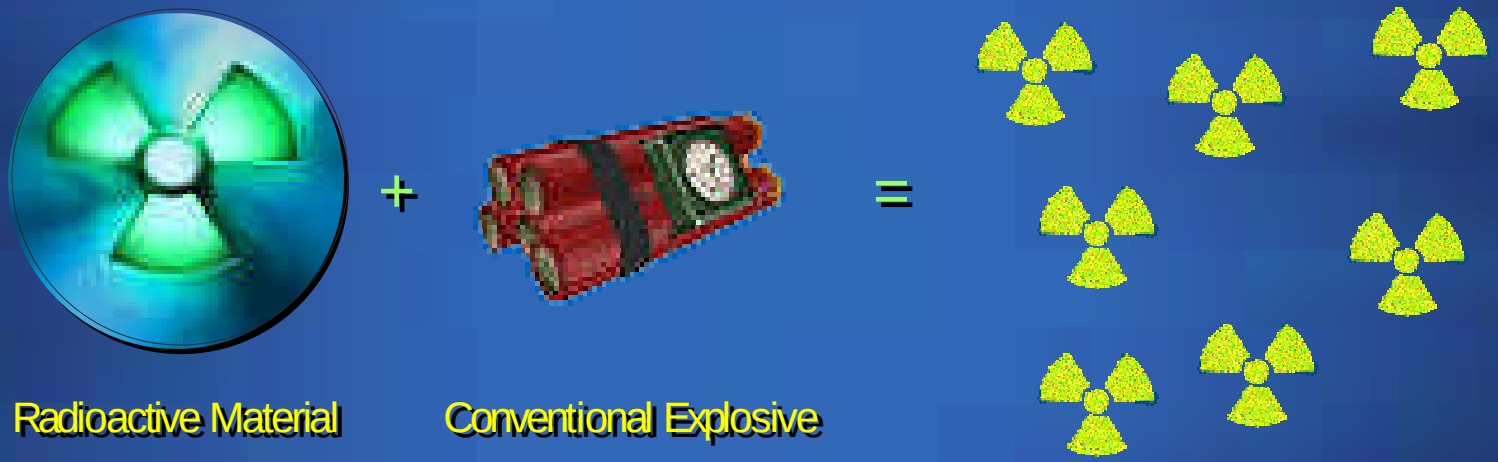
DIRTY BOMB CONTAINMENT SYSTEM

Offered by

PRECISION TECHNIK, INC.

Atlanta, Georgia

What Is A “Dirty Bomb”



Radioactive Source Material

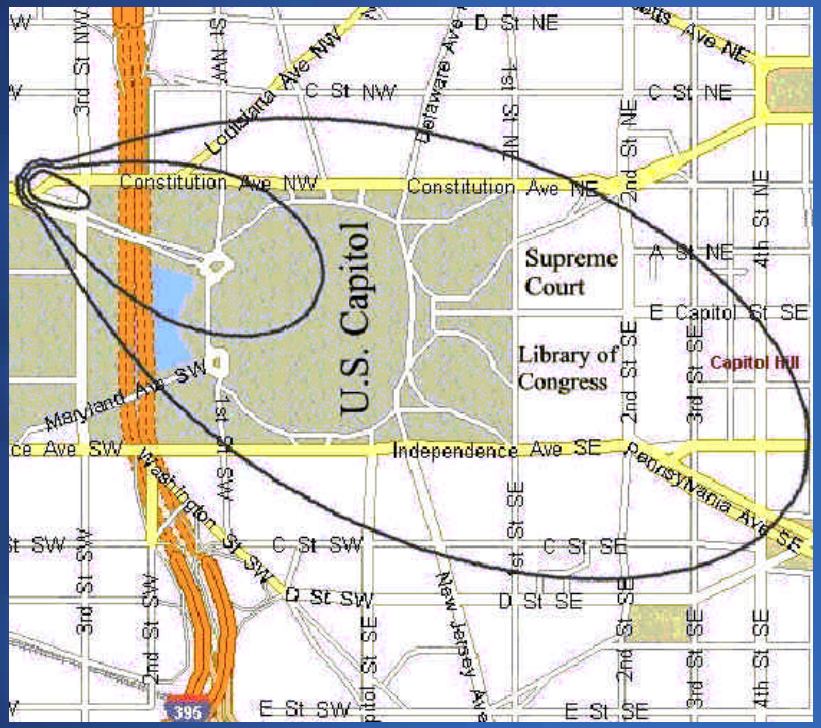
- **Cesium-137 (gamma emitter)**
  - *Half-life = 30 years*
- **Cobalt-60 (gamma emitter)**
  - *Half-life = 5.2 years*
- **Americium-243 (alpha emitter)**
  - *Half-life = 7,300 years*

