

Why terrorists can't rob radioactive materials from nuclear reactors

Suppose a gang of terrorists tries to do a bank robbery type of operation against a nuclear reactor. What problems do they

encounter that they wouldn't when robbing a bank?

1. There is no nuclear fuel within reach of any human.

2. The fuel is inside a containment building that is harder to

penetrate than a bank vault.

3. The fuel is inside a machine that was not made for human

access. Fuel isn't something in a fuel tank that the reactor takes

some of each minute. The fuel is an internal component of the

engine. Stealing fuel is more like stealing a piston out of an

engine than siphoning gasoline out of a gas tank. The robbers

would be like somebody trying to steal a piston out of an engine in

a busy Wal-Mart parking lot, not like somebody trying to steal a

cell phone out of an unlocked car in a dark alley. Fuel is removed

and replaced in a reactor at most once a year and often only once

every 10 years. Reactors could be built to be fueled once in the reactor's lifetime. NASA's SNaPP reactors are fueled only once.

For example, the power sources on the Voyager spacecraft that are now exiting the solar system have the same nuclear fuel they had 30 years ago when they were launched. The Voyagers still have power. Fuel that is removed from a reactor can be recycled and put back into a reactor. The volume of the fuel doesn't change as it is used.

4. The fuel is not like money in several ways:
 - a. The fuel is radioactive enough to kill the robbers immediately.
 - b. The fuel is far too heavy for the robbers to carry.
 - c. The fuel is sealed in steel capsules inside steel rods inside the reactor core inside a coolant system, etc.
 - d. the temperature of the fuel is more than hot enough to burn them.
 - e. If they got the fuel out, they would have to carry it in lead containers that would weigh many tons.
 - f. etc.

To get fuel out, the reactor must first be shut down. The robbers

don't know how. The reactor must be allowed to cool.
Cooling
takes time, like days. The fuel can only be removed by a
robot.

The robot may not be present. The robbers don't know
how to
operate the robot. The robbers don't have a way to move
fuel
rods out of the containment building. The robbers would
have to
have a big truck with a lead container to carry the fuel in.

Big
trucks are not good getaway vehicles, especially when
heavily
loaded.

IF the robbers knew how to do all of the required jobs, it
would
still take them weeks to rob a reactor. Don't you think
somebody
would notice when the people who work at the reactor
didn't
come home for a few weeks? Do you think the cops and
the
army are going to give the robbers weeks? The result of
such an
attempted robbery would be robbers killed by bullets.
Guards are
not needed. Fences are not needed. Guards and fences
are there
purely because paranoid people want them there. Do not
be like

a person who wears an aluminum foil hat to keep the government from reading his or her thoughts. The government can't read thoughts anyway, and terrorists can't steal fuel out of a nuclear reactor.