

# Xanthe Hall

## Two Sides of the Same Coin

The inextricable link between nuclear weapons and nuclear energy  
The International Atomic Energy Agency as Inspector and Controller

The International Atomic Energy Agency, which I will hereafter refer to as IAEA, is best known by the general public for its inspections and subsequent discovery of secret nuclear programmes. But little is known about its actual mandate as an organisation and how it plays a significant role in the promotion of the so-called peaceful uses of nuclear energy.

### **“Atoms for peace”**

In the aftermath of the development of nuclear weapons, Harry Truman said in a message to the US Congress “The hope of civilization lies in international arrangements looking, if possible, to the renunciation of the use and development of the atomic bomb, and directing and encouraging the use of atomic energy and all future scientific information toward peaceful and humanitarian ends.” Eisenhower took this idea further in his famous “Atoms for Peace” speech before the United Nations in 1953 and proposed that in order to control the spread of nuclear weapons, nuclear secrets should be shared for the betterment of humankind.

But as far back as 1946, there were those taking a dim view of this vision, such as the Acheson-Lilienthal Committee, mandated to present proposals for the US to submit to the UN. They concluded that the risk of nuclear proliferation was endemic to the idea because the pursuit of atomic energy and the pursuit of atomic bombs were in large part interchangeable and that an international inspections regime based on good faith was doomed to fail:

“We have concluded unanimously that there is no prospect of security against atomic warfare in a system of international agreements to outlaw such weapons controlled only by a system which relies on inspections and similar police-like methods”. This is pointedly true today, where the NPT relies on the IAEA to provide the technical tools to safeguard its political deal: the exchange of a promise to eliminate nuclear weapons for the promise to deliver nuclear technology for civil use.

Interestingly, the US proposal in 1946 to share nuclear secrets (principally with the Soviet Union) for the benefit of humankind was countered by the Soviet proposal to outlaw the use and production of nuclear weapons and to destroy all existing nuclear arsenals. Nevertheless, the US proposal was approved by the UN Atomic Energy Commission, only

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**Europäischer Kongress der IPPNW: Atomwaffen & Atomenergie in einer instabilen Welt –  
Analysen und Auswege, 7.-9. Mai 2004, Berlin**

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to be vetoed in the Security Council, thus ending any possibility of US-Soviet nuclear cooperation.

The IAEA was the brainchild of Dwight Eisenhower and his beloved US "Atoms for Peace" Programme in the 1950s. Originally, his idea was that the Agency would manage a kind of uranium bank. The uranium would be supplied by reducing the nuclear stockpiles, therefore decreasing the threat of nuclear war, and it would in turn be used "to provide abundant electrical energy in the power-starved areas of the world". Eisenhower took this idea further in his famous "Atoms for Peace" speech before the United Nations in 1953 and proposed that in order to control the spread of nuclear weapons, nuclear secrets should be shared for the betterment of humankind. Although the Soviets applauded Eisenhower's speech, they again referred to their proposal to outlaw nuclear weapons entirely.

The global outpouring of support for Atoms for Peace was driven by a massive campaign to promote the beneficial aspects of the application of nuclear energy in the fields of medicine, agriculture and research and a media hype ensured its popularity in the US, while the idea languished in the Soviet Union, who quite rightly saw it as a propaganda tool. In fact, the idea was principally driven by US foreign policy, aiming to bind countries to the West and the idea of capitalism and to demonstrate the West's lead in nuclear-military potential. Later, the idea was wholeheartedly embraced by the nuclear export industry, who benefited economically.

The Atoms for Peace programme was in reality a far cry from Eisenhower's uranium bank. It became a collection of agreements on technical cooperation, backed up by a safeguards system that ultimately became the domain of the IAEA.

### **The inextricable link**

Under the "Atoms for Peace" programme, the US nuclear industry sold research reactors and signed agreements with many countries, allowing foreign scientists and engineers to participate in their nuclear research projects. India, for instance, received a Canadian research reactor in 1955 and the US supplied heavy water, which led to India producing plutonium, some of which it used in its 1974 nuclear test. More than a thousand Indian scientists from 1955 to 1974 took part in US nuclear energy research projects, and the US assisted India in building and fueling the Tarapur reactors. The Soviet Union also joined in the proliferation of nuclear know-how, in particular to China. The desire to join the club resulted even in underdeveloped countries requesting US research reactors without having any scientists to run them. Nuclear competence was quickly to become synonymous with a country's self-consciousness.

