

N.J. Grapples with Risks of Radiation Exposure

By Paul J. Livingston
Digital Press International

New Jersey residents, like all Americans, have lived with the risks of low-level radiation exposure for decades. But new fears of terrorists spewing radioactive material have put state officials on alert - and spurred residents to learn more about the real risks of radiation exposure.

For starters, New Jersey's emergency management services, hospitals and law enforcement agencies are taking crash courses on the risks of radiation - and on treatments for large numbers of people. Private hospitals are conducting seminars, and Rutgers University's Environmental and Occupational Health Sciences Institute last month held a conference on bio-weaponry, attended by dozens of state and county officials.

The state itself has reorganized agencies to prepare for and deal with possible terror attacks of all kinds. Late last year, in the wake of the September 2001 attacks, the state created the Domestic Security Preparedness Planning Group, and earmarked nearly \$9 million to get it started.

While the state is making progress, hospitals and other private service providers say they are unprepared for treating large numbers of people exposed to radiation - from an accident or an attack. "I have been jumping up and down screaming that hospitals are the weakest link in our preparedness for quite some time, especially as all of the money allocated went to first responders [paramedics, firefighters, and police] and not hospitals," Dr. Stuart Weiss, Director of Disaster Planning and CBR Incident Response at St. Barnabas Health Care System, told ABC News earlier this year. "This happened in spite of the overwhelming statistics showing that 80 percent of victims show up at hospitals on their own, not via an ambulance."

In New Jersey, the concerns focus mostly on its density - and hence the sheer number of poten-

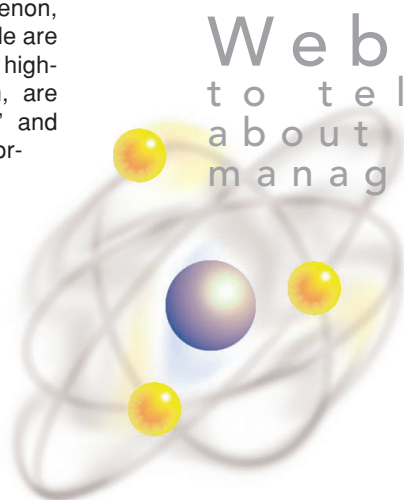
tial victims. The state has nearly 8.5 million residents, and it's the most densely populated state in the nation. According to recent census data, the Garden State has 1,134 people per square mile, compared with 79 people per square mile nationwide.

Of course, radiation - and its various forms, gamma rays, and alpha and beta particles - is a naturally occurring phenomenon, small amounts of which people are exposed to regularly. X-rays, high-energy penetrating radiation, are commonly used at dentists' and doctors' offices, and with normal precautions they pose little risk, and provide much benefit. Ultraviolet rays from the sun are a form of radiation that can be hazardous, as beachgoers well know.

In fact, experts say New Jersey faces no special risks of radiation exposure. True, the state has four nuclear reactors (see

box), and the potential of a deliberate attack with radioactive material is a risk comparable with other potential exposures. "You are more likely to have radiation exposure from an airplane flight from Newark to Denver - in the form of solar radiation," says Carol Gardner, a research professor at Rutgers' Environmental and Occupational Health Sciences Institute. She

adds that the effects of a terrorist trying to explode a so-called "dirty bomb" would be to a large extent psychological. True, certain types of radioactive material pose long-term health risks with prolonged exposure, but state officials are working hard to assess those risks and communicate with residents about them.



