



TIP 246: BATTLEGUARD™, High-Impact Technology

Context

BPA operations are crucial to the Pacific Northwest. Protecting the transmission system from expensive and dangerous disruptions caused by terrorism, threatening ingress, theft and disasters has been a major recent focal point of both BPA security and transmission personnel, with federal edicts such as NERC CIP being enacted to put some teeth into vigilant intentions. BPA has adopted a clear and unwavering commitment to support technological solutions that help deter theft without reduction in functionality. The agency also recognizes the importance of adapting existing barrier technologies and/or integration of strategies that would significantly improve protection characteristics for critical assets. BattleGuard™ represents a significant step in that direction.

Description

BattleGuard™ is an emerging ballistic and blast mitigation technology. With program support, research will yield two variants: "baseline" (blast mitigation) and "smart" (blast mitigation and a suite of security systems including communication, crowd management, and audio/visual surveillance capabilities). Structures specially coated with the BattleGuard™ product would enable an integrated fixed perimeter strategy that could be moved at will as circumstances warranted. The coating provides protection properties such as a self-healing reaction, shrapnel containment, corrosion resistance and seismic hardening, while also acting as a barrier to theft. BattleGuard™ will meet/exceed several identified BPA requirements at a reasonable cost for initial purchase as well as long-term sustainment. This application is also known as "blast" technology and involves, in addition to the protective coating, portable panels designed for ballistic protection.

Why It Matters

BattleGuard™ is a low-cost, high-yield investment for BPA. The total project cost is \$300,000.00. High Impact Technology (HIT) will match \$150,000 from BPA dollar for dollar. The project builds upon research already completed: research that provides a baseline variant that would be worth the investment alone - if it provided nothing more than tailored blast mitigation.

However, the development of the smart variants that provide embedded electronics packages will deliver to the BPA security decision-makers a suite of options previously unavailable. BPA will be stronger, more capable of deterring and defending attacks; BPA will be more resilient against natural disasters. This program offers BPA a unique security platform opportunity. The costs for this project are largely determined by the costs of materials, time at the laboratory, and testing. Costs associated with the development of baseline BattleGuard™ variant have been included: personnel costs for continued development of the smart variants mirror those assumptions. A detailed justification for costs is included in Volume III.

Goals and Objectives

This agreement outlines a proposal for consideration that will produce a next-generation barrier enhancing BPA security requirements. With selection, BattleGuard™ will be developed in two operational variants: "baseline" and "smart." These structures will provide BPA security decision-makers with significantly enhanced ballistic protection and blast mitigation for mission essential equipment, people, and resources throughout its service area. BattleGuard™ addresses all three (3) requirements and four (4) of eight (8) identified gaps in listed in the 2007 Physical Security Technology Roadmap.

Deliverables

1. Formal report (and associated documentation) of BattleGuard™ Baseline ballistic and blast characteristics.
2. Formal report (and associated documentation) of BattleGuard™ Smart ballistic and blast characteristics.
3. Three (3) BattleGuard™ structure prototypes (reflecting the varying heights tested).
4. A final report with recommendations for follow-on projects (associated with component materials, lessons learned, and items of interest identified by BPA physical security personnel).

Technology Innovation Project



Project Brief

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Project Start Date: Dec 22, 2011

Project End Date: Sept 30, 2012

Funding

Total Project Cost:	\$300,000
BPA Share:	\$150,000
External Share:	\$150,000
BPA FY2012 Budget:	\$150,000

Participating Organizations

High Impact Technology

For More Information Contact

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