW Hard Target Acquisition Strategy to include: --- Joint Department of Defense (DoD)/Department of Energy (DOE) acquisition activities for such efforts as the joint DoD/DOE Phase 2/2A and/or DoD Pre-Milestone B Risk Reduction for ADW Hard Target alternative(s) --- Improving the fidelity of Simulated Environment and Response Execution Nesting Tool (SERPENT) and perform verification, validation, and assessment (VV&A) for incorporation in the USAF/DoD Joint Targeting Toolbox as the ADW target-planning tool	2.447	1.021	1.037
(U) Support development of acquisition strategies/studies of conventional and advanced alternatives for counterproliferation/counterforce technologies & capabilities (e.g., agent defeat weapon (ADW), etc) against chemical biological, radiological, and nuclear (CBRN) targets, with Department of Defense (DoD) pre-milestone B and DoD/Department of Energy (DOE) Phase 0 - 2A activities		2.648	2.690

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>	DATE <b>February 2004</b>
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<b>BUDGET ACTIVITY</b> <b>05 System Development and Demonstration (SDD)</b>	<b>PE NUMBER AND TITLE</b> <b>0604222F Nuclear Weapons Support</b>	<b>PROJECT NUMBER AND TITLE</b> <b>4807 Nuclear Weapons &amp; CP Technologies</b>
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(U) Support development of acquisition strategies/studies of traditional nuclear alternatives for new and/or expanded capabilities to include: --- DoD/DOE acquisition efforts include joint DoD/DOE Phase 6.1 - 6.2A activities (e.g., Robust Nuclear Earth Penetrator (RNEP), Enhanced Cruise Missile (ECM), advanced payloads, etc.) --- Studies of Counterproliferation Advanced Concept Research and Development (R&D) to support advanced conventional and nuclear capabilities. (e.g., special operations, advanced energetic materials)	1.566	1.650	
(U) Provide Operational Support to the Joint Chiefs of Staff, Major Commands and Combatant Commanders for evaluating counterstrike operations against CBRN facilities (e.g., intelligence analysis and support, weapon effectiveness, collateral damage, etc.)	0.400	0.342	
(U) Total Cost	5.312	5.635	5.719

(U) **C. Other Program Funding Summary (\$ in Millions)**

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Not Applicable									

(U) **D. Acquisition Strategy**

DoD pre-milestone B and DoD/DOE Phase 0-2A and 6.1-6.2A activities are using firm/fixed price contracts and MIPRs to DoD and DOE government labs for advanced analyses and development of selected and studied alternatives.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis										DATE February 2004		
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604222F Nuclear Weapons Support				PROJECT NUMBER AND TITLE 4807 Nuclear Weapons & CP Technologies				
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2004</u> <u>Cost</u>	<u>FY</u> <u>2004</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2005</u> <u>Cost</u>	<u>FY</u> <u>2005</u> <u>Award</u> <u>Date</u>	<u>Cost to Complete</u>	<u>Total</u> <u>Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
(U) <u>Product Development</u>	MIPR	Air Armament Center (Eglin AFB, FL)	1.984	2.816	Jan-03	3.067	Feb-04	2.161	Feb-05	Continuing	TBD	TBD
SETA	FFP/MIPR	Multiple	7.997	1.509	Feb-03	1.571	Feb-04	2.543	Jan-05	Continuing	TBD	TBD
Subtotal Product Development			9.981	4.325		4.638		4.704		Continuing	TBD	TBD
Remarks:	SETA contracts issued annually to ITT Systems (Albuquerque, NM), Orion International (Albuquerque, NM), & various DOE National Laboratories; all contracts less than \$1M each											
(U) <u>Support</u>												
A&AS	FFP	Multiple	1.444	0.987	Apr-03	0.997	Apr-04	1.015	Jan-05	Continuing	TBD	TBD
Subtotal Support			1.444	0.987		0.997		1.015		Continuing	TBD	TBD
Remarks:	A&AS contracts issued annually to ITT Systems (Albuquerque, NM) & Orion International (Albuquerque, NM); each contract less than \$1M											
(U) <u>Test &amp; Evaluation</u>												
TBD	TBD										0.000	TBD
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000			0.000	TBD
Remarks:												
(U) <u>Management</u>												
Subtotal Management			0.000	0.000		0.000		0.000			0.000	0.000
Remarks:												
(U) Total Cost			11.425	5.312		5.635		5.719		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2004

BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604222F Nuclear Weapons Support

PROJECT NUMBER AND TITLE

4807 Nuclear Weapons & CP Technologies

Project 654807 - Nuclear Weapons & Counterproliferation Technologies

Activity	Fiscal Year 2003				2004				2005				2006				2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Advanced Concept Assessment Studies (Phase 6.1), Feasibility Studies/Analysis (Phase 6.2), and Option Down Select Studies/Analysis (Phase 6.2A)	█				█				█				█				█				█				█			
Agent Defeat Software Development/ Validation/Release	█				█				█				█				█				█				█			
Agent Defeat Advanced Concept Analysis of Alternatives & Risk Reduction Efforts	█				█				█				█				█				█				█			
OSD Agent Defeat Weapon Advanced Concept Technology Development (ACTD) Support	█				█				█				█				█				█				█			
Development of Stockpile Surveillance Techniques Study/Analysis	█				█				█				█				█				█				█			
Operation Iraqi Freedom (OIF) Support	█				█				█				█				█				█				█			

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Exhibit R-4a, RDT&E Schedule Detail		DATE	
BUDGET ACTIVITY <b>05 System Development and Demonstration (SDD)</b>		<b>February 2004</b>	
PE NUMBER AND TITLE <b>0604222F Nuclear Weapons Support</b>		PROJECT NUMBER AND TITLE <b>4807 Nuclear Weapons &amp; CP Technologies</b>	
<b>(U) <u>Schedule Profile</u></b>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Operation Iraqi Freedom (OIF) Support	1-4Q		
(U) Complete Agent Defeat Weapon (ADW) acquisition documentation	1Q		
(U) Agent Defeat Weapon (ADW) risk reduction technology demonstrations	1-4Q		
(U) Begin support of OSD Agent Defeat Weapons (ADW) Advanced Concept Technology Development (ACTD) activities		2Q	
(U) Begin Surface Target Ordnance Package (STOP) accelerated acquisition activities	2Q		
(U) Passive Attack Weapon (PAW) QRC support			4Q
(U) Start/Complete Robust Nuclear Earth Penetrator (RNEP) Phase 6.2/6.2A study	3Q		4Q
(U) Start/Complete Enhanced Cruise Missile (ECM) Phase 6.1 Study		2-4Q	
(U) Start Enhanced Cruise Missile (ECM) Phase 6.2/6.2A Study			4Q
(U) Start/Complete Anti-Biological Chemical (ABC) Weapon Phase 1 Study		3Q	1Q
(U) Start Anti-Biological Chemical (ABC) Weapon Phase 6.2/6.2A Study			2Q
(U) Release of Empirical Lethality Model (ELM) (Ver 5) and Simulated Environment and Respon Execution Nesting Tool (SERPENT) (Beta Ver) software packages		3-4Q	
(U) Start Stockpile Surveillance Techniques Study		1Q	

**Exhibit R-2a, RDT&E Project Justification**

DATE  
**February 2004**

<b>BUDGET ACTIVITY</b> <b>05 System Development and Demonstration (SDD)</b>				<b>PE NUMBER AND TITLE</b> <b>0604222F Nuclear Weapons Support</b>			<b>PROJECT NUMBER AND TITLE</b> <b>5708 Nuclear Weapons Support</b>		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
5708 Nuclear Weapons Support	5.680	5.553	4.453	4.595	4.753	7.064	7.250	0.000	0.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

Effective in FY 2005, the Air Force Nuclear Weapons and Counterproliferation Agency (AFNWCA) activities funded in this Project will be transferred to Project 654236, Engineering Analysis, while the Air Armament Center's Nuclear Weapons Directorate (AAC/NW) activities funded in Project 654236, Engineering Analysis, will be transferred to this Project. Funding associated with these activities will also be realigned. There will be no change to overall Program budget, planned activities, or programmed level of effort.