An international alliance of governments formed to elicit world favour for the benefits of nuclear energy. To accomplish this task, the IAEA was created in 1957. It was nuclear power's greatest cheerleader and nuclear "pusher. Part of its mandate was to promote the "peaceful" uses of the atom, predicting for example in 1974 that Uganda might need three nuclear power plants, and Liberia, two.

The camouflage of nuclear energy was used by many to develop a military capability. In Germany, the push to build nuclear installations was driven by the government and not by

the electricity companies, which remained sceptical, principally on economic grounds. This opposition, however, vanished in the 1960s when the government provided undertakings to cover the cost of accidents and the industry was subsidised. The Deutsche Bank was also one of the “pushers” of nuclear energy in Germany, signing the 1953 foreign debt treaty that Konrad Adenauer had negotiated as a prerequisite for West Germany joining the Euratom Treaty. The Dresdner Bank was equally involved in giving credits for the building of nuclear power plants and helping to solve the energy sector’s problem of financing the nuclear boom. However, the primary reason for most governments’ enthusiasm for all things nuclear was in fact the military aspect (as was the case in Sweden, Switzerland, Spain and Italy). Bonn wanted to have the nuclear option to raise its political influence within NATO and to “drive the Soviet Union out of East Germany”.

Argentina, South Africa, Brazil and Libya used their “peaceful” nuclear power to start nuclear weapons programmes which they abandoned. The future of the North Korean programme is still on the bargaining table. India, Pakistan and Israel did not abandon their programmes but developed arsenals, and Khan, the “Father” of the Pakistani nuclear bomb, proliferated to others on the black market. There are two ways to get nuclear weapons: the theft or purchase of a nuclear device or through a nuclear energy programme. Non-state actors (known to some as terrorists) choose the first way and can be supplied by states that choose the second. Interestingly, Khan has not been put on trial and this has tacit approval from major states.

An inquiry in 1996 in the United Kingdom into arms trading with Iraq showed that this contradiction between the promotion of nuclear energy and trying to prevent nuclear proliferation, that is enshrined in the IAEA and NPT, is reproduced by governments all over the world. While departments in the Foreign Ministry work studiously on proposals to prevent nuclear proliferation, trade and industry departments are doing their utmost to sell dual-use technologies, pushed by an unrelenting commercial lobby. A good example is the case of the Hanau MOX plant, which Siemens would like to sell to China. Standing next to Heinrich von Pierer, Head of Siemens, Gerhard Schröder announced while visiting China late last year that the plant would be sold, thereby completely disregarding current export controls on proliferation. Incidentally, an IPPNW campaign has effectively stopped this deal going through.

Although the pace of the spread of a new technology is affected by policy decisions, by the same token, policy decisions can be driven by the availability of technology. In other words, the presence of a nuclear energy programme will always provide a state with the temptation to make nuclear weapons, should it see its security as being at risk. This is demonstrated by a letter from a top Israeli nuclear physicist to the Israeli Defence Ministry, who said:

“I do not think that there is anyone among the responsible individuals in the United States who would believe that a state that was in possession of a large-scale plutonium separation capacity, and which would have the objective capabilities of doing so, would not exploit its knowledge for military purposes or at least conduct experiments in that direction. For this reason it should be clear that to the extent that we would be allowed or helped in research involving plutonium separation, it would mean that we were being actively helped in nuclear weapons research.”

### **Is “Safeguarding” possible?**

Secret nuclear weapons (and other weapons of mass destruction) programmes have become a reason for waging war against what are termed “rogue states”. And yet the Al Tuwaitha research reactor in Iraq was financed by the US and Great Britain in the 1950s. Moscow in turn supplied nuclear technology when Iraq turned away from the West. Even after signing the NPT, Iraq received three hot cells from Italy that were deemed by the IAEA to be safe and were in fact used to separate plutonium.

