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Time to Shut Down the Nation's Nuclear Plants

By Mark Gaffney
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In the aftermath of the horrific September 11 attack on the World Trade Center there has been considerable discussion in the US media about the threat of a future chemical or biological attack. Meanwhile, the much greater threat posed by a successful terrorist attack on a US nuclear reactor has passed almost without notice. Currently there are about 110 operational nuclear reactors in the United States. And virtually every one of these electrical generating facilities is vulnerable to terrorism. Indeed, from the standpoint of the terrorist it would be hard to imagine a more ideal target than a nuclear reactor. These plants are uniquely vulnerable by virtue of their design. A successful assault on even one nuclear reactor could produce a catastrophe that would make the recent tragedy in New York seem puny by comparison.

Such terrorism would be much easier to mount than the attack on the World Trade Center. No need to hijack a commercial jet liner. A small plane would suffice, and could be legally rented at any of a hundred airports in the US. The plane could be flown to a remote air strip located, say, on a rented farm, there loaded with explosives or even gasoline, before being pointed in kamikaze fashion at a nuclear plant.

Such an attack, planned by someone with the necessary expertise, and staged by a handful of determined men, would be extremely difficult to stop. Current operational safeguards at US nuclear plants are designed to protect against truck bombs. But apparently no thought has been given to the sort of aerial assault that toppled the World Trade Center.

The objective of such terrorism would be to disable the nuclear plant's safety (cooling) systems, triggering a worst-case scenario: a nuclear melt-down.

A partial melt-down of uranium fuel did occur at Three Mile Island in 1979, and, again, at Chernobyl in 1986. However, serious as these accidents were, especially Chernobyl, the long-term consequences of a full-scale melt-down would be immeasurably worse, worse even than the detonation of a nuclear weapon. Why? Because the core of a nuclear reactor contains many times as much uranium fuel as the largest nuclear bomb. Hence the potential for the release of far more radiation.

Try and imagine, if you can, the hellish scenario that would result from such an attack. A full scale melt-down is a runaway nuclear reaction in the core of a nuclear reactor. It leads to a "China Syndrome," where the "hot" uranium fuel literally melts its way through the floor of the reactor's containment vessel, then sinks into the earth until it reaches ground water; whereupon a gigantic plume of intensely radioactive material rises like death into the air and begins to spread with the winds over a vast area.

Let us assume such an attack near a large US city – a fair assumption given that many nuclear plants are located near metropolitan areas. With the prevailing winds, a melt-down at a plant in Pennsylvania, say, or in Virginia, would contaminate a large portion of the eastern seaboard with lethal radiation, killing untold numbers of people, and necessitating the evacuation of tens of millions of others. Large areas would be rendered uninhabitable for centuries. Entire cities, including New York and even the nation's capital, might have to be permanently vacated. The human cost in lives, not to mention the vast disruptions to American society, would be on a scale that is impossible to comprehend.

Yet the danger is all too real. Although the inherent vulnerability of nuclear reactors to terrorism has been understood for many years, the threat has not been taken seriously – until now – for reasons of hubris and greed.

From the day of their election President Bush and Vice President Cheney have touted a new generation of "clean" and "safe" nuclear power reactors that, we are told, will solve the nation's latest energy crisis. The two most powerful men in the land have, in short, been doing everything in their power to magnify the problem, and have played straight into the hands of Osama bin Ladin.

No doubt, Bush and Cheney's support for nuclear has been driven by politics. They have sought to reward those in industry who supported their candidacy. Make no mistake, the only reason nuclear power has survived is because of federal subsidies. Corporate welfare has been its life-blood. In a truly free marketplace nuclear energy would long ago have gone the way of the dinosaurs.

In the wake of the disaster in New York the nation must finally come to terms with the true risks of nuclear energy. We must face the reality that there is no way to adequately safeguard these plants. When terrorists are willing to die they are very difficult to stop. The only solution is prevention: phase out nuclear power as soon as possible in an orderly transition to wind and solar energy; which are immune to terrorism, in addition to being cost-effective and environmentally friendly.

Mark Gaffney is the author of a pioneering study of the Israeli nuclear weapons program. Mark is currently preparing a briefing paper "Will the Next Mid-East War Go Nuclear?" for the Washington-based Middle East Policy Council.

He can be reached at:

PO Box 100
Chiloquin, OR 97624
541-783-2309
mhgaffney@aol.com

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