The Origins of the Dirty Bomb: The U.S. Military and Radiological Weapons

By Robert Jacobs

In May of 2002, the U.S. government arrested Jose Padilla, a U.S. citizen, on suspicion of being an agent of al-Qaeda and of planning to detonate a "dirty bomb" in an American city. Dirty bombs are "radiological weapons" and are different from nuclear weapons. Nuclear weapons trigger a nuclear chain reaction that releases the vast energies contained within atoms. A dirty bomb is a bomb containing conventional explosives that is packed with radioactive substances that are dispersed into the surrounding environment causing widespread radioactive contamination; it does not involve an actual nuclear chain reaction. In this sense, it is a "poison weapon" since it spreads a deadly poison—radioactivity—by means of an explosion. A dirty bomb is unlikely to cause considerable physical impact from the explosion itself, but rather a catastrophic impact from the contamination of a particular urban area with deadly radiation. *Time* magazine reports that, "dirty nukes are what you might choose to build if you're unable to create a real nuclear bomb...the assumption has been that forces who would build a dirty nuke would do so because it's far, far easier." [i]

However, in October of 2007 Associated Press military reporter Robert Burns published a story that shed some light on who has considered using such weapons in the past. Burns describes secret 1948 U.S. plans, "approved at the highest levels of the Army," to use "radioactive materials from atomic bomb-making to contaminate swathes of enemy land or to target military bases, factories or troop formations," or even to assassinate "important individuals such as military or civilian leaders." [ii]

This memo was dated July 1948, not quite three years after the bombings of Hiroshima and Nagasaki. During this period, in both Japanese cities the U.S. had set up the Atomic Bomb Casualty Commission to study the effects on human beings of radiation exposure. The first year after the bombings of Hiroshima and Nagasaki, the U.S. conducted nuclear weapon tests at the Bikini Atoll in the South Pacific. The second Bikini test—Test Baker—involved detonating a nuclear weapon underwater. This test resulted in such high levels of residual radiation in the area that it forced the canceling of a scheduled third test because the levels were so high.

In the official top-secret evaluation of the Bikini tests, written in 1947, we can begin to see a reexamination of the bomb as a radiological weapon by the U.S. military, and the starting point of the memo that Burns discovered:

> "When a bomb is exploded underwater, lethal residual radioactivity assumes an importance greater than the physical damage caused by the explosion...the detonation of a bomb in a body of water contiguous to a city would vastly enhance its radiation effects by creation of a base surge whose mist, contaminated with fission products, and dispersed by wind over great areas, would not only have an immediately lethal effect, but would establish a long term hazard through the contamination of structures by the deposition of radioactive particles." [iii]

This was among the reasons that it was concluded that "the bomb is preeminently a weapon for use against human life and activities in large urban and industrial areas." [iv] The report went on to offer a vivid psychological portrait of the effectiveness of using radioactivity as a weapon:

> "We can form no adequate mental picture of the multiple disasters which would befall a modern city, blasted by one or more atomic bombs and enveloped by radioactive mists. Of the survivors in contaminated areas, some would be doomed to die of radiation sickness in hours, some in days, and others in years. But these areas, irregular in size and shape, as wind and topography might form them, would have no visible boundaries. No survivor could be certain he was not among the doomed and so, added to the terror of the moment, thousands would be stricken with a fear of death and the uncertainty of the time of its arrival."
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> "Thousands, perhaps millions, of refugees would rush from the city in panic, breaking down remaining transportation facilities, congesting highways, and creating in their flight new hazards to life. Among the refugees, for the moment unidentifiable from the rest, would be numbers whose contaminated clothing and any other goods they carried could establish in others the fear of dangerous radioactivity, thus creating a unique psychological hazard." [v]

It was clear that the military had a vivid grasp of the powers of this new weapon. It saw that the atomic bomb could be effective both as a weapon of devastating impact and also as a radiological weapon, capable of poisoning vast areas beyond its immediate effects of blast and heat. Further, military planners quickly saw the obvious possibility of using radiation as a terror weapon aimed at destroying the enemy's civilian population. The U.S. military would soon develop and test such radiological weapons as "radiological mists" and "radiological sand" separately from nuclear weapons. It was just such weapons that Rep. Albert Gore Sr. (D-Tenn) had in mind when he advocated creating a radioactive "death belt" to "quarantine" North Korea from South Korea in 1951.[vi]

So while current Western fears may paint the dirty bomb as a cheap alternative to "real" nuclear weapons for terrorists, it was the nation in sole possession of the first nuclear weapons that also first designed and built radiological weapons. Perhaps this is just one more of the many examples of "blowback" being experienced as a result of the history of U.S. militarism.

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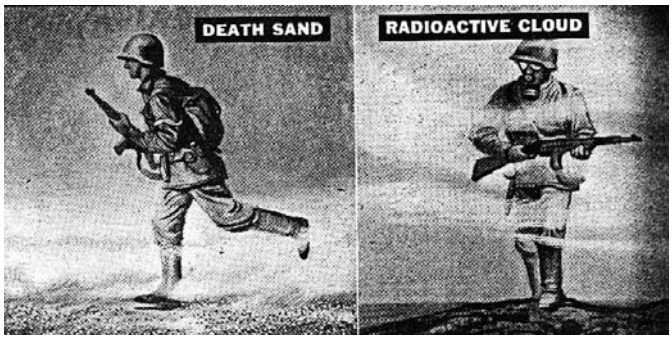

[i] Mark Thompson, "What is a 'Dirty Bomb'?" *Time* (June 10, 2002). <http://www.time.com/time/nation/article/0,8599,182637,00.html>
[ii] Robert Burns, "U.S. Considered Radiological Weapon," *USA Today* (Oct. 8, 2007). <http://www.usatoday.com/news/washington/2007-10-08-radiological-weapon_N.htm>
[iii] JCS 1691/3, Enclosure D, June 30, 1947, pp. 57-89.
[iv] JCS 1691/3.
[v] JCS 1691/3.
[vi] "Atomic Death Belt Possible," *Science News Letter* 59:17 (April 28, 1951), p. 261.