Subject: The Nuclear Threat That Doesn't Exist... Or Does It?
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Quote:The Nuclear Threat That Doesn't Exist – or Does It?
by Sam Cohen and Joe Douglass
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U.S. administration spokesmen have said they have no evidence that Iraq has produced or acquired nuclear warheads. Implicit in their statements is the assumption that any such warheads would have to be fission warheads containing uranium or plutonium. This is the traditional path to nuclear warheads that the United States and other nations have taken.

However, what U.S. officials assiduously avoid is a whole different category of weapons:

investigations over the decades by several nations: the United States, Russia, China, France, and perhaps others. They contain no fissionable nuclear material. Instead, they rely upon heavy

compressed and heated, these two isotopes of hydrogen fuse, releasing high-energy neutrons that shoot out hundreds of yards, killing living matter in their path.

Background

In 1979, Pope John Paul II conferred on one of the authors (Sam Cohen) a peace medal for his invention, the neutron bomb. This was a small nuclear weapon designed to do its work, killing enemy military forces, without destroying a country's infrastructure. The idea was to design a fission-fusion bomb in which the number of high-energy neutrons released, the dominant killing mechanism, was maximized while the physical damage-producing mechanism, the fission component, was minimized. Only that minimal amount of plutonium, the fission component,

This deuterium-tritium mixture produced the killing mechanism, a sudden burst of high-energy neutrons, while the fission blast was minimized.

The invention achieved the objective – to make a nuclear weapon that was tactically useful in the sense of not destroying the country in the process. But, it was quickly squelched by the various interests that concluded that such a device would only make nuclear war more likely. The neutron bomb was, in effect, banned because it destroyed the sharp distinction between conventional and nuclear weapons by minimizing the fission blast and radiation by-products.

Life was breathed back into the concept in the 1970s in an effort to improve NATO defenses by producing a weapon that directly challenged the immense Soviet strength – its tanks and armies. But, it did so without the massive physical damage usually associated with a nuclear weapon. Several hundred of the neutron bomb warheads were actually produced and stockpiled during the Reagan Administration. This new lease on life, however, soon came to an end.

Following the first Persian Gulf War, President Bush at General Powell's recommendation directed that all the tactical weapons be destroyed.

As the problems associated with attacking Saddam Hussein have become evident in recent months, so also have the advantages of small discriminant nuclear weapons. However, none are left in the U.S. stockpile. This explains the sudden bust of interest in forming two design teams, one at Los Alamos and one at Livermore National Laboratories, to examine possibilities for a new

break lobby.

Pure Fusion Warheads

The small tactical battlefield neutron bomb is the closest kin to a pure-fusion device. The principle difference is that in a pure-fusion device, the plutonium fission component is entirely eliminated. The pure-fusion device relies on the same deuterium-tritium mixture to create its burst of

fissionable material. Thus, while still packing a neutron wallop, its explosive yield – the part that does the most physical damage – is much smaller because it lacks the fission component. What little explosive yield remains can be as little as one hundredth the size of the small tactical battlefield neutron bomb.

While the physical explosion accompanying the detonation of a pure-fusion warhead is tiny, compared with the yield of a tactical neutron bomb, its lethal radius due to high-energy neutrons is not tiny. It would cause casualties several hundred yards from the burst point, roughly half the lethal radius of the neutron bomb.

The comparison of a pure-fusion warhead with a normal fission warhead is even more stark. The lethal area to military troops of a 10 ton (high explosive equivalent yield) pure-fusion device would be approximately the same as the lethal area of a fission warhead several hundred times larger; that is, one in the kiloton range!

The cost of a pure-fusion warhead is also reduced. In terms of the precious nuclear material that is required, namely, tritium and deuterium, pure-fusion devices are extremely cheap. Because the

the deuterium-tritium burn, they can be made for a fraction of the cost of one fission-fusion neutron bomb of the 1980s.

The inherent consequences of a pure-fusion device go far beyond low cost and greatly reduced explosive yield. Most significant, pure-fusion warheads, in contrast to warheads that use fissionable material, are not covered by the Nuclear Non-Proliferation Treaty (NPT). Any country can, in terms of international law, legally possess and even sell such weapons and not be in violation of the NPT. Also, deuterium-tritium fuel can be purchased openly on the international market. The spirit of the NPT may be in violation, but not the letter.

Still further, because there is no fissionable component and because the explosive yield is so small, full operational tests of a pure-fusion device could be conducted in any country and not be detected by systems set up to monitor nuclear weapons tests. If tests were conducted

underground at a moderate depth, say 50 to 100 meters, even the local inhabitants would suspect nothing.

These consequences drive a stake through the heart of U.S. non-proliferation policies. These

(uranium or plutonium) is not prohibited. To make matters worse, in no sense can they be termed

discriminant than the neutron bomb because there is, in comparison, negligible physical damage and a total absence of fission by-products and related contaminating fallout.

Because of this, the pure-fusion device represents the worst fear of those whose personal crusade is to stop the spread of nuclear weapons and preserve the fire break in a hope that this will prevent a nuclear war. The pure-fusion device is less destructive than most conventional bombs, is reasonably cheap, and can be tested with impunity. It produces no fission radioactive by-products or fallout of serious concern.

That is, the pure-fusion device renders the unthinkable thinkable. This is why officials do not want to discuss the possibility of pure-fusion warheads and, as will be seen, will do their best to deny their possible existence.

