FACT SHEET

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Dirty Bombs

Background

A “dirty bomb” is one type of a radiological dispersal device (RDD) that combines conventional explosives, such as dynamite, with radioactive material. The terms dirty bomb and RDD are often used interchangeably in the media. Most RDDs would not release enough radiation to kill people or cause severe illness - the conventional explosive itself would be more harmful to individuals than the radioactive material. However, depending on the situation, an RDD explosion could create fear and panic, contaminate property, and require potentially costly cleanup. Making prompt, accurat^ onve

The health effects of radiation tend to be directly proportional to radiation dose. In other words, the higher the radiation dose, the higher the risk of injury.

Protective Actions

In general, protection from radiation is afforded by:

- minimizing the time exposed to radioactive materials**;**
- maximizing the distance from the source of radiation; and
- shielding from external exposure and inhaling radioactive material.

More detailed guidance is provided in the questions and answers at the end of this Backgrounder.

Sources of Radioactive Material

Radioactive materials are routinely used at hospitals, research facilities, industrial activities, and construction sites. These radioactive materials are used for such purposes as diagnosing and treating illnesses, sterilizing equipment, and inspecting welding seams. The Nuclear Regulatory Commission v_H

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Risk of Cancer

Just because a person is near a radioactive source for a short time or gets a small amount of radioactive dust on himself or herself does not mean he or she will get cancer. Any additional risk will likely be extremely small. Doctors specializing in radiation health effects will be able to assess the risks and suggest what medical treatment, if any, is needed, once the radioactive source and exposure levels have been determined.

There are some medical treatments available that help cleanse the body of certain radioactive materials following a radiological accident. Prussian blue has been proven effective for ingestion of cesium-137 (a radioactive isotope). In addition, potassium iodide (KI) can be used to protect against thyroid cancer caused by iodine-131 (radioactive iodine). However, KI, which is available "over the counter" offers no protection to other parts of the body or against other radioactive isotopes. Medical professionals are best qualified to determine how to best treat symptoms.

Other Contact Information

A number of federal agencies have responsibilities for dealing with RDDs. Their public affairs offices can answer questions on the subject or provide access to experts in and out of government. Their web sites are:

Center for Disease Control and Prevention: www.bt.cdc.gov/radiation.
Department of Homeland Security: www.dhs.gov.
Department of Energy: www.energy.gov/.
Environmental Protection Agency: www.epa.gov.
Nuclear Regulatory Commission: www.nrc.gov.
Federal Emergency Management Agency: www.fema.gov.
Department of Justice: www.usdoj.gov.
Federal Bureau of Investigation: www.fbi.gov.
Department of Health and Human Services: www.hhs.gov.
Transportation Security Administration: www.tsa.gov/public/.
National Nuclear Security Administration: www.nnsa.doe.gov/.

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man-made sources, like x-ray machines. Different types of radiation exist, some of which have more energy than others, and some of which can be more harmful than others. The dose of radiation that a person receives is measured in a unit called a "rem." A rem is a measure of radiation dose, based on the amount of energy absorbed in a mass of tissue. For example, an average person gets about 1/3 of a rem from exposure to natural sources of radiation in one year, and approximately 1/100th of a rem from one chest x-ray.

Are Terrorists Interested In Radioactive Materials?

Yes, terrorists have been interested in acquiring radioactive and nuclear material for use in attacks. For example, in 1995, Chechen extremists threatened to bundle radioactive material with explosives to use against Russia in order to force the Russian military to withdraw from Chechnya. While no explosives were used, officials later retrieved a package of cesium-137 the rebels had buried in a Moscow park.

Since September 11, 2001, terrorist arrests and prosecutions overseas have revealed that individuals associated with al-Qaeda planned to acquire materials for a RDD. In 2004, British authorities arrested a British national, Dhiren Barot, and several associates on various charges, including conspiring to commit public nuisance by the use of radioactive materials. In 2006, Barot was found guilty and sentenced to life. British authorities disclosed that Barot developed a document known as the "Final Presentation." The document outlined his research on the production of "dirty bombs," which he characterized as designed to “cause injury, fear, terror and chaos” rather than to kill. U.S. federal prosecutors indicted Barot and two associates for conspiracy to use weapons of mass destruction against persons within the United States, in conjunction with the alleged surveillance of several landmarks and office complexes in Washington, D.C., New York City, and Newark, N.J. In a separate British police operation in 2004, authorities arrested British national, Salahuddin Amin, and six others on terrorism-related charges. Amin is accused of making inquiries about buying a "radioisotope bomb" from the Russian mafia in Belgium; and the group is alleged to have linkages to al-Qaeda. Nothing appeared to have come from his inquiries, according to British prosecutors. While neither Barot nor Amin had the opportunity to carry their plans forward to an operational stage, these arrests demonstrate the continued interest [illegible]