2,100 Curie Gamma Kolos Canisters

Conventional Applications

- Medical gauges and instrumentation
- Oil field/geologic testing and gauge equipment
- Food irradiation
- Biological sterilization

Dispersal Scenario #1 - Cesium



Source: One medical gauge

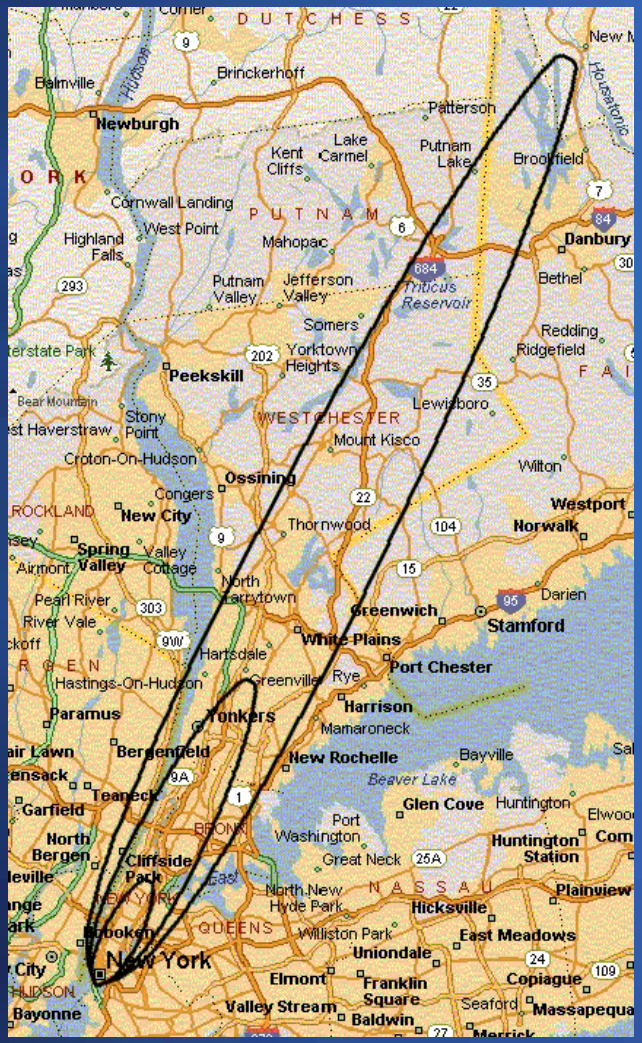
Inner Ring: One cancer death per 100 people due to remaining radiation

