


# Terrorism and Nuclear Weapons Challenge for Insurance



Greg Jones

RAND

# Nuclear Terror Threat History

- Serious concern in the 1970s
  - Expected widespread use of nuclear power leading to a “plutonium economy”
  - Possibly dozens of nuclear powers by 1990
  - Poor protection of research reactors
- “A tenth of a kiloton would be enough to bring down the World Trade Center”

# Current Nuclear Terror Threat

- In the 1990s, the fall of the Soviet Union led to the fear of “loose nukes”
  - Counteraction has diminished but not eliminated the threat
- Failing State Nuclear Powers—Pakistan and N. Korea
  - Could transfer complete weapons

# Nuclear Weapon Effects

- Five kiloton surface burst
  - Direct Effects
    - Initial Nuclear Radiation
    - Blast
    - Thermal Radiation
  - Indirect Effects
    - Fire
    - Fallout

# Nuclear Explosion in Urban Area

- 80,000 killed, 50,000 injured
  - About 1/2 of dead and 2/3 of injured due to fallout
- 2.4 km<sup>2</sup> destroyed and 10 km<sup>2</sup> damaged by direct effects
- Fallout could prevent fire fighting—  
addition 3-10 km<sup>2</sup> could be destroyed

# Longer-Term Effects

- 700,000 with increased cancer rates (>5%) of which 100,000 (>50%)
- Fallout will contaminate large areas
  - No standards for what is safe
    - Current standards are situation specific, none address long-term contamination of urban areas
    - NRC and EPA
  - Area off-limits (for decades) could range between 10-1,000 km<sup>2</sup>

# Insurance Attempting to Exclude Nuclear Terrorism Coverage

- Speaker's auto policies amended in 2003
- No bodily injury or vehicle loss coverage resulting from
  - “Nuclear Reaction”
  - “Radiation or radioactive contamination from any source”
  - “The accidental or intentional detonation of, or release of radiation from any nuclear or radioactive device”

# Insurance Challenges

- Workers compensation--no exclusions
- Fire damage outside of blast zone probably covered, “Fire Following”
- Radiation caused cancers not distinguishable for other causes
- Piecemeal cleanup ineffective
- RMS estimates total insured loss of \$450 billion