

Designing a Hostile Action-Based Scenario

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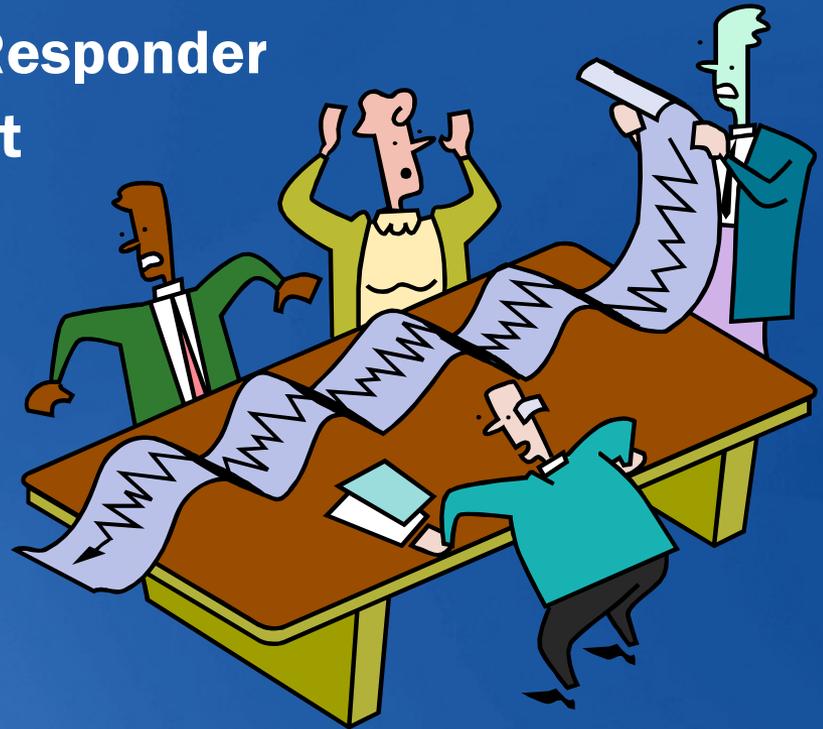
No More Part 1 and Part 2

- The scenario need no longer be divided into two distinct parts.
 - Encountered numerous logistical and execution issues with the numerous and diverse briefings needed to start up the second part.
 - “Time Compression” is a viable way to accelerate through parts of the scenario, such as the attack resolution.
- Design a seamless demonstration from the onset of the attack through final actions.
- Allows demonstration of
 - ERO activation
 - On-site Protective Action Decision-making.
 - Event response (both ERO and ORO)
- More later on strategies and tools to design this scenario.



Scenario Development Team

- The “core” of this scenario team will have some new members:
 - Station Security
 - Primary LLEA First Responder
 - Primary Fire Protection First Responder
 - Local Emergency Management
- Inclusion of these groups and their goals and objectives will significantly improve off-site participation.



Air? Land/Water?

- **Either of the two approaches provides scenario development opportunities, while at the same time, introduces their own “limitations” or development concerns:**
- **Aircraft attack presents opportunity for:**
 - **Wide-spread damage**
 - **Impact – Options arising from Seismic event**
 - **Whole buildings can be disabled or destroyed**
- **Aircraft attack limits:**
 - **More damage means more complications staffing facilities**



Air? Land/Water?

- **Land / water borne attack presents opportunity for:**
 - Very specific equipment damage (Insider?)
 - Allows observation of Expedited Notification, on-site PADs, etc.
 - Increased ORO involvement in scenario development
 - US Coast Guard / Dept of Natural Resource involvement
 - The USCG, if given time, can produce an elaborate response.
- **Land / water borne attack limits:**
 - Requires more site security support for scenario development
 - Increased ORO involvement in scenario development



Identification / Onset

- **These activities are critical components that demonstrate our ability to initiate actions that protect the health and safety of the public AND our employees. Scenarios must allow demonstration (or a realistic discussion) of:**
 - **Communications & Coordination between Site Security and Operations**
 - **On Site Protective Action Decisions & Communication Methods of those PADs**
 - **Operator actions for control of the plant(s) under the threat condition**
 - **Classification activities**
 - **Initial Notification of Off Site Response Organizations (including the NRC)**
 - **Initial Notification of LLEA First Responders**

This is *NOT* Force on Force

- Do NOT Write Scenarios that include:
 - Actual Engagement of Site Security and a simulated adversary.
- For security reasons, scenarios **must not** include:
 - Attacks by forces that **match the Design Basis Threat**.
 - Attacks on components that **match a Target Set**.
- To avoid complications with ERO movement **be very cautious** when including scenarios that result in extended security activities:
 - “missing” adversaries
 - hidden unexploded devices.



