

**JUSTIFICATION REVIEW DOCUMENT
FOR OTHER THAN FULL AND OPEN COMPETITION**

Program/Equipment: Hotblox Lightweight Hard Armor Development

Authority: 10 United States Code (U.S.C.) 2304(c)(1)

Amount: \$1,005,000.00

Prepared by:

Typed Name: Suzanne Bosselman
Title: Systems Engineer, PM-SPIE, TMD

DSN: 654-0029
Date: 15 January 2010

Procuring Contracting Officer:

Typed Name: Theresa S. Quick
Title: Procuring Contracting Officer

DSN: 298-3697
Date Reviewed: 15 March 2010

Technical Representatives:

Typed Name: Dr James Zheng
Title: Chief Scientist, PM SPIE

DSN: 654-4865
Date Reviewed: 11 March 2010

Requirements Representative:

Typed Name: Dr. James Zheng
Title: Chief Scientist, PM SPIE

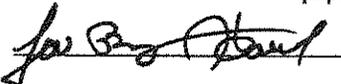
DSN: 654-4865
Date Reviewed: 11 March 2010

Reviews: I have reviewed this justification and find it adequate to support other than full and open competition.

Program Manager

Typed Name: LTC Jon Rickey
PM Soldier Protective Equipment

DSN: 654-9321

Signature: 

Date: 12 March 2010

Legal Counsel

Typed Name: David H. Scott

DSN: 298-1553

Signature: 

Date: 3-22-10

**Justification and Approval
For Other Than Full and Open Competition**

- 1. Contracting Agency:** US Army RDECOM Contracting Center, Aberdeen Contracting Division, ATTN: CCRD-AP-BA, Aberdeen Proving Ground, MD 21005-3013.
- 2. Description of Action:** Approval is requested to solicit for a new firm-fixed price (FFP) commercial contract in support of Product Manager Soldier Protective Equipment (PM SPE). 2010 Research, Development, Test & Engineering funding shall be utilized for this effort.
- 3. Description of Supplies/Services:** This proposed contracting action is for American Technical Coatings, Inc. (ATC) to use their proprietary Hotblox resins on various ceramic plates and fabrics in order to: 1) optimize the ballistic properties of a Hotblox Armor Enhanced Small Arms Protective Inserts (ESAPI) system at 10% reduced weight, and 2) optimize the ballistic properties of a Hotblox Armor X Small Arms Protective Insert (XSAPI) system at 10% reduced weight. The intention is to award a twelve month Research & Development (R&D) contract with two option years. The cost for the twelve month base effort is \$335,000 and the cost for each option year is \$335,000. The total estimated contract value is \$1,005,000.00.
- 4. Authority Cited:** The statutory authority permitting Other than Full and Open Competition is 10 U.S.C. 2304(c)(1), as implemented by FAR 6.302-1, Only One Responsible Source and No Other Supplies or Services Will Satisfy Agency Requirements.
- 5. Reason for Authority Cited:** ATC is the only source that has shown potential to produce ESAPI and XSAPI armor at a reduced weight. ATC has successfully completed a Phase II Small Business Innovative Research (SBIR) effort for the US Naval Air Systems Command (NAVAIR) to develop armor for aircraft to defeat armor piercing threats. The Army has recently conducted ballistic testing of ATC's Hotblox Armor system. Both flat and Small Arms Protective Inserts (SAPI) shape samples were produced at weights below ESAPI and XSAPI current weight and performed well on a limited number of samples. These results demonstrated that ATC's Hotblox Armor has the potential to reduce the weight of current body armor (ESAPI and XSAPI) systems that are currently in the field by 10 to 20%. No other vendor has demonstrated the ability to reduce the weight of ESAPI and XSAPI armor. The Hotblox material and processing method is a patented technology, U.S. Patent number 6,638,572, and can only be produced by ATC.
- 6. Efforts to Obtain Competition:** ATC is the only source that has shown potential to produce ESAPI and XSAPI armor at a reduced weight. See section 8 Market Research. This requirement was synopsisized in accordance with the format in FAR 5.207 and posted to the Federal Business Opportunities website via Army Single Face to Industry on 04 March 2010. To date, one response has been received from Ideal Jacobs Corporation regarding their Ideal Suit body armor system, and was forwarded to Project Manager Soldier Protection and Individual Equipment, Technical Management Division (PM SPIE, TMD). PM SPIE, TMD responded on 10 March that Ideal Jacob's did not address the immediate requirement's objective to achieve a 5-10% reduced armor weight. In addition, the armor was not tested at the NIJ level that would demonstrate to the government that the armor would meet government specification. The Government's technical experts will continue to conduct market research to ascertain if technical efforts in the market place mature sufficiently to meet the Government's requirements throughout the period of performance of this effort. If the Government determines that more than one source can meet the Government's requirements, a competitive acquisition will be initiated should the decision be made to award a follow-on contract.