The system of “safeguarding” that is run by the IAEA to enable the continued transfer of nuclear technology has been shown to be full of holes. Again, the case of Iraq showed that declassified information is widely available and has led to the development of technology that since has been abandoned by the West as inefficient. The IAEA relies heavily on voluntary reporting, followed up by inspections. This has sometimes led to discoveries, such as in North Korea and Iran, that the reports do not match up to samples taken on the ground. But these are also subject to political discrimination. It has been shown that the amount of plutonium judged to be present at a given time in a reprocessing plant in France, Japan or Britain can vary by up to 30% from what can actually be measured. The IAEA asserts that the international standard is only about plus-minus 1%, but in the real case of a plant, that made MOX fuel at Tokimura in Japan, 70 kg (enough for about 8 crude nuclear weapons) could not be accounted for. It took the IAEA two years to negotiate shutting down and cleaning out the plant, and at the end they still couldn’t account for 10 kg.

Ed Lyman explains: “For instance, the reprocessing plant the Japanese are building at Rokkasho would have an output of something like 8 tons of plutonium a year. If there were a 1 percent uncertainty in the ability to measure the plutonium going into that plant (it is probably going to be higher than that), this value would be several hundred kilograms. This means that several hundred kilograms would have to disappear from the plant before the IAEA could say for sure that there was a diversion. There could be a diversion of many bombs worth of nuclear material without the IAEA able to say confidently that this is going on.” He goes on: “The Liberal Party leader in Japan this week said that if Japan desires, it has enough plutonium to use in its nuclear power plants for 3,000-4,000 nuclear weapons. This was aimed at China. The statement is true enough, but for Japan to actually make a statement like that shows the importance of maintaining stringent safeguards against diversion at Japanese nuclear facilities.”

On the other hand, amounts that have caused major crises in North Korea and Iran could be measured in grammes. In the case of North Korea, it led ultimately to their withdrawal from the NPT and a reversal of its much welcomed internal political reform. As for Iran, El Baradei, the Director of the IAEA, resisted US pressure to go to the Security Council and claim a breach of NPT obligations by saying that the quantities involved were too small to be weapon-significant.

Each acceding country undertakes to conclude a comprehensive safeguards agreement with the IAEA in not more than 18 months after joining the NPT. This agreement must apply to all nuclear material except uranium ore and concentrates in the country (“full-scope safeguards”). The nuclear weapons states are not under the same obligation, but may place individual civil nuclear facilities under IAEA safeguards voluntarily. All five of the declared weapon states have done so, but their scope varies from country to country, as

does the IAEA response. Many countries are slow to join the safeguards system and remain uninspected. It is not, at present, mandatory to do so and there is little incentive. Out of 187 parties to the NPT, only 39 are fully safeguarded through the entry into force of an "additional protocol". The IAEA is not able to verify declarations without this protocol. The funding for safeguarding is pitiful in comparison with amounts spent on nuclear programmes and it has not increased to match the increased work load.

### **Relationship between WHO and IAEA**

The World Health Organisation (WHO) has an agreement with the IAEA, signed in 1959, in which the two organisations agree to consult on matters of joint interest or on which either party may have a substantial interest: "whenever either organization proposes to initiate a programme or activity on a subject in which the other organization has or may have a substantial interest, the first party shall consult the other with a view to adjusting the matter by mutual consent". The confidentiality clause in Article III states: "Subject to such arrangements as may be necessary for the safeguarding of confidential material, the Secretariat of the International Atomic Energy Agency and the Secretariat of the World Health Organization shall keep each other fully informed concerning all projected activities and all programmes of work which may be of interest to both parties" and provide each other with "special information [such] as may be of interest to the other party".

