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Article Last Updated: Sunday, July 14, 2002 - 3:12:24 AM MST

## Protect nuclear waste from terrorists

PRESIDENT Bush and U.S. Attorney General John Ashcroft have assured the public that federal law enforcement agencies are doing all they can to detect and prevent any new terrorist attacks on American soil.

In order to assert this promise, the administration has wreaked havoc on the Bill of Rights and the liberties it guaranteed.

Girded with the armor of the Patriot Act and other congressional enactments that increase the authority of federal law enforcement agencies, as well as numerous executive orders and AG memos, the administration feels secure in the belief it can thwart future terrorist attacks. But it has ignored our unprotected Achilles heel.

Months ago, Bush approved the opening of Yucca Mountain in Nevada as the nation's high-level nuclear waste repository. The U.S. House quickly approved the plan. If the Senate agrees and a federal license is granted, Yucca Mountain will begin accepting nuclear waste from 131 sites in 39 states by the year 2010.

Most of the nuclear waste will come from commercial nuclear power plants, as spent nuclear fuel rods, and a relatively small amount of high-level nuclear waste will come from military sites.

The radioactive waste will travel to Nevada by rail and by truck, and some nuclear waste will be moved to railheads from East Coast power plants by barge. Each shipment of nuclear waste will be transported at least 2,000 miles.

The U.S. Department of Energy's plan calls for approximately 2,700 truck shipments each year for 38 years with the intention of entombing 77,000 tons of radioactive waste in Yucca Mountain.

The plan projects 106,000 shipments of this extremely dangerous radioactive material will pass through 43 states and the District of Columbia -- yet there are no current plans to realistically protect those shipments from terrorist attack.

Billions of dollars have been spent on security measures at nuclear power plants, and billions have been spent for security at Yucca Mountain.

However, currently there is no updated study concerning these shipments' vulnerability to terrorist attack. The last such study was conducted in 1984, by the Nuclear Regulatory Commission and the DOE and utilized weaponry now outdated.

The current DOE plan calls for state highway patrol cars to follow trucks carrying nuclear waste. Those shipments traveling by rail are to be accompanied by two guards. That level of protection couldn't stop a group of thieves who wanted to obtain nuclear material. It certainly wouldn't stop dedicated terrorists.

The U.S. Public Interest Research Groups reports that Chicago would see one truck shipment of radioactive waste every 15 hours; St. Louis, Kansas City and Denver every 13 hours; Des Moines and Omaha every 10 hours; Salt Lake City, one shipment every seven hours. In fact, on July 5, the City Council for Salt Lake City voted in favor of a resolution to oppose the transportation of high-level nuclear waste through their city.

Spent nuclear fuel rods are more dangerous to humans than fresh nuclear rods that are ready to be utilized by power plants. Spent nuclear fuel rods are stored under at least 20 feet of water to provide adequate shielding from their radiation.

"Spent" simply means the nuclear fuel rod can no longer efficiently sustain a nuclear chain reaction -- nuclear fission -- in order to power an electrical plant. The uranium in the spent rod has been split into a variety of highly radioactive fission products, creating radioactive cobalt, cesium, plutonium, strontium and radioactive gasses.

According to Nevada officials who oppose the Yucca Mountain plan, the spent nuclear fuel rods will be shielded by less than five inches of stainless steel and depleted uranium. The next generation of casks used on trucks will use shielding of six to 11 inches of steel and either lead or depleted uranium. However, these proposed casks will hold two tons of nuclear waste, four times the amount of nuclear waste as the smaller ones. The only tests done on the proposed new casks have been through computer models.

If a cask containing spent nuclear fuel were cleft open, inhalation of radioactive gasses would cause lung cancer to those within the radioactive plume spread by wind. Those standing close by, who were exposed to plutonium radiation in sufficient doses, would die within hours.

Portable rocket-propelled armor-piercing weapons have the capability of penetrating 20 to 40 inches of armor plate steel. An anti-tank weapon -- the Milan missile -- which only weighs 73 pounds, can penetrate armor greater than 3 feet thick and has a maximum effective range of more than 2,000 yards.

Commercially produced shaped explosive charges weighing only two pounds can penetrate 10 to 20 inches of steel. The 1984 tests conducted by the NRC and the DOE used the M-3, a shaped charge designed primarily for penetrating concrete structures. It penetrates 20 inches of armor steel. In the tests, the M-3 produced entrance holes about six inches in diameter and exit holes in the casks.

A Congressional Research Service Report for Congress, "Transportation of Spent Nuclear Fuel," written by Mark Holt and updated in 1998, admits that a "wide-variety of armor-piercing weapons could penetrate the heavy steel transportation casks, pulverize some of the nuclear waste inside, and allow highly radioactive waste particles to escape into the environment."

The DOE/NRC tests used only a single explosive attack with older weaponry, so that the agencies concluded that "such releases, while potentially hazardous, would probably not exceed a small fraction of a cask's contents."

With such a simplistic conclusion, the government exposes our Achilles heel and potentially exposes Americans across the nation to deadly radiation.

The Yucca Mountain project should not go forward until the government has thoroughly studied and created a plan to protect the shipments of high-level radioactive waste from terrorist attacks.

Charles Levendosky is editorial page editor of the Casper, Wyo., Star-Tribune.

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