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LOCAL NEWS

Nuclear plants remain vulnerable targets

By John Gregg
Sunday, March 10, 2002

Six months after hijacked jetliners toppled the World Trade Center and damaged the Pentagon, nuclear power plants across the country remain vulnerable to attack, according to a MetroWest congressman and other critics of nuclear energy.

A growing concern, they say, is the potential for an attack that sparks a fire in the radioactive spent fuel stored near the country's 103 operating nuclear reactors and several decommissioned facilities.

New England is home to at least four active nuclear power plants, including Pilgrim Station in Plymouth; Vermont Yankee 15 miles north of Greenfield, Mass.; Seabrook in southern New Hampshire; and Millstone near New London, Conn.

Another nuclear plant, Indian Point on the Hudson River in New York, is located just 35 miles north of New York City.

Decommissioned plants in the western Massachusetts town of Rowe and in Maine also contain spent fuel, which anti-nuclear activists say could ignite if it loses its cooling water, sending radioactive fallout downwind.

U.S. Rep. Edward Markey, D-7th, said a captured al Qaeda prisoner acknowledged that nuclear power plants had been a potential target.

"As more information is gathered off the computers and out of the caves of Afghanistan, it's obvious that nuclear power plants are on the short list of high priority al Qaeda targets," Markey said.

"Until a permanent federalized security force is put in place, and until (the Nuclear Regulatory Commission) mandates the levels of security that could protect against the kind of attack which occurred on Sept. 11, then the level of security is not at a level that it should be."

Gordon Thompson, an Oxford-educated mathematician who has analyzed nuclear safety issues for more than two decades, said nuclear plants never were designed to withstand attack or acts of malice.

Spent fuel was also not expected to be stored on-site at most plants.

"I think the industry and the NRC are in a state of denial, and the public and public officials around the country, not just New England, are not fully aware of the risks," said Thompson. "If the United States is planning to attack Iraq or other countries, it ought to think a little more about its domestic vulnerability."

But proponents of nuclear power say safeguards are in place and argue that industry opponents are dramatically overstating the risks for political purposes.

"We're talking about people who are trying to scare and frighten people, who are taking the events of 9-11 to frighten people and shut down nuclear power," said Dave Tarantino, a spokesman for the Pilgrim Station nuclear plant in Plymouth.

The NRC last week also ordered nuclear power plants to further tighten security and add other safeguards with spent-fuel pools, according to NRC spokesman Victor Dricks, who said he could not discuss the upgrades for security reasons.

"Our position is the fuel is being stored safely at those facilities. We have regulations to ensure that, and inspectors to verify that our requirements are being met," Dricks said.

Many nuclear power plants store their spent fuel underwater, in large pools containing a stainless-steel liner and surrounded by concrete walls several feet thick. The water prevents the radioactive spent fuel from heating up, and possibly self-igniting.

But unlike the reactors themselves, in many cases the roofs above the spent-fuel pools are made only of metal, which would not withstand an airplane crash.

"If there was to be an attack from above, the roof would provide no protection," said Thompson, who runs the Institute for Resource and Security Studies out of his home in Cambridge.

At a public forum last month in southern Vermont, Thompson said a sustained fire at the spent-fuel pool at Vermont Yankee could send radioactive material over almost a 25,000 square-mile area, roughly the size of Vermont, New Hampshire and Massachusetts.

The location of the damage would depend mainly on weather conditions, but a wind from the northwest could send fallout from Yankee Rowe or Vermont Yankee toward Greater Boston. Likewise, a southeast wind could pose major public-health risks should disaster strike Pilgrim Station.

And Markey in an interview this week said he remains concerned about spent-fuel fires, saying he feels the decommissioned Yankee Rowe plant in western Massachusetts needs a "dramatic upgrade" in protection.

A spent-fuel fire, Markey said, "would be of uncertain size, and head in an uncertain direction, but in whatever direction it headed in, it would cause serious and perhaps catastrophic consequences for anyone exposed."

Thompson, for example, said a fire at Vermont Yankee could increase the cancer fatality rate downwind by 2 percent, which he believes could render the land uninhabitable.

But industry backers say the claims of safety flaws are overstated on a variety of fronts.

One, they say spent fuel is being stored in ways that make it less vulnerable to fire, even if water is drained from the pool.

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Rob Williams, a Vermont Yankee spokesman, said Thompson was "out of date and out of touch" in asserting the spent-fuel could self-ignite if deprived of its cooling water because Vermont Yankee had rearranged its storage design after Sept. 11.

"I'm saying even if we lost all water in the pool, for whatever reason, there is no possibility of a fire because of the arrangement of the newer spent fuel assemblies," Williams said.

Secondly, nuclear backers dispute the odds of a hijacker being able to precisely target the spent-fuel storage area and crash through the roof of the cement-sided structure.

"These big planes aren't designed like fighter jets, where you can drive them straight into the ground," said Tarantino.

And Dricks, the NRC spokesman, said, "The spent fuel pools were not designed to survive the impact of a jetliner, but they are relatively small and it would be extremely difficult for an aircraft, even if they were trying to target one, to hit one."

There are currently no federal "no fly zones" restrictions over nuclear plants, but the National Guard now patrols the perimeter of the Pilgrim Station plant, and a 1,000-yard boating restriction also is in place on the adjoining Plymouth Bay.

Industry officials would not comment on whether anti-aircraft missiles are deployed at nuclear plants, but Tarantino said "there's a lot of security in place regarding the air space over Pilgrim... we're being watched very carefully, and we are very well protected."

When most nuclear plants were designed and built - both Pilgrim and Vermont Yankee are 30 years old, for example - government officials thought the spent fuel was going to be stored elsewhere. But fears about radioactive contamination have thus far prevented the spent fuel from being shipped to a central storage area.

The Bush administration is pushing ahead with plans to store the spent fuel at Yucca Mountain in a remote part of Nevada, but any transfer is still up to a decade away, several officials acknowledge.

Markey, a senior member of the House Energy and Commerce Committee, said he remains opposed to the Yucca Mountain site and asserts it was chosen because sparsely populated Nevada lacks clout in Congress.

"The fuel has to stay where it is, until they find a permanent geologic repository that is safe for 10,000 years," Markey said. "Yucca Mountain is a congressionally selected location. It was not selected by scientists."

But others say such arguments ignore the millions of dollar spent studying the site and determining its suitability for spent-fuel storage.

"I think there's a lot of opposition to Yucca Mountain because it does resolve the (real) problem with nuclear power, which is what to do with the fuel," said Tarantino.

Whatever the merits of various arguments, pressure is likely to mount for increased safety measures.

"The nuclear industry has to accept heightened security as the cost of doing business," said Markey. "They have always resisted paying the price of additional security, because it makes nuclear-generated electricity less cost-competitive with natural gas or hydropower or other sources of electricity. However, a nuclear power plant poses a much greater risk, and as a result, they have to build in the costs of additional security as the price of generating additional electricity."

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