**(U) A. Mission Description and Budget Item Justification**

Funds the Air Force Nuclear Weapons and Counterproliferation Agency (AFNWCA) and the Air Armament's Nuclear Weapon Directorate (AAC/NW) civilians and associated operational support at Kirtland AFB, New Mexico who provide direct technical and engineering support for all Air Force (AF) nuclear weapon systems, support systems, facilities, special procedures, and counterproliferation technical efforts. These personnel:

- Conduct studies and analysis for nuclear capable aircraft and missile systems to include ground and maintenance support equipment required to meet certification, safety, security, reliability, operational, and other requirements
- Manage the AF nuclear certification process; represent Air Force Material Command (AFMC) as a voting member of and technical advisors to Nuclear Weapon System Safety Group (NWSSG)
- Administer oversight activities such as the Project Officers Group (POG) function for all AF nuclear weapon and weapon systems
- Interface with the Department of Defense (DoD), Department of Energy (DOE) to include their national laboratories, the National Nuclear Security Administration (NNSA) the Air Staff, operational commands, and AF nuclear weapon system related System Program Offices (SPOs) to accomplish weapon sustainment/life extension programs
- Provide warfighters with counter chemical, biological, radiological, and nuclear (C-CBRN) support as requested

Budget Activity Justification: These efforts are Budget Activity 5, System Development and Demonstration, because they are system specific programs to identify and develop life extension programs for as well as solutions to problems and/or deficiencies in AF nuclear weapons, weapon systems and the supporting infrastructure.

**(U) B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Accomplishments/Planned Program			
(U) Nuclear Aircraft System Support.	1.724	1.424	1.296
--- Support the US Strategic Command's (STRATCOM) nuclear safe escape effort; update/expand nuclear hardness databases; conduct nuclear aircraft weapon system surveillance test programs; and support special safety studies			
--- Perform independent technical nuclear safety analysis for certification of the C-130J aircraft and Weapon Storage a Security System (WS3) Sustainment Modifications			
--- Support development and/or sustainment of aircraft nuclear weapon test sets and support equipment; provide nuclear surety and compatibility requirements documents for all AF nuclear capable aircraft weapon systems			
--- Manage the B-52H, F-15E, B-2A, F-16, JSF, and PA-200 Project Officers Groups (POGs); perform independent			

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Exhibit R-2a, RDT&E Project Justification		DATE <b>February 2004</b>	
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE	
<b>05 System Development and Demonstration (SDD)</b>	<b>0604222F Nuclear Weapons Support</b>	<b>5708 Nuclear Weapons Support</b>	
engineering evaluations for nuclear safety design certification of nuclear weapon system modifications and nuclear weapon compatibility certification --- Administer technical order review and validation/verification process; update/publish general nuclear weapons technical guidance through the Joint Nuclear Weapons Publication System (JNWPS) --- Furnish specific guidance to major commands (MAJCOMs) on explosive ordnance disposal and issues affected by systems hardware/software changes --- Provide administrative/technical oversight and review of the unsatisfactory report (UR) system; perform nuclear certification oversight functions; and develop/maintain web-based master certification database/list.			
(U) Nuclear Ground-Launched Missile/Intercontinental Ballistic Missile (ICBM) Support.		1.455	1.146 1.043
--- Provide nuclear surety design criteria, standards, specifications, and related requirements documents for all Air Force (AF) ground-launched missile systems; provide nuclear surety design guidance to ICBM program office/contractors for weapon system modifications and upgrade programs; perform independent nuclear surety analyses for nuclear safety design certification of weapon system modifications --- Provide technical support for the ALCS OSR and Nuclear Weapon System Safety Group (NWSSG) Special Safety Studies; complete independent technical nuclear safety analysis for certification of the C-130J aircraft and WS3 Sustainment Modifications and provide nuclear certification support to HQ AFSC/SEW and the ICBM SPO --- Provide technical support required by NWSSG action items; support Peacekeeper Weapon System nuclear surety activities (either life extension programs or deactivation activities); participate in the ICBM Nuclear Surety Working Group, unauthorized launch studies, and special security working groups --- Perform nuclear certification oversight functions; and develop/maintain web-based master certification database/list.			
(U) Nuclear Weapons/Systems Assessments. [NOTE: Activities accomplished by AFNWCA under this task will be transferred to Project 654236, Engineering Analysis, beginning in FY 2005]		0.480	1.201 1.093
--- Continue application of joint Department of Defense (DoD)/Department of Energy (DOE) nuclear surety assessment methodology to abnormal nuclear environment analyses --- Conduct safety assessment of warhead maintenance operation in AF facilities --- Participate in and provide technical support to the AFMC voting member Nuclear Weapons Depot Maintenance and Storage Operations NWSSG Special Safety Studies --- Conduct fault tree analyses of nuclear weapons and weapon systems; evaluate safety implications of modifications at AF storage and maintenance facilities; and provide other assessments as required --- Provide nuclear surety support for all support equipment, facilities and special procedures --- Develop and manage nuclear facility design criteria --- Participate as a technical member of the nuclear facility working group			
(U) Nuclear Weapons Program Support. [NOTE: Activities accomplished by AFNWCA under this task will be transferred to Project 654236, Engineering Analysis, beginning in FY 2005]		1.423	1.122 1.021
--- Accomplish nuclear weapon safety, reliability, mission analysis and compatibility studies; support AF nuclear			

