FEMA Region V
Improvised Nuclear Device Planning Considerations

Presented for the
Institute of Medicine’s Forum on Medical and Public Health Preparedness for Catastrophic Events

Presented By
Andrew Velasquez III
Regional Administrator
DHS – FEMA Region V
Joint planning effort initiated by FEMA Region V in partnership with the State of Illinois, City of Chicago and Cook County, began in October 2010:

- Includes 16 counties (10 in Illinois, 5 in Indiana, and 1 in Wisconsin)
- Involves the whole community approach including more than 300 federal, state, and local public and private entities
  - 4 awareness summits targeting responders; elected officials; and the private sector
  - 16 data collection workshops
  - 4 plan familiarization seminars
Joint planning effort initiated by FEMA Region V in partnership with the State of Illinois, City of Chicago and Cook County, began in October 2010:

- Initial planning focused on the City of Chicago and impacted counties
- Planning focuses on the initial 72 – 96 hours
  - Initial response by local and state agencies, prior to arrival of federal support
  - Transition to a unified coordination system
- Long term goal, the plan will become a template that can be used by other major metropolitan areas nationwide
Planning Assumptions

Planning Basis and Scenario – Anticipates Damages

• Based on science analyzed by Lawrence Livermore and Argonne National Laboratories

• A no-notice, 10 kiloton IND detonation occurred in the City of Chicago at 12:00 noon on January 15, 2010. Ground Zero is the corner of La Salle and Monroe, in the Central Business District.

• Infrastructure Impacts:
  • Damage and Hazard Zones
  • Casualties and Hospital Capabilities
  • Damage to Utilities - Electricity, Natural Gas, Water and Sewer, Fuel
Severe and Moderate Damage Zones

SEVERE DAMAGE ZONE
(~½ mile radius): Major building damage/collapse

MODERATE DAMAGE ZONE
(1½ mile radius): Significant structural damage, blown out building interiors, downed utility poles, overturned automobiles, collapsed buildings, and fires
IND Planning Considerations

• Key steps in the development of the IND Plan
  • Learn the Environment
  • Understand the Effects
  • Do the Math
  • Watch the Clock

• Plan must be executable by a surviving responder or elected official
Learning the Environment

- **Infrastructure topography**
  - What infrastructure is where, what does it do, and what is it connected to?
    - Electrical, communications, water, sewer, gas, etc.

- **Infrastructure relationships and dependencies**
  - What’s connected to what?
  - What happens if one system fails, and does that failure effect another critical system?

- **What infrastructure is needed to support life-saving and life-sustaining efforts?**
  - Fire fighting requires water
  - Hospitals can’t function without water
Understanding the Effects

• Every utility and infrastructure repair plan depends on the availability of other systems or components
  • Water distribution depends on a functioning sewage system, without which major flooding will occur
• Response assets and systems are interdependent as well.
  • Emergency responders require food and water, and their vehicles require fuel
  • Hospitals operate on a just-in-time inventory system
Understanding the Effects

• Cascading impacts of an event will extend well beyond the initial blast and fallout area.
  • Loss of Chicago water system will affect surrounding counties and their emergency services systems
  • Damage to communications and transportation infrastructure will have nationwide impacts
  • Secondary effects will directly affect surrounding counties
• Impacts of the event will initially impede the ability to conduct a normal response effort.
• Pay attention to the population numbers
  • Understand the demographics

• Determine response agency capabilities and response times
  • Determine the type of capability, its size, what it will do, the number of personnel responding with it, type of fuel, burn rate, etc.
  • Determine how long response time will be (from the time of notification until time of arrival)

• Remember, no single response asset is geared to deal with anything this large
Life Support Demand

Level of demand by hour

Timeline

- Fuel
- Water
- Power

Plot Area

N +2 +4 +6 +8 +12 +18 +24 +30 +48 +60 +72 +96
Watch the Clock

• Determine tasks to be performed in priority order
  • Determine which sub-tasks are dependent on other tasks
    • Initial task that must be completed prior to the start of secondary task
    • Task that requires specialty assets [heavy duty crane, decontamination team, etc.] that may not have yet arrived
  • Task that requires resources that are not available

• Don’t build a schedule / time table that you can’t keep!
Current Status and the Way Forward

• Conducting plan familiarization seminars

• Future events:
  • Capability specific workshops
    • Resolve agency / organization task assignments
    • Resolve command and control structure
    • Resolve “how-to” issues
  • Capability specific table top exercise
  • Capability specific functional exercises
  • Capability specific full-scale exercise
Our Mission and Commitment

To support our citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from and mitigate all hazards.

QUESTIONS