



# Introduction to Battleboard Tabletop Exercises





## **Battleboard Tabletop Defined**



- A Battleboard tabletop is a turn-based (adversary then protective force) simulation designed to evaluate the system's capability in response to an attack by an adversary force
- A Battleboard is a three-dimensional scale model with as much detail as practical to ensure accuracy of the results
  - Terrain features
  - Moveable units (people and vehicles)
  - Vegetation
  - Buildings



#### Background





- Originally developed by the U.S. Army for theater-wide battle planning
- DOE adapted the methodology and modified the rules to reflect small unit tactics, engagements, and conflicts

### **Typical Uses of the Battleboard**







- Evaluation of a current system (Baseline)
- Evaluation of an upgraded or changed system
- Development of tactical plans
- Training of protection forces (national police, military, and/or other emergency responders)
- Evaluate procedural changes in the safeguards and security program
- Contingency planning

## **Overview of the Methodology**



- Concept is similar to combat-oriented board games
- Participants are divided into two groups
  - Adversaries
  - Protection forces (national police, military, and/or other emergency responders)
- The two groups are separated to create plans of attack and defense
- When planning is complete, the two groups meet around the Battleboard that represents the system to be evaluated
- Each team has 5 minutes to complete a turn

## **Overview of the Methodology (Continued)**

- Adversaries begin the "battle" with the first move (turn)
- Protective force has the second move
- Each move reflects a unit of time on a clock (typically 30 seconds)
  - One adversary move and the subsequent protective force move reflect one 30second unit of time
  - This allows for more detailed analysis of critical events

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	30 Second	60 Second	90 Second	120 Second	180 Second	210 Second
	Move	Move	Move	Move	Move	Move
Adversary						
Protective Force						

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## **Overview of the Methodology (Continued)**

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- The battle continues until one of the following conditions is met:
  - Adversaries have met their objective
  - Adversaries are no longer capable of meeting their objective. Typical reasons:
    - Attrition: Not enough people to complete remaining tasks
    - Loss of essential capability such as explosives, vehicle, or tools



## **Overview of the Methodology (Continued)**

- Both the adversary and protection forces (national police, military, and/or other emergency responders) are controlled to ensure they conduct realistic actions
- Protection forces (national police, military, and/or other emergency responders) are constrained by:
  - Actual procedures and training No superhero actions!
  - Equipment in inventory (unless an upgrade is being modeled)
- Adversary forces are constrained by an agreed-upon design basis threat with:
  - Force numbers
  - Insiders numbers and
    - level of aggression (passive/active)
  - Equipment (tool kit)
  - Realistic tactics and movements



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## **Roles and Responsibilities**



- Senior Controller person responsible for an accurate and unbiased outcome of the simulation
  - Ensures all parties act in accordance with the agreed-upon rules
  - Has final decision making authority when parties do not agree on an issue
- Adversary Controller unbiased person responsible for ensuring that adversary team makes plans in accordance with agreed threat and capabilities
- Protective Force Controller unbiased person responsible for ensuring that the protective force acts according to approved defense plans, training, and tactics

## **Roles and Responsibilities** (Continued)

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- Adversary Team Lead is the person who strives without personal compromise to achieve the adversary objective
- Protective Force Team Lead person who strives without personal compromise to achieve MPC&A system success
- Team Members assist in the development of plans, suggest tactical moves, and provide technical input in areas of expertise
- Recorder person recording all movements and engagement outcomes



#### **Engagements of Forces**



- Tokens represent people. Each token is uniquely identified for documentation and tracking purposes (i.e., PF 1 for Protective Force number 1)
- Adversary plans that include hidden traps, explosives, snipers, etc., must be announced to the controllers before the simulation begins
- A token may engage only one other token per turn
- A token firing from a hidden position becomes visible to those in line of sight and may be engaged in that same turn



#### **Engagements of Forces (Continued)**

- Multiple tokens may engage a single token during the same turn
- Variation of success of firearm engagements is determined by the roll of two six-sided dice
- Possible outcomes of an engagement:
  - Miss
  - Wound
  - Kill
- Outcomes are determined by weapon tables based on:
  - Type of weapon
  - Observation capability
  - Distance from target







#### **Modeling Armor**



#### Vehicles

- No protection against explosives or rocket-propelled grenades unless designed against those threats
- Armor piercing rounds' effectiveness based on type of armor deployed
- Firing small arms from a moving vehicle will not result in neutralization

of tokens



#### Personnel

- No protection achieved with body armor
- Hardened fighting positions
- No protection against explosives or rocketpropelled grenades unless designed against those threats
- Armor piercing rounds' effectiveness based on type of armor deployed



### **Special Weapons and Equipment**

# **Bulk Explosives**



# Fragmentation

Grenades



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Distraction and Disorientation Devices

### **Rocket-Propelled Grenades**



#### **Movement of Tokens**



- Tokens may not shoot and move at the same time and achieve engagement success (suppression only)
- Tokens cannot travel full distance allowed and fire on another token
- Tokens may move ½ distance and engage a token in the same turn
- Movement distances are based on:
  - Walking
  - Running defensive standard
  - Running offensive standard
  - Tokens encumbered with weight (more than 20 kg) or awkward items will be slowed to at least half of maximum



#### **Battleboard Discussion**

- The methodology is a tool that allows for a disciplined and systematic approach to evaluate the effectiveness of a system or program
- The methodology is an integrating tool for all safeguards and security functions
- The methodology is a valuable tool in developing plans and the training to implement those plans
- The methodology is limited only by the imagination of the user
- A low-cost and sustainable analytical tool







**Battleboard Tabletop Exercises** 



# Thank You

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