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<b>Exhibit R-2a, RDT&amp;E Project Justification</b>	DATE <b>February 2004</b>
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BUDGET ACTIVITY <b>05 System Development and Demonstration (SDD)</b>	PE NUMBER AND TITLE <b>0604222F Nuclear Weapons Support</b>	PROJECT NUMBER AND TITLE <b>5708 Nuclear Weapons Support</b>
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weapon stockpile activities, weapon use control analyses, and environmental studies --- Develop, plan, analyze, schedule and execute nuclear weapon life extension programs for B61, B83, W80 and Intercontinental Ballistic Missile (ICBM) warheads; and continue support to AF, DoD and other agencies in all facets of the nuclear arsenal --- Provide lead for integrating activities by all DoD/DOE agencies having responsibilities involving any AF specific nuclear weapon --- Support the development and execution of ground and flight tests required to meet surety, reliability, and/or modification verification/validation for nuclear weapons in the AF stockpile --- Perform advanced weapon and weapon system studies/analysis as required			
(U) Counterproliferation Assessments. [NOTE: This activity transferred to Project 654236, Engineering Analysis, beginning in FY 2005] --- Provide technical guidance, analysis and support for the agent defeat weapon (ADW) acquisition efforts --- Provide counterproliferation-related analyses, expertise and program guidance in the evaluation of nuclear, conventional and advanced weapon technologies to include joint DoD/DOE Acquisition Phase 6.2/6.2A efforts for the Robust Nuclear Earth Penetrator (RNEP)	0.598	0.660	
(U) Total Cost	5.680	5.553	4.453
<b>(U) C. Other Program Funding Summary (\$ in Millions)</b>			
	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>
	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>
	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>
	<u>FY 2009</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Estimate</u>	<u>Complete</u>	
(U) Not Applicable			
<b>(U) D. Acquisition Strategy</b>			
RDT&E projects performed by AFNWCA and AAC/NW are direct funded. Contractor conducted efforts are accomplished via firm fixed price and/or cost plus contracts awarded as a result of open competition.			



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Exhibit R-3, RDT&E Project Cost Analysis										DATE February 2004		
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604222F Nuclear Weapons Support				PROJECT NUMBER AND TITLE 5708 Nuclear Weapons Support				
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2004</u> <u>Cost</u>	<u>FY</u> <u>2004</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2005</u> <u>Cost</u>	<u>FY</u> <u>2005</u> <u>Award</u> <u>Date</u>	<u>Cost to Complete</u>	<u>Total</u> <u>Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
(U) <u>Product Development</u>												
In-house Studies/Analysis and other Government Activities	N/A	Air Armament Center/Nuclear Weapons Directorate (Kirtland AFB, NM)	13.839	3.205	Oct-02	3.102	Oct-03	4.093	Oct-04	Continuing	TBD	TBD
In-house Studies/Analysis and other Government Activities	N/A	Air Force Nuclear Weapons and Counterproliferation Agency (Kirtland AFB, NM)	8.035	2.135	Oct-02	2.101	Oct-03	0.000		0.000	12.271	12.271
Subtotal Product Development			21.874	5.340		5.203		4.093		Continuing	TBD	TBD
Remarks:												
(U) <u>Support</u>												
A&AS	FFP	GTE Government Service Corp (Albuquerque, NM)	0.745	0.340	Jan-03	0.350	Jan-04	0.360	Jan-05	Continuing	TBD	TBD
Subtotal Support			0.745	0.340		0.350		0.360		Continuing	TBD	TBD
Remarks:												
(U) <u>Test &amp; Evaluation</u>												
None											0.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Management</u>												
None											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			22.619	5.680		5.553		4.453		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2004

BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604222F Nuclear Weapons Support

PROJECT NUMBER AND TITLE

5708 Nuclear Weapons Support

Project 655708 - Nuclear Weapons Support

Activity	Fiscal Year	2003				2004				2005				2006				2007				2008				2009			
	Quarter	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Nuclear Weapons Systems Sustainment *																													
Nuclear Weapons System Data Management Activities *																													
Nuclear Certification Activities *																													
Logistics Program Management Activities *																													
Tech Order Development/Management																													
Special Studies/Analysis																													
Nuclear Gravity Bomb Surveillance/Sustainment/Modernization Activities **																													
ICBM Nuclear Warhead Surveillance/Sustainment/Modernization Activities **																													
Cruise Missile Nuclear Warhead Surveillance/Sustainment/Modernization Activities **																													
Annual Nuclear Weapons Assessment **																													

\* - Includes activities consolidated from Project 654236, Engineering Analysis, beginning in FY 2005

\*\* - Some activities are consolidated in Project 654236, Engineering Analysis, beginning in FY 2005

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Exhibit R-4a, RDT&E Schedule Detail		DATE	
		February 2004	
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE	
05 System Development and Demonstration (SDD)	0604222F Nuclear Weapons Support	5708 Nuclear Weapons Support	
	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) <b>Schedule Profile</b>			
(U) B61 ALT Efforts	1-4Q	1-4Q	1-4Q
(U) ---B61 ALT 357 Phase 6.3 Start/Complete	1Q	1Q	
(U) ---B61 ALT 356/358/359 Phase 6.2/2A Complete	2Q		
(U) ---B61 ALT 356/358/359 Phase 6.3 Start/Complete	2Q		3Q
(U) B61 Life Extension Program (LEP)	1-4Q	1-4Q	1-4Q
(U) ---B61 LEP Phase 6.1 Start/Complete	3Q	4Q	
(U) ---B61 LEP Phase 6.2/2A Start		2Q	
(U) W80 Life Extension Program (LEP) Start (FY01)/Complete (On-going - TBD)	1-4Q	1-4Q	1-4Q
(U) W87 Life Extension Program (LEP) Complete (On-going - TBD)	1-4Q	1-4Q	1-4Q
(U) Minuteman III (MMIII) Safety Enhanced Reentry Vehicle [W87/Mk21] Support	3-4Q	1-4Q	1-4Q
(U) Mk12A/Mk21 Fuze Replacement Study		1-4Q	1-4Q
(U) RNEP Phase 6.2 Study Start	3Q		
(U) Enhanced Cruise Missile Warhead Phase 6.1 Approval		1Q	
(U) Annual Weapon Assessment	1-4Q	1-4Q	1-4Q
(U) Nuclear Weapons System Safety Group Meetings	1-4Q	1-4Q	1-4Q
(U) Nuclear Certification Activities	1-4Q	1-4Q	1-4Q
(U) Compatibility Certification	1-4Q	1-4Q	1-4Q
(U) Independent Analysis (TNSA, SSS)	1-4Q	1-4Q	1-4Q
(U) Tech Order Development/Management	1-4Q	1-4Q	1-4Q
(U) ICBM Warhead Force Structure Study		1-4Q	1-4Q
(U) Weapons Storage & Maintenance Safety Evaluations	1-4Q	1-4Q	1-4Q
(U) AFMC MUNS Consolidation Study	2-3Q	1Q	