



DEVELOPMENT OF A BOMB SUIT STANDARD | National Protection Center

The United States Army Natick Soldier Research, Development and Engineering Center (NSRDEC) developed a Draft Bomb Suit Standard for Explosive Ordnance Disposal (EOD) Personal Protective Equipment (PPE). Funding was provided by the Department of Homeland Security — Science and Technology (DHS-S&T), National Institute of Standards and Technology — Office of Law Enforcement Standards (NIST-OLES) and the National Institute of Justice (NIJ). NSRDEC’s Draft Bomb Suit Standard transitioned to NIJ and was the foundation for the development of the NIJ Bomb Suit Standard for Law Enforcement — 0117.00 which is scheduled to be published in FY09.

PROGRAM OVERVIEW:

EOD technicians wear Bomb Suits during reconnaissance, render safe, or disruption procedures on potential or confirmed explosive threats. These ensembles must provide a tremendous degree of protection from fragmentation, blast overpressure, thermal, and tertiary effects should the threat device detonate. At the same time, this protective ensemble cannot significantly hinder their mobility or situational awareness.

There were no performance standards for EOD PPE. This led to uncertainty within the EOD community regarding the level of protection necessary, and the exact level of protection each bomb suit offers. Establishment of standardized test methods and performance levels ensures that Bomb Suits meet functional and survivability requirements. The NIJ Bomb Suit Standard will give the user community guidance for purchasing Bomb Suits, and provide manufacturers with consistent test methods and requirements for developing and evaluating their products.

OBJECTIVE:

Establish Draft Bomb Suit Standard containing test methods and performance requirements. Performance requirements were set by identifying and characterizing the prevalent civilian EOD threats for fragmentation, blast overpressure, and thermal effects. State-of-the-art Bomb Suits were benchmarked against identified threats using adapted or developed test methods. Also, ergonomic criteria were established based on the user community’s required operational capabilities.

EXECUTION PARTNERS:

The U.S. Army Natick Soldier RD&E Center (NSRDEC) was the technical program manager for this program with administrative management oversight coming from NIST-OLES. Other partners included:

- National Institute of Justice
- National Bomb Squad Commanders Advisory Board
- University of Virginia - Center for Applied Biomechanics
- PM Soldier Survivability
- Biokinetics
- US Army Test Center
- US Army Research Laboratory
- U.S. Army Aeromedical Research Laboratory
- MA State Police

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