Radiation Simulation for Nuclear Drills

Positive Training for Emergency Responders

What it was like (not so long ago)

- Reams of paper
- Over reliance on controllers
- No onus on players performance
- “Perfect Data” every time!
- Overall negative training and re-enforcement
- No opportunity to learn or interpret “real” conditions

What's Wrong with that?

- Realized there was little training benefit to our current process both in the field and in our assessment centers
- The meter needle needed to move
- There was a lack of understanding of basic RP principals
- The world is not a perfect place (though we play like it is)

What would make this better?

- Need to put the player in as realistic situation as possible
- Meters need to respond as if the plume actually existed
- Put the onus on the player to collect the data rather than the controller to provide the data

Virtual Plumes

- Software
  - Simulates a radioactive plume released to the environment
  - Mapping program that connects software to hardware
- Hardware
  - GPS
  - Controller interface via computer
  - Simulation Equipment

Benefits

- Virtual Plumes
  - Provides real time data to the individual using the meter
  - Forces the player to really know how to use the meters
  - Provides a true training opportunity and experience
  - Re-enforces good RP practices
  - Reduces Controller errors
  - Allows the evaluator to really observe the players performance
  - MAKES THE PLAYERS IN THE FIELD AND AT THE ASSESSMENT CENTER THINK!

State of NJ Lessons Learned

- Field team members are more confident in their abilities to collect and assess radiological data
- Assessment center personnel no longer have an unrealistic expectation for “perfect data”.
- What’s close enough?
  - Players perspective
  - Controllers perspective
- Better questions and experiences shared during training sessions
- So many years of negative training, players are unwilling to believe real data. Difficult to overcome mindsets.

Changes to drill preparation

- Different drill preparation processes
- Controllers need additional training
- Licensees need to provide scenarios in Virtual Plumes format
- Single point failure if field team computer fails (paper backup)