Middle Ring: One cancer death per 1,000 people due to remaining radiation

Outer Ring: One cancer death per 10,000 people due to remaining radiation

EPA recommends decontamination or destruction

Dispersal Scenario # 2 - Cobalt



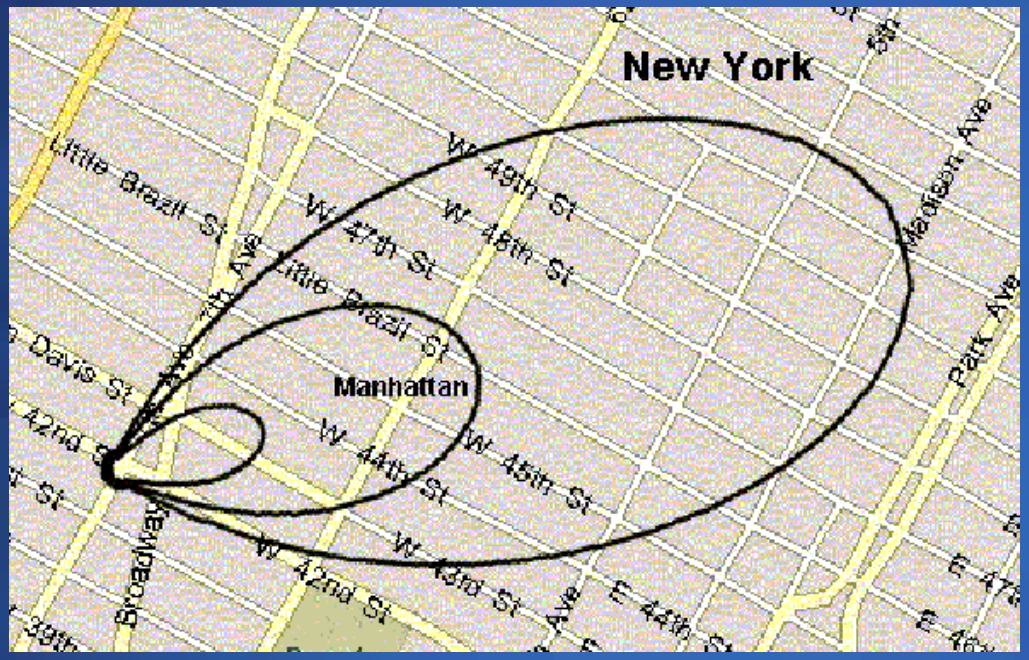
Source: One 1" x 12" rod

Inner Ring: One cancer death per 100 people due to remaining radiation

Middle Ring: One cancer death per 1,000 people due to remaining radiation

Outer Ring: One cancer death per 10,000 people due to remaining radiation
EPA recommends decontamination or destruction

Dispersal Scenario #3a - Americium



Source: One oil well test device

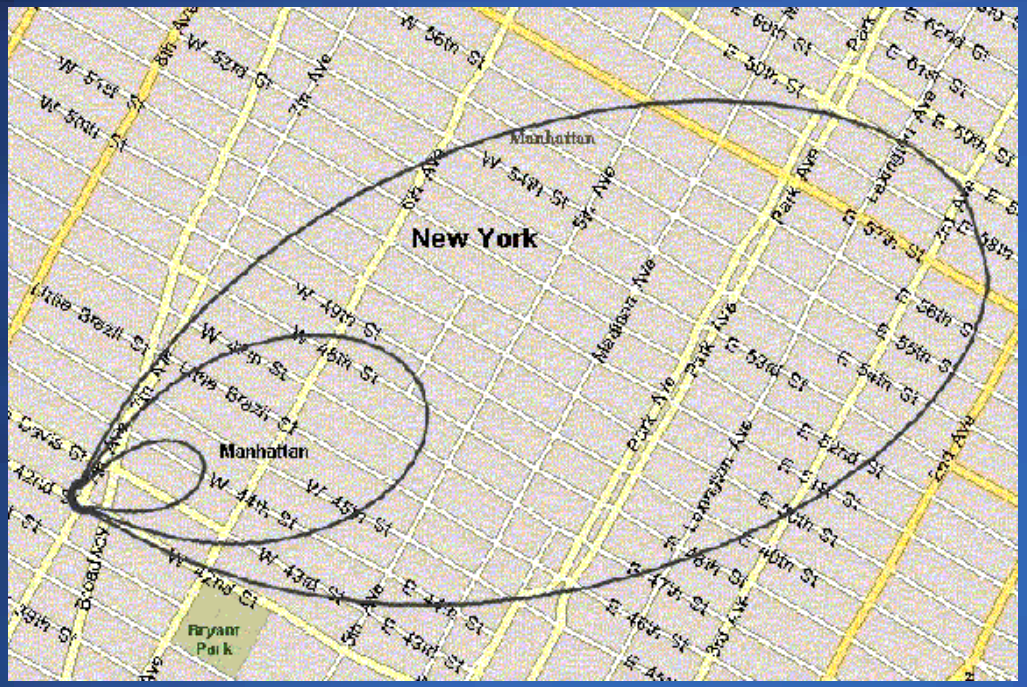
Immediate health effects

Inner Ring: All people must receive medical supervision

Middle Ring: Maximum annual dose for radiation workers exceeded

Outer Ring: Area should be evacuated before radiation cloud passes

Dispersal Scenario #3b - Americium



Source: One oil well test device

Inner Ring: One cancer death per 100 people due to remaining radiation

Middle Ring: One cancer death per 1,000 people due to remaining radiation

Outer Ring: One cancer death per 10,000 people due to remaining radiation

EPA recommends decontamination or destruction

Current Mitigation Measures

- **Inventory Control**
  - *Controlled access to radioactive sources*
  - *Consolidation of loosely controlled sources*
  - *Strict accountability of existing sources*