This is *NOT* Take Back

- Do NOT Write Scenarios that include:
 - Any activity that could be interpreted as “Take Back”:
 - In these drills, “Take Back” includes any security or law enforcement action to neutralize adversaries or regain control of locations or buildings **OUTSIDE** the Protected Area, but **INSIDE** the Owner Controlled Area.



Big Picture Items

- Write a scenario such that:
 - On Site ERO **cannot succeed** without the intervention of one or more Off Site Response Organizations (i.e., safe shutdown operations are prevented by...):
 - Fires too big for on site fire brigades.
 - Damage that requires Off Site debris / rubble removal equipment.
 - Unexploded devices
 - Opportunities are provided for Off Site Protective Actions
 - Scenario events allow demonstration of:
 - ORO personnel and equipment entrance (actual is preferred).
 - Coordination of first responders and support organizations.
 - Multiple Casualties on site.
 - Activation/use of alternate facilities can be demonstrated.

(If practical)

Communications & Interoperability

- **Map out communication protocols**
 - Develop a “matrix” of agencies and locations.
 - Refine this matrix using input at the tabletop
 - Test these comms just prior to or as part of the exercise.

- ***Interoperability of communications has been pervasive issue in the Comprehensive Review Process.***



Engage the Off Site Responders

- Off Site scenario elements, related to the on site timeline, that allow off site organizations to demonstrate their capabilities:
 - Adversaries found and eliminated off site.
 - Fires or explosives off site.
 - Medical System challenges



*Be aware of
“Scope Creep”...*

Understanding Our Role With LLEA

- **Granting authorization for ERO movement on-site.**
 - Reach out to LLEA early, and clearly listen to their needs.
 - Hold security-based Simulator scenario, and invite LLEA commanders.
 - Get LLEA's buy-in on a plan to get the ERO moving on-site.
- **Redeployment of ERO members from the Alternate Staging Location or Alternate ERFs.**
 - This includes the initial “deployment” to the site AND the movement of staff relief personnel
 - Discuss with LLEA how to get the ERO back to the station in a safe, timely and cohesive way.
 - Escorted buses from alternate facility?

Place the ERO in an Urgent Situation

- The scenario must present a severe and imminent threat to irradiated fuel.
 - The scenario must place a sense of urgency on the ERO decision makers.
 - The suggestion is to create a crisis that must be resolved before the scheduled termination time, or a release or fuel damage will occur.
 - Be creative, but you must allow a path for the ERO to succeed, otherwise the urgency will be eliminated.



Wait! If we cross-tie the flux capacitor to the Heisenberg Compensator, why, we can...



General Emergency Must Result

- **A General Emergency threshold must be met.**
 - A protective action recommendation from the licensee is a **MUST**
 - Work with your ORO to make sure the PAR is discussed at the State/Local level.
 - The **DISCUSSION** of PARs/PADs for the public is vital.

GENERAL EMERGENCY: *Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility...*

