



Special Reports

'Nuclear Terrorism' Exposed As Scientific Hoax

by the International Caucus of Labor Committees Research and Development Staff

May 21 (IPS) — On technical considerations alone the current official outcry that any "radical terrorist group" could build its own atomic bomb is sheer nonsense.

Various "experts" have come forward with detailed scenarios which, they assert, prove that a small group, or even a single individual, could steal nuclear fuel from a fission reactor and construct a nuclear weapon. Typical of the genre is Denis Hayes' "Nuclear Power: the Fifth Horseman," published by top Rockefeller agent Lester Brown's Worldwatch Institute. Says Hayes, "With careful planning and tight discipline, armed groups could interrupt the fuel cycle at any vulnerable point and escape with fissile material. Perhaps more frightening, however, is the inside thief... Quiet diversion of bomb-grade material may have taken place already." Once the terrorists have the material in hand, Hayes claims, it is "incorrect" to believe that a "small Manhattan project" would be needed to build a bomb. As evidence he notes, "In 1970 a 14-year old schoolboy prepared a crude (but credible) design for a hydrogen bomb..."

A terrifying possibility — but easily exposed as an intentional hoax.

As is well known, several countries have developed their own nuclear bomb capabilities, including small nations such as Israel. But in every case this development came only after several years of a full-blown national commitment to these projects. These national efforts in each case necessarily included the construction of nuclear fission reactors in order to produce plutonium, but even if plutonium were already available a huge commitment of money and special equipment would be required to turn the plutonium into a workable nuclear bomb.

As the lying propagandists for a coming wave of "nuclear terror" well know, the technological problems involved in such an operation are such that a terrorist group could first obtain and second detonate such a device only if the U.S. Defense Department or some comparable government agency were to provide both the bomb and the detailed decoding instructions necessary to set it off. The fact that these cynical warnings of "nuclear terrorism" are pouring out of direct U.S. intelligence network conduits pinpoints who the "nuclear terrorists" really are.

The Plutonium Problem

Two fissionable materials have been used in the past manufacture of atomic bombs — Uranium-235 and Plutonium-239. Uranium-235 is currently used as the fuel in all operating water- and gas-cooled thermal reactors, while Plutonium-239 is the proposed fuel for the "fast-breeder reactor" and advanced thermal reactor designs. Plutonium is not now used as a fuel for any nuclear reactor, but has been tested in several experimental reactors in various locations around the world.

However, plutonium is produced in small quantities within the fuel pins in all thermal reactors; in fact, this is how the U.S. Defense Department gets its bomb material at its

Savanna River complex in Georgia. The tremendously complicated and expensive process required to "enrich" U-235 levels in uranium — high enough for use in atomic bombs has virtually eliminated it as a material for this purpose, even for the U.S. government. Therefore plutonium is essentially the only material used today in the construction of atomic bombs.

Since U-235 is the fuel used in all operating nuclear reactors, it is this fuel which the promoters of the "nuclear terrorism" propaganda campaign "predict" terrorist groups will steal. The uranium in this material is enriched to only 3 per cent, and in this form is to all intents and purposes worthless for bomb-making. At least 50 per cent enrichment is required for even a poor-quality atomic bomb, and much higher enrichments (in the range of 80 to 90 per cent) for good-quality bombs.

Three different isotope separation processes have been used for enriching uranium: gaseous diffusion, gas centrifuge, and electromagnetic separation. All three require that the uranium be in the form of a gas, uranium hexafluoride, just to begin the process. Obtaining uranium hexafluoride from stolen nuclear reactor fuel pins would require an elaborate and dangerous chemical processing operation involving nitric acid dissolution and using the extremely toxic gas, hydrogen fluoride. Once uranium hexafluoride is available, the even more complicated, expensive, and energy-intensive process of isotope separation begins. This involved a multi-stage process of separating the U-235 from natural uranium (U-238) and continually concentrating it to higher and higher enrichments within the U-238 — U-235 gaseous mixture. (The U-235 content in natural uranium ore is less than 0.7 per cent.) The necessary separation facilities demand gigantic amounts of money and resources to build and operate, and only a few exist in the world today. Thus the only "terrorists" capable of carrying through such an operation would have to operate at a **government level!**

All this assumes that we are dealing with fresh, unirradiated nuclear fuel which is therefore not radioactive. But what about theft of this fuel after it comes out of the reactor in three or so years, with small amounts (approximately 4 per cent) of plutonium present?