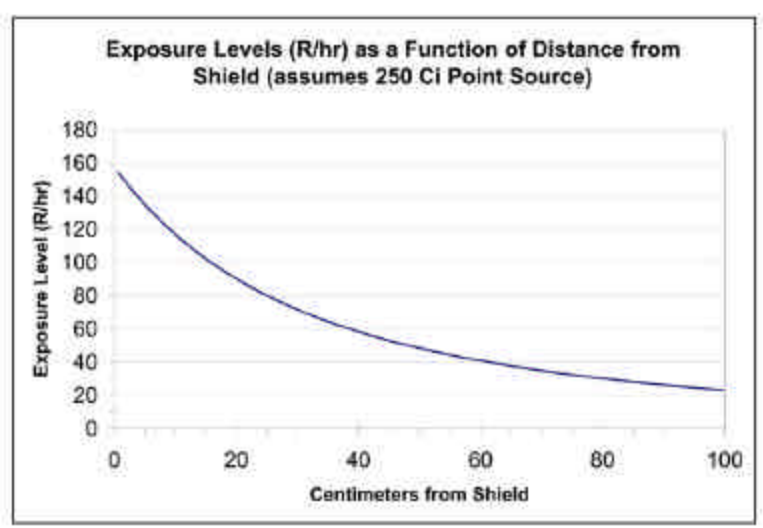
- **Early Detection and Monitoring**
  - *Detectors at key transportation nodes and borders*

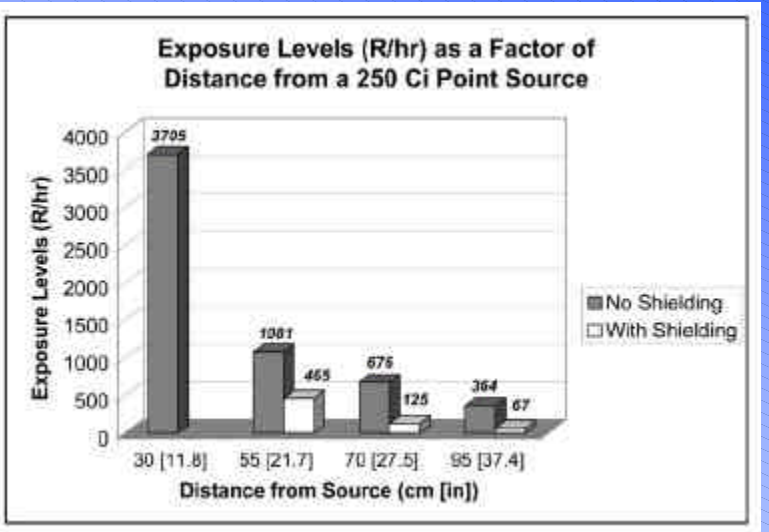
- **Coordinated Emergency Response**
  - *First-responder evacuation training*
  - *Health care personnel response training*

Radiation Containment System (RCS)