Russia’s Pure-Fusion Device

In the early 1990s, information coming out of Russia in articles and statements by high ranking military and civilian officials (including the Chairman of the Russian Atomic Energy Commission) indicated that a pure-fusion device as small as a baseball and weighing around 10 pounds could be developed. The amount of deuterium-tritium fuel needed on the order of a gram. This device was made possible by their use of an exotic new material capable of producing enormous pressures and temperatures – great enough to produce a mini pure-fusion explosive. In other words, no longer was a fission component needed to trigger the deuterium-tritium fusion.

This new material was dramatically different in nature and concept of use from the conventional high explosives used in fission weapons. When ignited, the new material did not actually explode but instead stayed intact long enough to produce the enormous temperatures and pressures sufficient to enable the deuterium-tritium fusion.

explode in the conventional sense of the word. It was developed in Russia and became popularly

Russia, in a secret directive he authorized the sale of red mercury on the international market. Sometimes the price was very high. Sometimes fake versions of it were offered to gullible buyers. The United States may have been one of these.

One very interested country which had a long history of purchasing Russia weaponry was Iraq. Russia helped Iraq develop chemical and biological weapons and Russian advisors were in Baghdad advising Saddam at the time of the first Gulf War. Only recently the two countries signed a multi-billion dollar oil field development contract.

Just after the Persian Gulf War, the head of the UN inspection Team sent into Iraq for the Agency for International Atomic Energy reported that in one Baghdad facility he found boxes full of offers to sell and develop red mercury. This discovery should have caused a huge furor. But, in the real world of nuclear politics it never even surfaced on any significant level. Apparently no one wanted to admit its existence or significance because of its implications respecting arms control and the NPT.

Past U.S. efforts to achieve a pure-fusion burn tried to mimic the fission-fusion approach. In it, the conditions needed to achieve a deuterium-tritium burn are achieved by imploding a conventional high explosive that would create the compression needed to initiate the burn. This is very hard to do using conventional explosives because of the precise control over the imploding shock wave that is needed. In the case of red mercury pure-fusion, it is the burn of the red mercury, not a shock wave, that creates the needed temperature and pressure. This obviates the very difficult timing and shock wave control required in a conventional approach.

Efforts to Discredit

As stories of black market red mercury trafficking began spreading, Western nations began a broad disinformation campaign to debunk the stories, ridiculing them and their authors. Leading this effort was the United States, via the Los Alamos nuclear weapons laboratory. They put out

That the red mercury fusion device is not a scam has been confirmed by responsible British investigators. One, Dr. Frank Barnaby, a veteran nuclear weapon designer, secretly interviewed knowledgeable Russian scientists. These scientists confirmed to him the existence of red mercury and its great significance.

The professed Los Alamos skepticism was hardly sincere in view of an intensive investigation of such explosives mounted at Los Alamos during the 1990s. The nature (and very high level of security classification) of the investigation belied claims of its being only a half-baked scam. The subject was so serious at Los Alamos that discussions of ballotechnics were held in their highly secure Aztec SCIF (Special Compartmented Intelligence Facility).

Selected Applications

On the open field of battle these pure-fusion neutron bombs, can be delivered by small rockets, mortars, artillery, etc. without any concern for the high accuracies demanded by conventional warhead use because the associated physical collateral damage was so low and lethal radiation effects radius so large. They do not need to hit the center of the target to devastate conventionally armed U.S. ground forces.

For urban warfare, fighting through cities such as Baghdad almost always entails having to physically destroy them. Having pure-fusion weapons would allow Iraq to defend these areas without the Iraqi military having to cause significant damage in the process.

Because urban structures in general produce no serious attenuation of the high-energy neutrons, buildings are not an effective place to hide. The neutrons will find the soldiers while leaving the buildings and infrastructure intact. In this sense, an Iraqi pure-fusion neutron bomb defense of

their built-up areas is more civilized when compared with the use of destructive conventional means.

In the air battle, fusion warhead effects would reach out much further than at ground level. In that case, Iraqi antiaircraft weapons could be vastly more effective than the currently used conventional systems, which U.S. air defense countermeasures have rendered practically worthless. With a pure-fusion warhead, the tables are quickly turned. The lethal neutron effects of air burst pure-fusion warheads can reach out many hundreds of yards, thus rendering the U.S. air defense countermeasures practically worthless.

Considering a terrorists potential interest, the horror of such devices is self evident. The use of these devices by suicide bombers presents a far more threatening situation than possible repetitions of the 9-11 attacks. Because of their very small size and weight, they readily could be moved into and around the United States with practically no chance of detection.

Bottom Line

We can not stop proliferation any more than we can stop the advancement of technology or put a lid on individual ingenuity. Nor can we outlaw evil or dictate the way other people think.

For forty years we have been fooling ourselves into thinking arms control would solve the intractable problems of chemical, biological, and nuclear weapons while turning a blind eye toward the impact of technology and the different thoughts of different peoples. Treaties were negotiated and signed notwithstanding the fact that they ignored the most serious technologies. As the flaws became evident, officials were not only disinterested, they wanted not to know.

The arms control process has been like the drunk looking for a quarter he lost where the light was best, rather than where he lost it. The nuclear problem discussed in this article is not unique. There are equally significant, equally frightening, and even more horrendous blind spots in our policies concerning chemical warfare, biological warfare, and related arms control treaties. As one top U.S. official told the Soviet biological warfare expert, Col. Kanatjan Alibekov, Ph.D., who defected to the United States in 1992, “Perhaps there are questionable activities going on, but for the moment, diplomacy requires us to keep silent."

When will the West drop the politically correct charade and face the real world? Launching a massive invasion into Iraq will not stop terrorism nor the spread of weapons of mass destruction. Attacking the axis of evil will not rid the world of evil. When will we learn to address the problem with the sincerity and seriousness it deserves?

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