First, such fuel is highly radioactive at that point and for a long period afterward, and can only be handled by remote operations in sealed and shielded cells and containers. It should also be noted that the fuel in a nuclear reactor is contained in large, 12 to 15-foot-long bundles of small-diameter pins weighing about one ton apiece — not the easiest thing for a terrorist to "quietly divert" in any case, and virtually impossible given its radioactivity.

Then, of course, getting at the plutonium in this already burned fuel requires an even more difficult chemical process than that described above for clean uranium fuel. Specifically, the entire chemical processing operation, i.e., the acid dissolution, solvent extraction, nitrate precipitation

of uranium, plutonium, and fission products, etc., must be done remotely by mechanical "slave" manipulators in a shielded chemical facility. Only a very few such chemical facilities exist in the world; only one is currently operating in the United States, at the Savanna River Plutonium Production Plant run by the U.S. Defense Department.

It is therefore obvious that "warnings" of terrorists palming nuclear fuel and turning it into bombs in a basement workshop are without even the pretense of scientific validity.

Government "Cooperation"

This leaves only one other avenue open to the prospective "nuclear terrorist" — the theft of plutonium compounds either directly from the Defense Department's Savanna River complex or a similar facility, or during shipment of the material to the site where bombs are constructed or where plutonium-bearing nuclear reactor test fuel is fabricated.

However, such operations are under the direct control of the U.S. or other defense department, and thus subject to the most stringent security regulations. As has been said, "Fort Knox would be a pushover compared to this." An even in a government facility, it would take weeks or even months to construct a bomb from this material once it had been obtained, leaving plenty of time to catch the thieves following such a spectacular hijack.

Even in the more than improbable likelihood of such a robbery, the perpetrators would still face an even greater problem: how do you turn this stuff into a bomb? Obtaining a workable design is only the beginning.

The plutonium in such shipments is usually in the form of an oxide or nitrate compound. Since bombs must be made of plutonium metal, a high-temperature chemical process is required to convert the compound into this form. As has been well advertised by the opponents of fast-breeder reactors,

plutonium is an extremely dangerous material, very poisonous as well as rapidly cancer-inducing. Even for the kami-kaze terrorist, handling or processing of this material must therefore be done remotely and in an inert gas atmosphere, requiring special facilities and chemical processing which again require huge outlays of funds and resources. Furthermore, once plutonium metal is obtained from this process, the machining and handling of it in this form, since it is also now pyrophoric (i.e. burns on contact with air), must also go in remotely and in an inert atmosphere, demanding still more special facilities and machine tools. Then constructing a bomb from this plutonium metal once it has been machined requires yet another influx of special technologies, i.e., explosives, controls, etc., and more special equipment and facilities, making the entire operation far, far out of reach for any non-governmental group.

Thus the construction of an atomic bomb absolutely demands a commitment of funds, resources, and technology available only at the highest levels of a government operation. On this basis alone it should be obvious that a terrorist group could obtain access to such a nuclear weapon only through a cooperative effort with the government, most likely involving the direct handing over a bomb to such a group rather than the transfer of a range of elaborate processing and construction facilities. The places to look for "nuclear terrorists," therefore, is not among the zombies who staff street-level terrorist activities, but the highest-level government officials who would politically benefit from such a disaster.

IPS is releasing a full brief on the National Security Council's nuclear terrorist live capability and scenario this week.