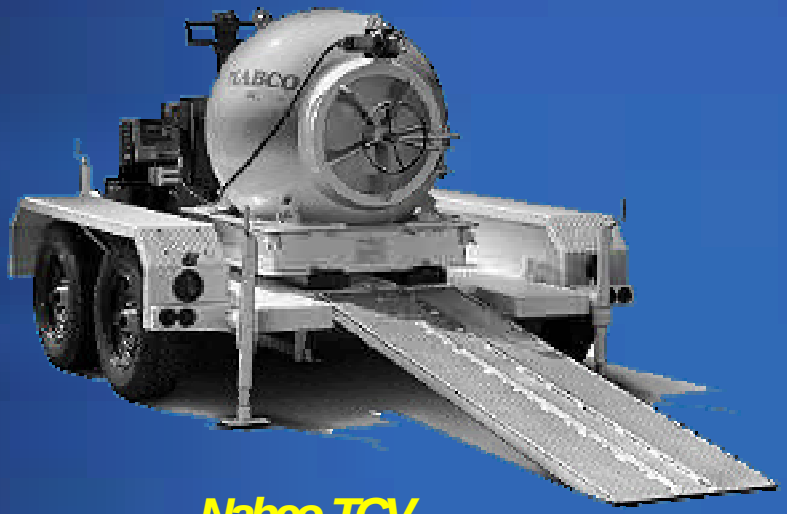
- **General Design Criteria**
  - *Contain blast from conventional explosives up to 15 lbs.*
  - *Suppress gamma radiation to < 100 roentgens one foot from shield surface*
  - *Highly mobile using conventional vehicles*
  - *Remote control of handling operations*
  - *Easy and rapid retro-fit of shield to existing Nabco containment vessels*

