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WAR ON TERROR

Dirty bomb's economic fallout: $23-billion

Attack near CN Tower would cause mass anxiety and medical overload, says study warning of lack of preparedness

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OTTAWA -- The explosion of a small dirty bomb near the CN Tower would spew radioactivity over four square kilometres, resulting in mass anxiety, a rush on Toronto's medical facilities and an economic toll of up to $23.5-billion, a new federal study says.

The nightmarish scenario - detonation of a device containing a modest amount of americium-241, a silvery, plutonium byproduct - is among several sobering projections quietly mapped out by federal officials to prepare for a terrorist attack in urban Canada.

The defence research study also raised questions about preparedness for the fallout from an attack, saying Canada and other nations lack the technology to decontaminate a large, densely populated area. It also cites the need for an agreement at local, provincial and federal levels on a long-term recovery strategy. "There are currently no Canadian standards for cleanup after a radiological or nuclear terrorist event," the study says.

The grim scenario outlined may not be too far fetched. A database of lost and stolen radioactive items compiled by The Canadian Press reveals that an industrial gauge containing radioactive material - similar to the device used in the study - was snatched by thieves in Red Deer, Alta., in June of 2003. Though later recovered, the gauge was missing for five days before its owners even noticed it was gone.

Two radiation safety experts consulted by CP confirmed the device - used to measure oil wells - is a high-risk instrument that would pose a danger if the americium inside were dispersed in an explosion.

The study's findings come just months after the Canadian Security Intelligence Service said a dirty bomb assault was "overdue."

The federal study's preliminary assessments underscore the potential of a dirty bomb - radioactive material spread using conventional explosives - to exact a toll of fear, panic and staggering financial fallout.

The study, led by Defence Research and Development Canada, predicts economic costs of up to $8.75-billion should a similar americium-laden device be set off outside Vancouver's B.C. Place Stadium - a venue for the 2010 Winter Olympics - and as much as $2.25-billion if one exploded near the Ambassador Bridge between Windsor, Ont., and Detroit.

Canada has put considerable effort into trying to prevent, but also be ready for, a dirty bomb attack, said Public Safety Minister Stockwell Day.

"We know that terrorists have a particular fascination with explosives, and radioactive explosives would be devastating," Mr. Day said in an interview. "An event like that could happen."

Experts say the explosive impact of a dirty bomb would kill or injure few, if any, people. Some could experience elevated risk of cancer depending on the amount of radioactivity unleashed.

Radiation safety authority Jeff Lafortune says a terrorist strike on a chemical plant would almost certainly make more people sick than a radiological attack.

But because it is poorly understood, radioactivity tends to frighten people, which could put pressure on government officials to undertake an exhaustive cleanup after a dirty bomb explosion.

"Radiation's perceived by the general public as being something like evil," said Mr. Lafortune, president of International Safety Research Inc. in Ottawa.

In preparing the study, the defence researchers have been drawing on input from CSIS, the Canadian Nuclear Safety Commission, Atomic Energy of Canada Ltd., and Battelle Memorial Institute in the United States.

A final report is expected by next March, but a summary of work to date was presented in mid-June at an invitation-only meeting of federal researchers in Gatineau.

In tabulating the costs of a dirty bomb, researchers assumed a mild wind speed of three metres per second and looked at various degrees of cleanup.

They factored in the costs of decontamination and decommissioning, damage to buildings, evacuation of people, loss of productivity, reduced tourism and medical treatment.

"We've done research, worked with other countries at looking at a real good dirty bomb," said Inspector John Bureaux, officer in charge of the RCMP's explosives disposal and technology section. "And there is an optimal way. It's not easy, it takes a lot of work."

Given the implications, federal officials and industry partners have collaborated on numerous research projects to better prevent, anticipate and respond to a dirty bomb.

The Ottawa International Airport is now equipped with 25 detectors to zero in on a radioactive threat.

"You can't taste it, you can't smell it, there are no dogs that can find it," said Chris Clarke of Mobile Detect, an Ottawa firm working with the airport. "You need to go in with detectors and find it."

Emergency personnel around the country have taken part in several training exercises, including one in which a dirty bomb contaminates Southern Ontario vineyards.

The study estimates 10 per cent of people in the vicinity of a dirty bomb event would seek medical attention, overwhelming the health system.

"If you mention the word radiation, people immediately get very concerned. And even if they have very little reason to think that they may have been exposed, they do want to get checked up quickly," said Tom Cousins, who represented DRDC on the study.

"So they will go to the hospital, they'll be checked up, they'll turn out not to have any contamination at all, but it ties up the system for a period of time."