



United States
Department of Energy
National Nuclear Security Administration
International Nuclear Security

M6: TTX as a Tool for Scenario Development

Research Reactor Sabotage Protection Workshop



Learning Objectives

Objectives:

- Describe the simplified TTX process
- Understand guidance for determining engagement outcomes

Table Top Exercises - TTX

- Tactical TTX exercises can be used for
 - Protective strategy development and validation
 - Understanding of possible adversary actions
 - Scenario development
 - Command and control training
- TTX is a QUALITATIVE evaluation of the effectiveness of response
 - PPS performance is evaluated based on its effectiveness in preventing adversary from completing the task with a significant degree of assurance

Simplified TTX Process

Participants

- Response force player
- Adversary – Mockup Adversary Force (MAF) player
- Moderator/facilitator

MAF develops an attack plan, including time and conditions at the time of attack, attack targets, and an adversary route of movement

- MAF capabilities are consistent with the DBT
- Target and route information is not shared with the response force player

Players conduct turn-based exercise using

- Response force and adversary tokens
- Site and building maps
- Facility and PPS data

TTX is continued until TTX objectives are achieved

TTX Assumptions

- There are no pre-attack indicators
 - Adversary actions are detected at the assured point of detection
- PPS performs according to plans
 - PPS equipment is effective unless damaged by adversaries
- Response force implements preplanned contingency response from normal security posture
- MAF is well trained and can effectively execute assault actions
- Response forces perform consistent with their training and response plans (protective strategy)

TTX Conduct

- Response personnel and equipment positioned on the site map
- MAF initiates assault
 - MAF personnel and assets are revealed as appropriate
- MAF and Response players alternate moves
 - Move duration is normally 15 sec but can be longer or shorter as needed
- Facilitator/ moderator makes engagement calls

Engagement Outcome – General Guidance

Engagement outcomes are determined based on the situation, weapon system capability, and expert judgement

Primary considerations for firearms engagements

- Line of sight - Distance - Cover
- Target movement
- Weapon range and caliber
- Number of shots fired/ overlapping fields of fire

Engagement calls are intended to be fair

- However, at times, MAF may be given an advantage to deeper probe the protective strategy

Other Considerations (1)

- Exercise Handout provides timeline and other exercise information
 - personnel and vehicle movements
 - breaching actions and effects of explosive devices
 - utilization of adversary attributes
- Safe standoff for explosives breaching charges (hypothetical)
 - 5 m for overpressure
 - Cover against fragments
- Gas/smoke performance is based on environmental conditions

Other Considerations (2)

- Player decisions are made based on plans and procedures
 - A degree of tactical flexibility is expected
- Player decisions are based on “earned” information
 - What they can see, hear, sense or be communicated to
- It is facilitator’s responsibility to ensure that players have the “earned” information
 - Players: ***ask Facilitator to paint a picture or clarify if not sure***

Other Considerations (3)

- Players
 - Do not explain your actions, including the whys and the expectations of what will/should happen
 - Just state the facts – specific actions during the current time period
 - Be methodical and do not overlook anyone: go through all your tokens
- Only one person is talking at a time
- **TTX is not a Win-Loose game!**
 - It is a way to understand and explore the protective strategy including
 - timeliness and effectiveness of response
 - defense-in-depth

- Tactical TTX exercises are an excellent training and evaluation tool
- TTX can be used for scenario development
- TTX objectives, assumptions, and process need to be considered

In conclusion

Questions, Comments, Concerns?