RCS 250 Exposure Calculations





RCS 250



Nabco TCV

RCS 250 Radiation Shield

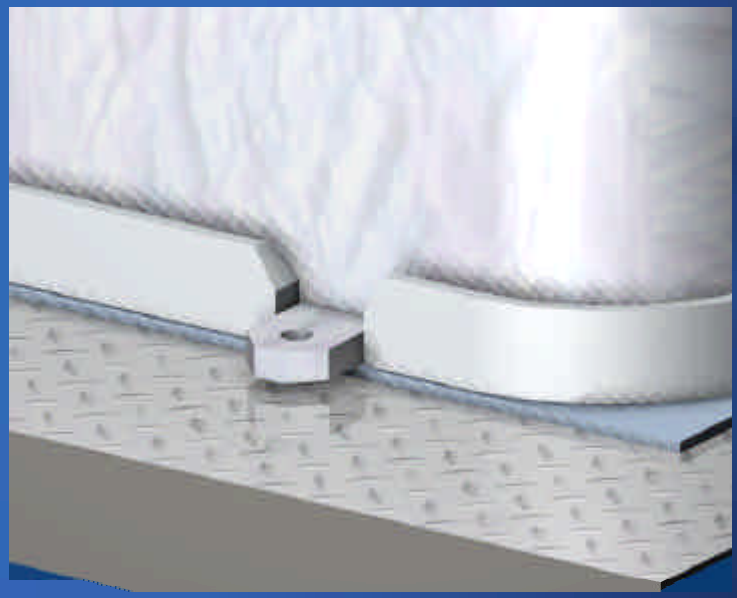
RCS 250 Mobilization

Suspended Position

Radiation Shield In Place

Transport Vehicle Interface

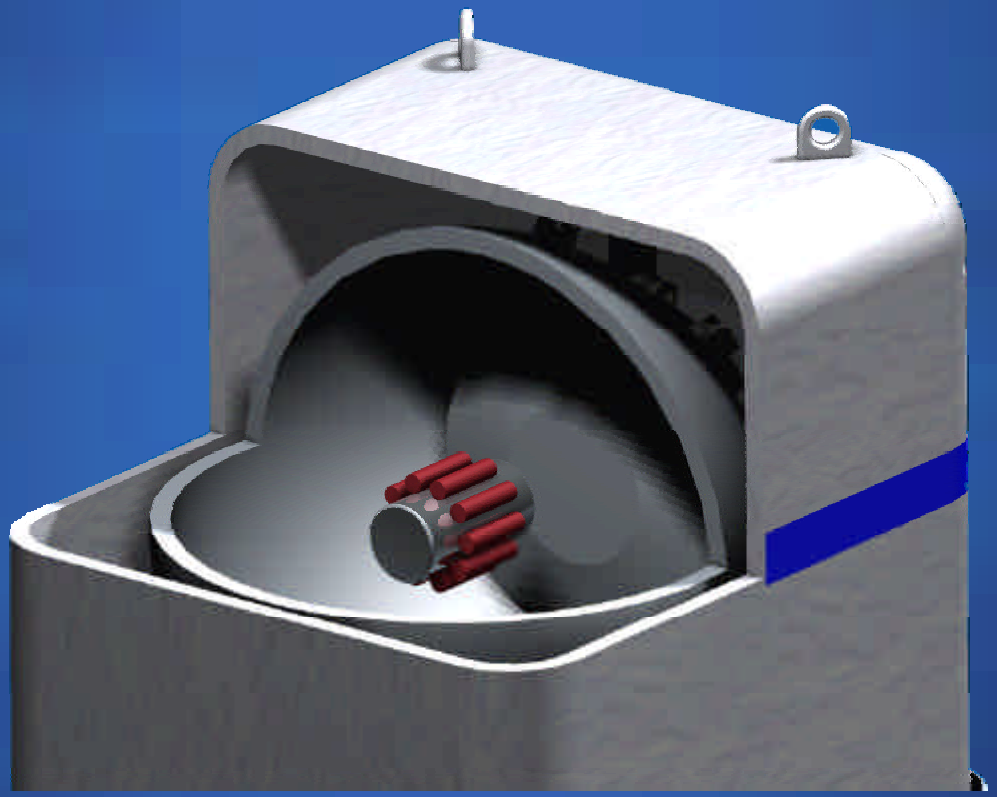
Base Channel



Channel/Shield Interface/Lock

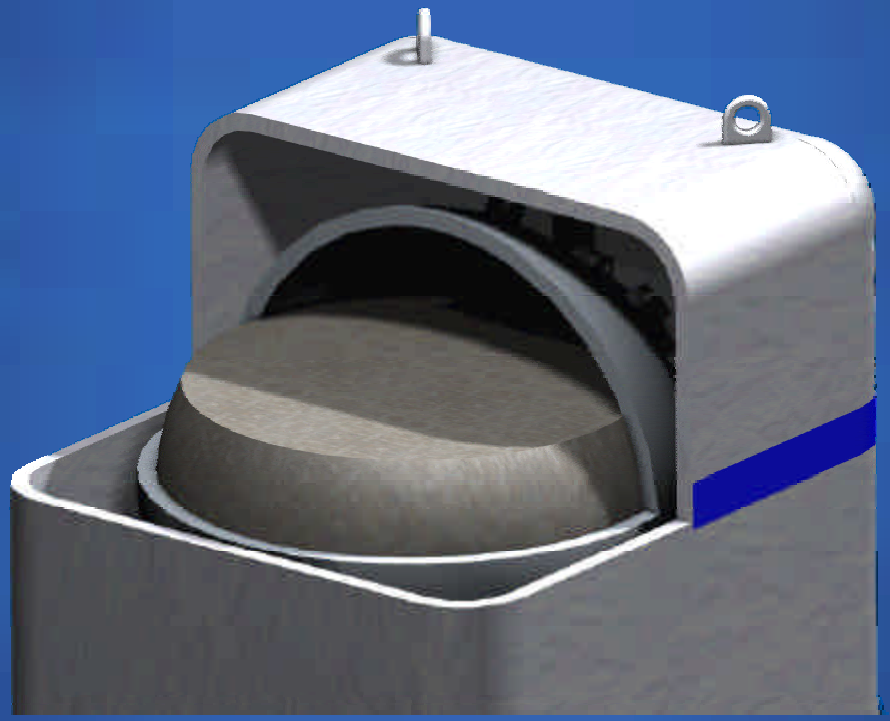
RCS 250 Loading Dirty Bomb

RCS 250 Containment Structure



RCS 250 Filtration System

RCS 250 Contaminant Fixation



RCS Family of Containment Systems

Model	Weight	Specification
RCS-250	6,000	Attenuates up to 250 curies. Provides lightweight containment fitted on existing blast suppression platform.
RCS-500	11,000	Attenuates up to 500 curies. Similar to the RCS - 250 but configured to contain larger radioactive source. Requires specialized transport trailer/platform.
RCS-1000	26,000	Attenuates up to 1000 curies. Holds an entire passenger vehicle. Eliminates need to transfer bomb into secondary containment.
RCS-AB	3,000	Attenuates up to 100 curies. Enables removal of radiological/explosive package from high-rise buildings. Delivered to target location using helicopter.