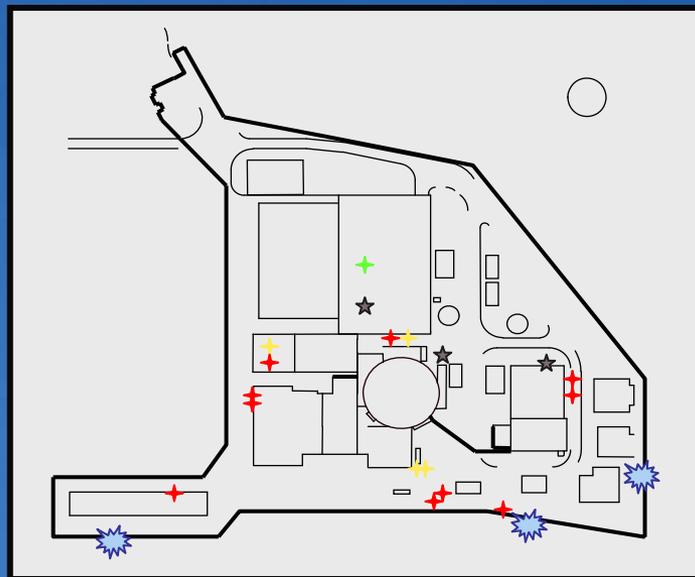
ERO Mobilization / Relocation

- Write a scenario that allows observation of:
 - Ops / Security interface for protective actions for on-site
 - Ops / Security / ORO discussion of restoration of movement and mobilization of the ERO.
 - Communications with LLEA is VITAL.
 - Granting authorization of ERO movement should be preceded by robust discussion.
 - Your “Site Security Players” should be:
 - Knowledgeable (current or former officers)
 - Equipped with capabilities similar to actual conditions



Attack Scenario: Credible BUT Unrealistic

- Engage Security and Local Law to design a scenario that:
 - Exceeds the DBT...
 - Exceeds a Target Set...
- Use maps / drawings to identify areas of damage or casualties.



- ★ Injured Officer
- ★ Injured Adversary
- ★ Neutralized Adversary
- ★ Surrendered Adversary
- ★ Degraded PA Fence

Scenario Execution: Credible AND Realistic

- **Plant announcements need to reflect extent of play.**
- **Photos**
 - **Talk to your site Fire Marshall, they may have software that can visually simulate fires and smoke.**
 - **These are excellent tools at the tabletop...**
- **Engage your Structural Engineers**
 - **Add realism to your damage scenario**
 - **Scope the repair / mitigation strategies.**
- **Drill Control is VERY different!**
 - **Active scenario components (mini-scenarios) are in progress across the state!**
 - **Communications!!!!**



Aircraft / Airborne Attack

SCENARIO:

- It is unrealistic for an aircraft to be identified as “hostile” and with a known target when greater than 30 minutes from the target.
- Use TWO aircraft with staggered estimated impacts.
 - First one ID'd at 25 minutes out.
 - 20 minutes later, the first aircraft is “neutralized”.
 - 5 minutes later, a **SECOND** aircraft is ID'd at 15 minutes away.
- Allows longer play, but reduces the chance of “negative training”...

SCENARIO:

- Use an aircraft, small or big, with little or no warning as a *diversionary attack*.
- This attack can do as little as opening a hole in the fence, or taking out off-site power.
- Follow up with a land or water attack.



Sample Threat Based Scenarios



Aircraft / Airborne Attack

0745 NRC HQ Operations Officer – initial notification
(authentication process)

Emergency Plan Event - Unusual Event

0810 Aircraft intercepted and being escorted
Second aircraft Identified 20 minutes from plant.

Emergency Plant Event - Alert

0825 Aircraft is < 5 minutes out

0830 **IMPACT!**

Plant Status:

- Loss of perimeter fencing
- Loss of / threat to Heat sink
- Loss of numerous transformers
- Emergency diesels maintaining core cooling
- One EDG out of service for maintenance



Aircraft / Airborne Attack, cont'd

Emergency Plan Event – Site Area Emergency

1200 Fire damage collapses roof and loss of ECCS power / Heat Sink

Emergency plan event: General Emergency

1230 hydrogen explosion in turbine building / loss of fire team

1315 power restoration and fire extinguished



Land / Waterborne Attack

- Let your **TWISTED** side out...
 - Without the restrictions of the Design Basis Threat (DBT), you can be very creative in how you attack and damage the plant.
 - This is NOT force on force
 - The adversaries must remain active long enough to inflict the kind of damage you'll need.
 - Not all damage has to be immediately apparent. What was thought to be minor damage may escalate during the drill...
- **REMEMBER:**
 - Do not show a complete target set. Always go beyond target set.
 - Any irradiated fuel could be the target.
 - **DO NOT** give up control of the station!



Questions?

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