



Center for Biosecurity of UPMC

Rad Resilient City

A Preparedness Checklist for Cities to Diminish Lives Lost
from Radiation after a Nuclear Terrorist Attack

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Purpose

Provide cities and their neighbors with a checklist of preparedness actions that could save tens of thousands of lives or more following a nuclear detonation, through adequate protection against radioactive fallout.

Briefing overview

- Why is the checklist needed?
- What knowledge grounds the checklist?
- What myths does the checklist dispel?
- What actions does the checklist recommend?
- What tools make the checklist doable?
- How does the checklist benefit communities?

“Two decades after the end of the Cold War, we face a cruel irony of history – the risk of a nuclear confrontation between nations has gone down, but the risk of nuclear attack has gone up.”

-President Obama, Opening Plenary Session of the Nuclear Security Summit, April 13, 2010.

“ ...one of the greatest dangers we continue to face is the toxic mix of rogue nations, terrorist groups and nuclear, chemical, or biological weapons.” -Robert Gates, U.S. Secretary of Defense, January 27, 2009.

“We judge that, if al-Qa’ida develops chemical, biological, radiological, or nuclear (CBRN) capabilities and has operatives trained to use them, it will do so.”

- *Annual Threat Assessment of the Intelligence Community for the Senate Armed Services Committee*; Director of National Intelligence, Dennis C. Blair, February 2, 2010.

Nuclear terrorism is a real threat.

- The raw materials exist
 - 9 countries are judged to have nuclear weapons
 - The global stockpile of fissile materials is enough to make more than 120,000 crude nuclear devices
- The technology is readily available
 - Sufficient public information is available to construct and detonate a 10 kiloton nuclear weapon
- There is motivation to make nuclear weapons
 - Known terrorist groups have expressed interest in making nuclear weapons

Why is the checklist needed?

- Most Americans do not know how to protect themselves against fallout exposure
- Local emergency management structures are not well equipped to instill this knowledge
- Cities have no checklist for fallout preparedness despite all the recent guidance

What knowledge grounds the checklist?

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- Emerging federal guidance and technical reports on IND response
- Input and professional judgment of Expert Advisory Group
- Research studies on community preparedness
- Select local radiation emergency plans

What myths does the checklist dispel?

- MYTH: Death is certain for all after a detonation.
 - **FACT: Fallout-related casualties can be prevented.**
- MYTH: Fleeing is the way to avoid radiation exposure.
 - **FACT: Quickly sheltering in the right place is best.**
- MYTH: People must wait for responders to help them.
 - **FACT: Informed citizens can protect themselves.**

Checklist for fallout preparedness

- 1. Obtain broad community backing for nuclear preparedness
- 2. Conduct pre-event public education on protective behaviors
- 3. Have building owners/operators rate shelters & teach others
- 4. Hone ability to deliver public warnings post-incident
- 5. Establish rapid system for mapping dangerous fallout zone
- 6. Develop capabilities for a large-scale, phased evacuation
- 7. Integrate, test, and train on all preparedness elements

ACTION 1—Obtain broad community backing for nuclear preparedness

- Fallout preparedness is a public service no single entity can deliver
- Businesses, schools, nonprofits, and citizens must stand by emergency professionals
- Diverse coalition can overcome reticence to plan for a nuclear detonation

ACTION 2—Conduct pre-event public education on fallout protection

- “No notice” nuclear detonation requires a public capable of acting on its own
- It will be difficult to issue fallout warnings to those who need them the most post-incident
- Key message of sheltering for at least 24 hours resonates with “all hazards” guidance

ACTION 3—Equip building owners & operators with shelter rating guide

- People in U.S. spend about 90% of their time in enclosed buildings
- We can encourage people to learn about the protective attributes of everyday buildings through:
 - Neighborhood associations
 - Commercial building managers
 - Public building operators
 - School facility administrators

ACTION 4—Hone ability to deliver public warnings on fallout post-incident

- Cities need pre-ready mix of “no tech,” “low tech,” and “high tech” ways to deliver warnings
- Advance scripting of messages about protective actions saves time and lives
- Deciding “who” should say “what” after the fact will cost lives

ACTION 5—Build rapid system for mapping dangerous fallout zone

- Knowing the fallout “footprint” refines guidance on who to evacuate, when, and by which route
- Mapping and communicating where fallout *isn't* is just as important

ACTION 6—Develop supports for large-scale, phased evacuation

- People eventually need to move from a protective shelter to a place of greater safety
- Advance plans on how to decide who goes first and where are complex, though essential

ACTION 7—Integrate, test, & train on all fallout preparedness elements

- Training and practicing will enhance performance when it really matters
- Linkages are necessary among the technical, organizational, social, and human elements

TOP PRIORITY—Informed residents who seek shelter swiftly and independently

- Mass education campaign with focus on self-sufficiency and sheltering
- Neighborhood-based training and education program to seed grassroots conversations
- Shelter “rating guide” broadly disseminated to private and public building owners/operators

What tools make the checklist doable?

- Phased implementation plan that breaks preparedness into prioritized steps
- Compilation of critical topics for public education campaign on fallout preparedness
- Tips on how to write effective post-detonation fallout warning messages
- Sample fallout warning messages
- “FAQ” on best places in which to shelter

In conclusion, benefits to communities

- Genuinely comprehensive “all hazards” planning and response efforts that can confront nuclear terrorism
- Spillover effects in planning for other complex disasters (eg, improved public warning protocols)
- Momentum to tackle other response/recovery issues (eg, medical surge; mass sheltering for the displaced)
- Tens of thousands of lives saved in the event of an actual nuclear attack

Post script – project status

- Dissemination via national meetings
 - Completed: BCEM, NLC, IAEM, NARR...
 - Planned: PHP, BOMA, NCRP, IAFC/HazMat, US Conf of Mayors...
- Some reactions
 - “The issue is politically taboo and difficult to raise in my community.”
 - “This checklist is exactly what I needed.”
 - “A clear federal message to the public on this issue would help a lot.”
- Next steps for initiative:
 - Continued dissemination
 - Aid to jurisdictions interested in adopting checklist



Thank you.