A Review of the Non-Proliteration Treaty Review Conference

PEJ News - F.H. Knelman, Ph.D.: The Non-Proliferation Treaty (NPT) currently under review can only be fully understood within the context of the materials used in nuclear power reactors and those used to manufacture nuclear weapons. The key element in both of these is uranium. The dominant nuclear power reactors in the world use enriched uranium as their fuel rods. The two isotopes in natural uranium are U-235 and U-238. The process of enrichment is to increase the Uranium-235 component in natural uranium from 0.217 parts per 100 to reactor grade level. Only the Canadian reactor, CANDU, uses natural uranium for its fuel.

A REVIEW OF THE NON-PROLIFERATION TREATY REVIEW CONFERENCE

F.H. Knelman, Ph.D.

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All uranium, whether it is for a civilian nuclear power reactor (where it has to be enriched to approximately five percent of the U-235 component), or for bomb purposes (where it has to be enriched to more than 90%), must pass through enrichment facilities. For example, Canadian uranium travels to Paducah, Kentucky, to be enriched.

Here a curious phenomenon takes place. It is called fungibility. ?Fudgeability? is a better word. Uranium from various sources is bulked together to achieve a feed stock level commensurate with the size of the plant so it can operate efficiently. Thus Canadian uranium would be bulked with domestic uranium from the United States, Australia and so on. The output consists of two streams. One stream is the enriched uranium. The other is depleted uranium, consisting mainly of the U-238 isotope.

This is the key to focus on. Depleted uranium, which is mainly U-238, is not safeguarded. Canada doesn?t demand its return. We have a Nuclear Cooperation Treaty with the United States which contains a tragic flaw because the depleted uranium goes into several weapons processes. It becomes ?target? rods in Savannah, Georgia and Hanford, Washington, where it is bombarded with neutrons to manufacture plutonium. So our Canadian U-238 (depleted uranium) is used in the manufacture of Plutonium-239. Plutonium is used to make atomic weapons and triggers for thermonuclear weapons.

Depleted uranium is also manufactured into castings for thermonuclear weapons. In a thermonuclear explosion, at some ten million degrees Celsius, U-238 will fission. Also, all the metal parts of a thermonuclear bomb use U-238 as a material of construction under the immense neutron flux of an explosion, U-238 fissions lead to 50% of the bomb?s yield. So a thermonuclear weapon that is designated as one megaton gets 500 kilotons of power from the depleted uranium, which is not safeguarded. U-238 or depleted uranium, (DU), is also used to manufacture steel-penetrating munitions. The dust that is produced, if inhaled, is a potent carcinogen. This is yet another violation of the use of radioactive materials.

The Nuclear Non-Proliferation Treaty (NPT) came into force in 1970 (or perhaps ?farce? is a better word). Essentially, NPT was a treaty between two classes of adherents, the ?Nuclear Weapon States? (NWS), i.e. those who had detonated nuclear weapons prior to 1967, i.e. U.S., Britain, France, China and U.S.S.R., and the ?Non-Nuclear Weapons States? (NNWS), those who had not. The NNWS agreed not to manufacture or receive or utilize nuclear explosives of any kind, including so-called peaceful nuclear explosives (PNEs) and to accept the role and safeguards of the International Atomic Energy Agency (IAEA) as the agency that would monitor through ?full-scope safeguards?. All ratifiers agreed not to export nuclear equipment or materials to NNWS, except under IAEA safeguards, and NWS agreed not to assist NNWS to acquire nuclear weapons. All countries with knowledge of civil nuclear power pledged to assist those who wished to acquire it. Finally, the NWS pledged to pursue negotiations in good faith to end the arms race and achieve nuclear disarmament under international control (Article VI). In practice this only applied to the U.S. and the U.S.S.R.

There are many flaws in NPT. One of these is the failure to control U-238. This is used by the NWS to manufacture Plutonium-239, which in turn is used to make atomic bombs and triggers for thermonuclear weapons. Plutonium-239 was the bomb named Fat Man, dropped on Nagasaki on August 9, 1945. But there is a more basic flaw in NPT. This concerns the fact that it had two major goals that were mutually incompatible. On the one hand it was dedicated to preventing proliferation and on the other hand it uncritically supported civil nuclear power, denying the intimate connection between the two. In fact all the countries who developed nuclear weapons did so on the back of civil nuclear operations. This is exactly the current issue over Iran and North Korea. The original error was the handing over of the regulatory function to the International Atomic Energy Agency (IAEA) when NPT 1970 was ratified.

The entire existence of IAEA is based on a violation of the principle of the independence of the regulatory function. This principle is that any agency entrusted with a regulatory mission cannot, at the same time, be a major promoter of the target activity of their regulation. Yet Article III A6 of the IAEA statute specifically entrusts that body with both health and environmental standards while also promoting the development of the field of civil nuclear power. National nuclear regulatory bodies such as the Atomic Energy Control Board of Canada (AECB) or the U.S. Nuclear Regulatory Commission (NRC) are clearly assigned the sole mandate of regulation. They and IAEA are major ?pushers? of both nuclear energy and nuclear techniques, both by mandate and mind set. The use of the word ?pusher? is deliberate. IAEA literature is filled with uncritical, implacable, promotional, even propagandist, support of atomic energy. Thus we had a fundamental conflict of interest between protection and promotion. One should note that the current IAEA has changed radically and now truly recognizes the potential connection between civil and military nuclear power. For documentation of our charges see : F.H. Knelman, ?Nuclear Energy: The Unforgiving Technology?, Hurtig Publishers, 1976.

The most gross violation of NPT concerns Article VI. This article states that the United States and the then Soviet Union are ?to pursue negotiations in good faith toward ending the nuclear arms race at an early date and to nuclear disarmament and on a treaty on general and complete disarmament under strict and effective international control?. Today the U.S. deploys approximately 4500 strategic offensive nuclear weapons and Russia has roughly 3800. Moreover the U.S. has operational plans to fight and win a nuclear war with Russia. Also the U.S. is proliferating nuclear weapons into space. Finally, the U.S. has trashed virtually all of the nuclear regulatory regime.

The original preamble of NPT called for the end of all nuclear test explosions for all time and to ?facilitate the cessation of the manufacture of nuclear weapons, the liquidation of all their existing stockpiles, and the elimination from the national arsenals of nuclear weapons and the means of their delivery pursuant to a treaty on general and complete disarmament...?

In general, all of the above conditions have been thwarted, while article VI continues to be violated in multiple ways, including a lack of being comprehensive, i.e. involving all five NWS. Qualitative development in all aspects of the nuclear weapons systems continues unabated. By agreeing to an indefinite extension of NPT on May 12, 1995, the signatories have become a party to past and future violations.

One final issue of violation concerns Article VI of the NPT. This article requires that NWS do ?not transfer to any recipient nuclear weapons or other nuclear explosive devices?. But NATO members, such as Belgium and Italy, themselves NNWS countries, have U.S. nuclear weapons on their territories, which their national Air Forces are rejoined to deliver when ?need? is determined by NATO command. NATO has placed nuclear weapons in member countries throughout the major period of the 25 years of NPT authority, violating Article I with alarming consistency.

In conclusion, we oppose any new country going nuclear, and this includes Iran and North Korea. However, in terms of Middle East security, we cannot avoid being critical of Israel, which is a major nuclear power with delivery systems that cover the entire Middle East. Israel is a non-signatory of NPT, yet the above aspect is not openly criticized or even discussed. Given the U.S.?s terrible record of violation of nuclear arms treaties and its current intractable stand, one can expect little to come from the current review sessions.