The result of this agreement was especially obvious after the Chernobyl disaster, where IAEA (not WHO) took the lead in reporting radiation health effects. IAEA, enforcing the philosophy of the International Commission for Radiation Protection (ICRP), denied that any of the catastrophic health problems in the exposed population were related to radiation. Even now, the IAEA states in its information on Chernobyl that only 2 people died as a direct result of the explosion and 27 of the liquidators died in the three months after the accident of acute radiation sickness. Nevertheless they state that "Health studies of the registered cleanup workers called in (so-called "liquidators") have failed to show any direct correlation between their radiation exposure and an increase in other forms of cancer or disease." However, Edmund Lengfelder wrote in 1995 that the Ukrainian Health Ministry stated that 15,000 liquidators had died since the accident, and Russian figures were at that time already 7,000. 10% of the survivors were invalids, 38% suffered from illness, such as heart disease, lung cancer and leukaemia. The IAEA concedes an increase in the numbers of thyroid cancer among children at around 1800 cases, and that thyroid cancer is linked to the release of iodine, and that strontium can lead to leukaemia, although here they cite no cases. As for the rest of Europe, the IAEA claims: "No studies have been able to point to a direct link between Chernobyl and increased cancer risks or other health problems outside the immediately affected republics of Ukraine, Belarus and the Russian Federation." In their opinion, it is now safe to visit the contaminated as the levels of radiation have reduced to "tolerable levels" although they are "higher than normal". To further reassure the public, they claim: "Exposure to low but unusual levels of radiation over a period of time is less dangerous than exposure to a huge amount at once, and studies have been unable to link any direct increase in cancer risks to chronic low-level exposure". The WHO is remarkably reticent on the subject of Chernobyl and claims currently that 30 workers died as a result of the Chernobyl accident while there have been significant increases in thyroid cancer cases. One must presume, since the WHO states repeatedly that it works closely with the IAEA on the question of radiation health and

response to radiation accidents, that it is indeed influenced by it, indeed they work demonstrably hand in hand.

### **Dealing with proliferation in the future**

IAEA Director Mohammed El-Baradei hit the news recently with a series of proposals for dealing with what is perceived as the new proliferation problem following the accounting problems in North Korea and Iran and the admittance of a nuclear weapons programme in Libya (albeit only in a fledgling stage), as well as the discovery of sales on the black market originating from Pakistan. As I have already pointed out, proliferation has been a problem reaching back to the 1950s where over the decades many countries received nuclear technology for “peaceful purposes” and used this for nuclear weapons research and sometimes development.

Avoiding the crux of the matter, which is the insistence that nuclear energy continue to be promoted and spread worldwide, supported by Article IV of the NPT, El-Baradei has come up with apparently sensible ideas for dealing with the present situation, while criticising the United States for developing new nuclear weapons and not convincingly pursuing disarmament. He calls for limitations on the production of fissile materials through reprocessing and enrichment, the tightening of export controls, more powers for inspectors, and a multinational approach to the management and disposal of spent fuel and radioactive waste. While many welcome these measures to control the spread of nuclear materials and technology, the IAEA is in fact still pursuing its original and contradictory goal of promoting nuclear energy. “These initiatives would not simply add more non-proliferation controls, to limit access to weapon-usable nuclear material; they would also provide access to the benefits of nuclear technology for more people in more countries” explains an IAEA press statement on El-Baradei’s proposals.

The global network for the elimination of nuclear weapons “Abolition 2000” that I co-founded in 1995 calls, among other things, for the establishment of an international sustainable energy agency as a UN organ to promote renewables instead of nuclear energy. Another organisation has been founded to control and verify the Comprehensive Nuclear Test Ban Treaty, called the CTBTO, that could be expanded to take on the inspection and controlling tasks that the IAEA now fulfils and ultimately the IAEA could then be subsumed into this organisation. The promotion of nuclear energy can only be ended through either an amendment of the NPT, which is unlikely, or a replacement of the NPT by a Nuclear Weapons Convention. This is the goal of Abolition 2000, that the NPT would be made redundant by the creation of a Nuclear Weapons Convention and with it the promotion and spread of the civil use of nuclear energy.

Both international NGOs and diplomats are reluctant to face the matter of the inextricable link head-on and directly question the contradiction of trying to prevent nuclear weapons proliferation while spreading the technology and know-how needed to produce them. Rather, they prefer to address measures to control and check the spread. This leads inevitably to yet another addition to the already discriminatory class system established by the NPT. There are those states who have nuclear weapons, although they are obliged to get rid of them, there are those who will be allowed the ability to reprocess and enrich uranium and therefore have the ability to produce nuclear weapons in the future, as long as they adhere to the IAEA fullscope safeguards, and there will be those that are not

allowed to receive advanced nuclear and dual-use technology because they are considered to be unsafe (largely third world and Islamic states).

Once again, the nuclear question is central to world order and the question of power – defined by who has the ability to destroy the world or contaminate large parts of it.

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