Websites
to tell you more
about N.J.'s emergency
management efforts

<http://www.state.nj.us/njoem/>

<http://njsp.org/ems/ems.html>

<http://www.nvoad.org/>

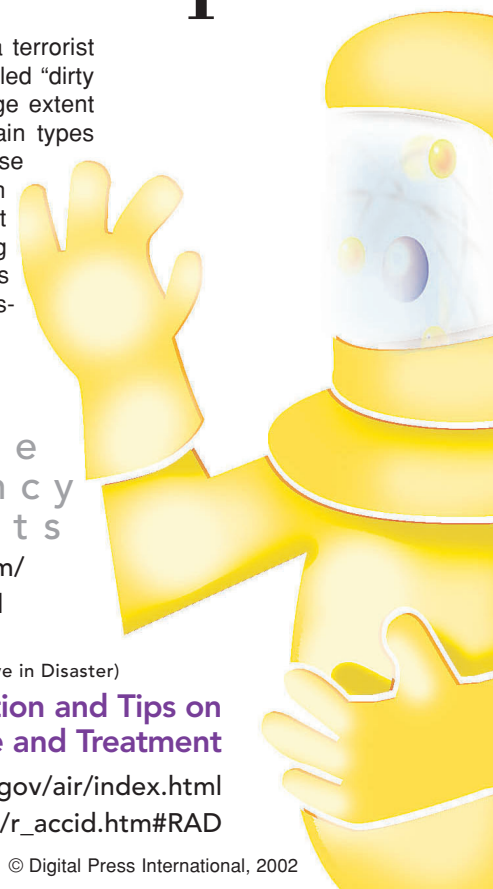
(National Voluntary Organizations Active in Disaster)

**Information and Tips on
Radiation Exposure and Treatment**

<http://www.epa.gov/air/index.html>

http://www.clemson.edu/ep/r_accid.htm#RAD

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Are Our Nuclear Power Plants Safe?

Nuclear power plants, which provide about half of New Jersey's power needs, are built like bunkers, fortified to withstand the impact of natural forces like tornadoes, hurricanes, earthquakes, floods, and airborne objects up to a very substantial force. These standards are set by federal regulation, and there are four operating power plants in the state.

Nuclear reactors are designed with several layers of protection to prevent the release of radiation. The reactor building is typically made of concrete four feet thick, reinforced with rebar, and further fortified with a steel liner. The reactor vessel inside this building is made of steel about six inches thick.

The Davis-Besse

nuclear plant in Ohio withstood a tornado that struck head on with winds over 150 m.p.h. on June 24, 1998, with back up diesel generators running essential plant equipment. One of the plant operators later said, "It's the best place to be. It's the only place designed to withstand such a storm."

A nuclear plant's physical barriers are backed up by multiple, redundant safety and shutdown systems, both automated and manual, commanded by plant operators on duty 24 hours a day.

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The U.S. Nuclear Regulatory Commission approves plant designs, monitors their construction, and inspects their operations continually, including all safety systems, with NRC inspectors permanently stationed at each plant.

The 103 nuclear power plants in the United States produce electricity for one of every five homes and businesses without polluting the air, because they don't burn anything. For more information, go to the website of the Nuclear Energy Institute at www.nei.org.

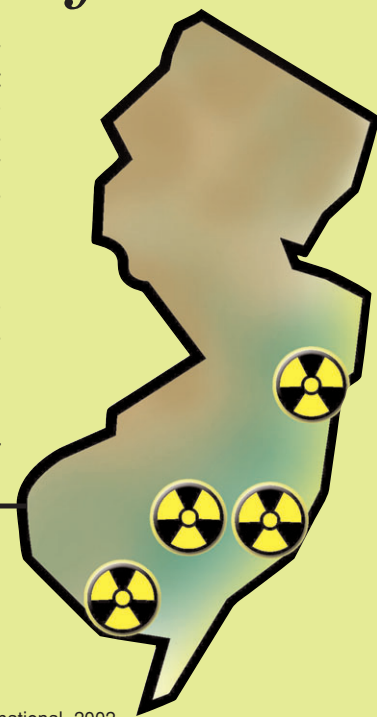
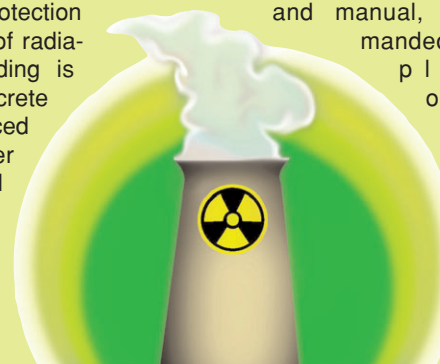
New Jersey's Four Nuclear Plants

Hope Creek, Lower Alloways Creek, NJ

Oyster Creek, Lacey Township, N.J

Salem 1 & 2, Lower Alloways Creek, NJ

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