Providing Critical Information for the Decision Maker

Sandia National Laboratories

SAND2011-2955P

Safeguarding
America's
Critical Assets

Core Capabilities

Analysis

- Identification of Countermeasures to Reduce Risk
- Adversary Path and Neutralization Analysis
- Blast Analysis and Mitigation
- Insider Analysis
- Cost Benefit and Alternatives Analysis

Design and Implementation

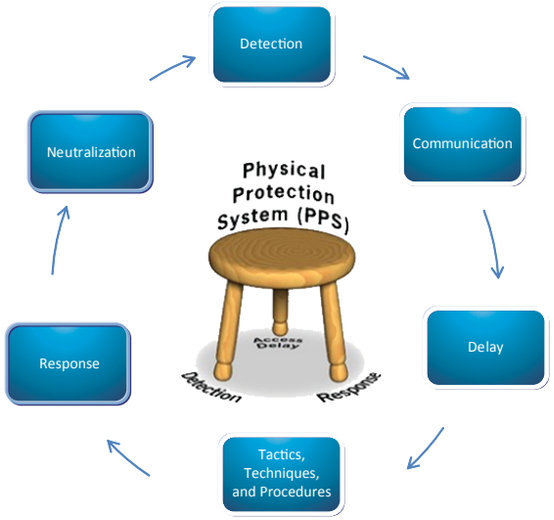
- Requirements Development
- Scenario/Use Case Development
- Conceptual Designs

Testing Facilities

- Weapons and Ammunition Testing
- Response Force Equipment Testing

Very Unique Capabilities

- Modeling, Simulation and Response Force Trainers
- Systems and Value Engineering
- Configuration Management
- Subject Matter Expertise



The Approach

We provide a science-based, systems-level design approach which leverages across all areas of the Center and the Labs. This team effort results in a dynamic systems engineering approach to complex force protection and homeland defense challenges.

Our Partners

HQ Air Force/A7S, HQ Navy/SSP, HQ Air Force Global Strike Command, HQ Air Combat Command, HQ Air Force Space Command, HQ Air Material Command, Nuclear Weapons Center, HQ US Air Forces in Europe, Missile Defense Agency, U.S. European Command, U.S. Northern Command, and U.S. Strategic Command.

For Further Information:
Email: Defend-Protect@sandia.gov
Manager: John D. Wharton
Phone: 505.284.5739
E-mail: jdwhart@sandia.gov
Deputy Director: Randy Peterson
E-mail: rjpeter@sandia.gov
Phone: 505.844.5792

NNSA National Nuclear Security Administration

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Security Systems Analysis & Engineering Department

Weapon & Force Protection Center

Visit us online at: **www.sandia.gov**

Our Mission

The Weapons and Force Protection Center's mission is to provide innovative and cost-effective solutions to the nation's security problems through the protection of critical / other vital assets and the security of American citizens.

The mission of the Security Systems Analysis and Engineering Department is to deliver world-class analysis in support of critical security engineering projects for DoD and other government agencies. We employ a performance based systems engineering approach to assess the overall performance of the customer's current security system and design cost-effective mitigation options to reduce risk where necessary.

We leverage many unique capabilities including specialized classified and unclassified software databases to assess the performance of the system at it's most critical time - when it is being attacked.

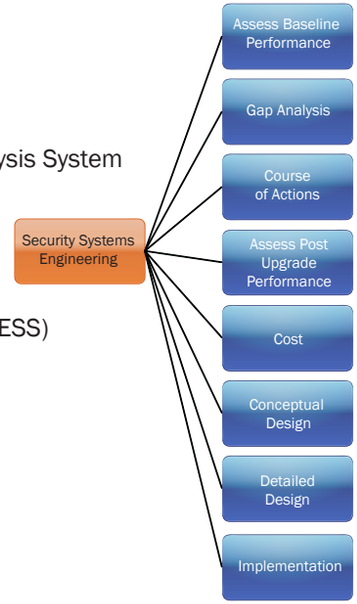
Sandia's analysis methodology is a dynamic framework that allows us to understand each facility's capacity to interrupt attacks, mitigate consequences, and neutralize potential threats.

Analysis Process

- Define the Threat
- Identify Targets
- Understand the Site Characterization
- Determine System Objectives
- Detection, Delay, Response
- Data Evaluation - Calculate Risk
- Research Trade-Space Analysis
- Develop Upgrade Recommendations
- Report Results - Calculate Post-Upgrade Risk

Tools

- Adversary Time Line Analysis System (ATLAS)
- Dante
- Analytical Systems Software for Evaluating Safeguards Security (ASSESS)
- Joint Conflict & Tactical Simulation (JCATS)
- Blast Effects Models
- Neutralization Models
- 3D Visualization Models
- Table Top Recorder



Impact

Security System Engineering Analysis is key to forming the foundation for security system design and optimization. Analysis is critical throughout system life-cycle to ensure adequate security is maintained despite changing threats, missions and protection policies.

System Effectiveness

Provides a data value point to help the customer determine how much risk is acceptable.