

UNCLASSIFIED

| ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit) | | | | | | | | DATE February 1999 | | |
|--|---------------|------------------|-------------------|---|------------------|------------------|---------------------------|-----------------------|------------------------|------------|
| BUDGET ACTIVITY 2 - Applied Research | | | | PE NUMBER AND TITLE 0602623A Joint Service Small Arms Program | | | | | PROJECT AH21 | |
| COST (In Thousands) | FY1998 Actual | FY 1999 Estimate | FY 2000 Estimate | FY 2001 Estimate | FY 2002 Estimate | FY 2003 Estimate | FY2004 Estimate | FY2005 Estimate | Cost to Complete | Total Cost |
| AH21 Joint Service Small Arms Program | 8714 | 5188 | 5187 | 5428 | 5611 | 5807 | 6079 | 6419 | Continuing | Continuing |
| <p>A. <u>Mission Description and Budget Item Justification:</u> The objective of this Program Element (PE) is to develop key individual and crew served weapons technologies that will enhance the fighting capabilities and survivability of dismounted battlefield personnel of the Services. This PE funds efforts as follows: component technology for an Objective Crew-Served Weapon (OCSW) to replace selected M2 machine guns and MK19 grenade machine guns; bursting munitions technology to provide a 300% to 500% increase in hit probability, the ability to defeat defilade or non-visible targets, and means to extend the effective range of the Objective Individual Combat Weapon (OICW) to 1000 meters and the OCSW to 2000 meters; an objective sniper weapon technology to increase accuracy and effective range to 2000 meters for the next sniper weapon; technology advancement/enhancement efforts to 1) assure that the Objective Family of Small Arms, the next generation of weapons systems, continues to overmatch the evolving threat; and 2) address the follow-on needs of the Army After Next; other fighting technology alternatives promoting significant generic advances in function or form of small arms via a spectrum of applications from product improvements through all new weapon concepts (advanced materials and structures for gun systems, guided bullets, and explosively launched projectiles); and non-conventional target effects technologies for small arms-size directed energy systems (lasers/acoustics/microwaves), increased hit/incapacitation/suppression capabilities with controllable target effects (lethal to less-than-lethal). All Joint Service Small Arms Program (JSSAP) efforts are based upon the Joint Service Small Arms Master Plan (JSSAMP), and approved Joint Service Science and Technology Objectives (JSSTO), plus Mission Needs Statements and Operational Requirements Documents of the Services. The work in this PE is consistent with the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, and Project Reliance. This program is primarily managed by the U.S. Army Armament Research, Development and Engineering Center, Picatinny Arsenal, NJ. Work in this PE is related to, and fully coordinated with, efforts in PE 0602624A (Weapons and Munitions Technology), PE 0603607A (Joint Service Small Arms Program), and will transition to JSSAP efforts conducted in PE 0604802A (Weapons and Munitions-Engineering Development) and PE 0604601A (Objective Crew Served Weapon-Engineering Development). Additional transition paths have been established in coordination with Product Manager (PM) Small Arms, USMC Program Manager (PM) Ground Weapons and US SOCOM.</p> <p>FY 1998 Accomplishments:</p> <ul style="list-style-type: none"> • 5460 - Integrated OCSW weapon/mount components into prototype weapon system; conducted first firing demonstration. - Conducted design analysis for OCSW refinement phase including integration of single shot and burst fire fire control technology to meet OCSW 2000 meter requirement. • 1600 - Updated simulator capability for OICW training during Advanced Technology Demonstration (ATD). - Conducted initial test range facility modernization for OICW safety/technical testing. • 1654 - Conducted initial sniper baseline performance experiments. - Explored new concepts/technologies and role/requirements for "small arms" in Army After Next (AAN). - Completed fighting technology alternatives feasibility demonstration and non-conventional target effects technology assessment of directed energy. <p>Total 8714</p> | | | | | | | | | | |
| Project AH21 | | | Page 1 of 3 Pages | | | | Exhibit R-2 (PE 0602623A) | | | |

UNCLASSIFIED

| ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit) | | DATE February 1999 |
|---|---|------------------------------|
| BUDGET ACTIVITY 2 - Applied Research | PE NUMBER AND TITLE 0602623A Joint Service Small Arms Program | PROJECT AH21 |
| FY 1999 Planned Program: | | |
| • | 2658 - Apply fire control technology to OCSW and plan full integration into prototype system design. | |
| | - Conduct design refinements on OCSW weapon, ground mount, fuze and ammunition elements. | |
| • | 1076 - Following OICW safety certification, conduct technical and user testing. | |
| • | 1359 - Establish sniper baseline performance and explore new concepts/technologies to achieve future sniper requirements. | |
| | - Evolve leading edge concepts/technologies that address AAN requirements. | |
| • | 95 - Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs | |
| Total | 5188 | |
| FY 2000 Planned Program: | | |
| • | 3506 - Complete integration of airburst, point-detonation and self-destruct functions into OCSW fuze. | |
| | - Conduct firing demonstration tests of fully integrated OCSW fuze from 800 out to 2000 meters. | |
| • | 715 - Conduct simulation and analyses of Objective Sniper Weapon (OSW) concepts. | |
| • | 625 - Conduct analysis and planning for initial OICW block modification. | |
| • | 341 - Complete assessment of sensor technology for Light Fighter Lethality After Next. | |
| Total | 5187 | |
| FY 2001 Planned Program: | | |
| • | 3013 - Complete design and 1000-2000 meter firing tests of OCSW full solution fire control. | |
| • | 1275 - Evaluate key OSW components/pacing technologies; results fed back to virtual simulation. | |
| | - Develop laser steering components for integration into OICW fire control. | |
| • | 1140 - Complete the concept of a seeker projectile for Light Fighter Lethality After Next. | |
| Total | 5428 | |
| Project AH21 | Page 2 of 3 Pages | Exhibit R-2 (PE 0602623A) |

UNCLASSIFIED

| | |
|---|------------------------------|
| ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit) | DATE February 1999 |
|---|------------------------------|

| | | |
|--|---|------------------------|
| BUDGET ACTIVITY 2 - Applied Research | PE NUMBER AND TITLE 0602623A Joint Service Small Arms Program | PROJECT AH21 |
|--|---|------------------------|

| B. Program Change Summary | <u>FY 1998</u> | <u>FY 1999</u> | <u>FY 2000</u> | <u>FY 2001</u> |
|---|----------------|----------------|----------------|----------------|
| Previous President's Budget (<u>FY 1999 PB</u>) | 9000 | 5229 | 5239 | 5453 |
| Appropriated Value | 9286 | 5229 | | |
| Adjustments to Appropriated Value | | | | |
| a. Congressional General Reductions | -286 | -41 | | |
| b. SBIR / STTR | -215 | | | |
| c. Omnibus or Other Above Threshold Reduction | -71 | | | |
| d. Below Threshold Reprogramming | | | | |
| e. Rescissions | | | | |
| Adjustments to Budget Years Since <u>FY 1999 PB</u> | | | -52 | -25 |
| Current Budget Submit (<u>FY 2000/2001 PB</u>) | 8714 | 5188 | 5187 | 5428 |

THIS PAGE INTENTIONALLY LEFT BLANK