

# The State

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## Is public at risk if nuclear plants are attacked?

### NRC is considering toughening security regulations

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Beneath a moonless sky, terrorists rip through the razor-wire fence ringing a nuclear power plant and quickly overpower guards.

Using explosives capable of destroying armored military vehicles, the terrorists blast a hole in the side of a huge concrete canister holding spent nuclear fuel.

No one is sure what could happen next.

Could the attack cause radiation to leak into the atmosphere? Would the release be enough to endanger the public? Should security, which was beefed up at nuclear plants after the 9/11 terrorist attacks, be bolstered even more?

Although experts consider chances of such a nightmare scenario to be remote, the Nuclear Regulatory Commission is considering whether it needs to change safety rules, including those at South Carolina facilities.

One possible revision would require operators to evaluate the impact of a bomb attack on dry cask storage units used to hold spent fuel at three of South Carolina's four nuclear power plants.

Dry casks, not used at the SCE&G plant 28 miles northwest of Columbia, have become more popular as plant operators need more room to store spent fuel.

About every 18 months a third of the fuel used to generate electricity is replaced. The spent fuel is stored at least five years in water until it has cooled sufficiently and the radioactivity decreased enough for it to be removed from the spent fuel pool and loaded into casks, according to the NRC.

Utility spokesmen said they won't know the cost of additional security measures until the commission issues new rules. Higher costs could be passed on to consumers through rate hikes.

Operators of the Palmetto State nuclear power sites say their plants are safe and already meet stringent federal regulations.

"The nuclear industry has spared no expense when it comes to protecting our facilities," said Eric Boomhower, spokesman for Cayce-based South Carolina Gas & Electric Co.

## **GOAL: KEEP RADIATION ON PLANT SITE**

Critics - including the Union of Concerned Scientists - say not enough testing has been done to determine whether rule changes being considered still would protect the public.

"We don't know what we're getting into," said Edwin Lyman, a senior scientist with the Washington, D.C., organization.

Lyman's group is wary of storing fuel waste at a power plant, saying it presents an easier target that could "yield graver consequences" than an aircraft crashing into the dome-shaped containment building. Plant operators have no choice until the federal government provides a waste repository.

Dry cask units typically are canister-shaped, about 17 feet high and 9 feet wide, and stored on concrete pads in a secured area near the reactor units.

In South Carolina, dry cask systems are used at Duke Energy's three reactor units in Oconee County and two units near York, and Progress Energy's one reactor near Hartsville.

At South Carolina Electric & Gas Co.'s plant near the crossroads community of Jenkinsville, spent fuel is stored in water-filled pools. The utility will use dry casks for the two units it plans to add to the plant by 2019.

If the federal agency decides to change its rules, operators will have to determine that the potential dose of radiation caused by an attack won't exceed 5 rems - about double the dose of a chest X-ray - beyond the cask storage site boundary.

Operators who find that they couldn't limit the dose at the boundary would have to expand the secured area, most likely by moving the fence line and security outposts.

If the secured area can't be expanded, then plant operators would have to consider using barriers and adding armed security personnel to defeat an attack, according to a draft of the proposed changes published in the Federal Register.

The rules are being looked at because the federal agency said it is attempting to standardize security regulations at nuclear plants.

Current security rules are a "hodgepodge," Lyman said.

But the proposed changes only would require operators to determine whether a radiation release would exceed the 5-rem limit inside the containment area.

There may be no requirement for nuclear plant operators to show they also could turn back an armed attack, Lyman said.

"The (commission) is saying we don't care if there's an attack as long as the dose to the public doesn't exceed 5 rems," Lyman said.

No one knows how much radiation might be released if a dry cask unit was breached, Lyman said.

Tests have been done with simulated fuel but never radioactive material, Lyman said.

### **'LAYERS OF SECURITY'**

Duke spokeswoman Rita Sipe said the dry cask system the Charlotte-based power company uses is "designed to resist floods, tornadoes, projectiles, temperature extremes and other unusual scenarios."

Just how the casks would withstand those threats is "security sensitive" and cannot be publicized, Sipe added.

Security at power plants, beefed up since 9/11, has been designed to stymie attackers who might launch an assault on land or from water, utility spokesmen said.

"There are layers of security that prevent unauthorized vehicles and personnel from entering the area," said Andy Cole of Progress Energy, headquartered in Raleigh.

The commission's Advisory Committee on Reactor Safeguards will begin public hearings Thursday on a number of safety issues, including revisions of security rules at power plants.

Any changes in the rules will be a long time coming. No timetable has been set for issuing rule revisions, the commission said.