7. Actions to Increase Competition: An important function of PM SPIE, TMD is to push industry toward making incremental improvements to personal protective equipment. PM SPIE, TMD will continue to seek technology solutions via solicitations, RFIs and through continuous interactions with academia, government labs, and industry leaders. There are no future plans for additional R&D of this type. Over the last fifteen years PM SPIE has been conducting Market Research to identify ways to reduce body armor weight for the Small Arms Protective Inserts (SAPI) and its' successor, the ESAPI system. To date, ATC is the only known source with the technology to accomplish the Government's objective. In the future, PM SPIE will continue to conduct market research. If any new technologies emerge in the industry that are comparable to Hotblox then a competitive acquisition will be initiated.

8. Market Research: Dr. James Zheng, Chief Scientist, PM-SPIE, TMD continually conducts market research into new technologies, materials, and testing methodologies for armor application through academia, private industry, and government laboratories. He became aware of American Technical Coating and their work through the Phase II SBIR program, which solicited concepts for composite armor.

PEO Soldier (PM-SPIE) in cooperation with the Marine Corp Systems Command has solicited and awarded several contracts to reduce ESAPI and/or XSAPI weight, e.g. in November 2007 (solicitation number W91CRB-07-R-0041) "Enhanced Small Arms Protective Inserts (ESAPI) and X-Enhanced Small Arms Protective Inserts (ESAPI)," in October 2008 (BAA announcement 07-09) "Development of lightweight personnel armor ballistic protective insert for small arms protection."

For the last several years, PM-SPIE has awarded research and development contracts to the Army's current armor producers. In 2009, PM-SPIE awarded R&D contracts to Ceradyne, BAE Systems, Armacel and The Protective Group. These companies produce state of the art armor and are the only armor producers capable of meeting the current weight requirements for ESAPI and XSAPI. Despite significant investment of research dollars into these companies' R&D programs, none have shown the potential to improve the state of the art or reduce weight of the current ESAPI/XSAPI.

PM-SPIE, TMD continuously conducts ballistic testing of items submitted by vendors who have approached the PM for evaluation of their materials. Over the last few years, PM-SPIE, TMD has conducted hundreds of tests to investigate new technologies. As the recognized Army armor technical expert, Dr. Zheng meets regularly with representatives from the armor and armor component industries. He also meets and collaborates with representatives from academia, Army Research Laboratory, Army Research Office, Office of the Secretary of Defense, and Natick Soldier Research Development and Engineering Center conducting research on armor, armor component materials, and testing. In calendar year 2009, Dr. Zheng hosted or attended over 200 technical meetings pertaining to body armor development or testing.

9. Interested Sources: This action was synopsisized in accordance with FAR 5.201 on 04 March 2010 (see attachment). See paragraph 6, *Efforts to Obtain Competition*.

10. Other Facts:

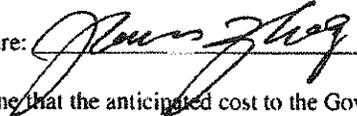
- a. **Procurement History:** NAVAIR Phase II SBIR was awarded to ATC, contract #N68335-07-C-0191.
- b. **Acquisition Data Availability:** Tech data packages are not available for this effort. These items are new technology and PM SPIE is still in the process of evaluating what is available on the market. Once evaluations have been completed this technology will be incorporated into the current Interceptor Body Armor technology.
- c. **Urgent and Compelling Urgency:** Not applicable (N/A)
- d. **Subcontracting Competition:** There are no subcontracting opportunities. ATC will perform all of the services required under this contract: no subcontracting will be required.
- e. **Follow-on Contracts:** This is not considered a follow-on contract. Therefore, this paragraph is N/A.

11. Technical/Requirements Certification: I certify that the supporting data under my cognizance, which are included in the justification, are accurate and complete to the best of my knowledge and belief.

Typed Name: Dr James Zheng

Date: 11 March 2010

Title: Chief Scientist, PM SPIE

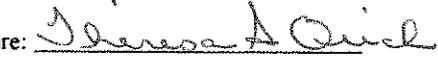
Signature: 

12. Fair and Reasonable Cost Determination: I hereby determine that the anticipated cost to the Government for this contract action will be fair and reasonable in accordance with Federal Acquisition Regulations (FAR) 13.106-3 by comparing the proposed price to similar items/services, the independent Government estimate and prices found reasonable on previous purchases. In accordance with FAR 2.101 and 15.403-1(b)(3) this requirement is considered commercial and therefore Certified Cost and Pricing data is not required.

Typed Name: Theresa Quick

Date: 7 April 2010

Title: Procuring Contracting Officer

Signature: 

13. Procuring Contracting Officer Certification: I certify that this justification is accurate and complete to the best of my knowledge and belief.

Typed Name: Theresa S. Quick

Date: 7 April 2010

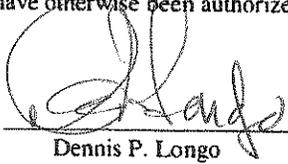
Title: Procuring Contracting Officer

Signature: 

APPROVAL

Based on the foregoing justification, I hereby approve the procurement of research and development of a lightweight ESAPI and lightweight XSAPI from American Technical Coatings Inc., on an other than full and open competition basis pursuant to the authority of 10 U.S.C. 2304(c)(1), subject to availability of funds, and provided that the services and property herein described have otherwise been authorized for acquisition.

Date: 7 April 10

Signature: 
Dennis P. Longo
Special Competition Advocate