The Origins of the International Atomic Energy Agency

by Bertrand Goldschmidt

On 23 October 1956 in New York, 81 member countries of the United Nations Organization or of its specialized agencies adopted the Statute of the International Atomic Energy Agency, which was to go into formal operation before the end of 1957. A major step towards world-wide control of nuclear energy thus came to be taken more than ten years after the idea of establishing such control had been launched – the first tentative efforts, from 1946 to 1948, having ended in failure. The account which follows is an attempt to retrace this "prehistory" of the IAEA.

The Policy of Secrecy

Three months after the end of the Second World War, on 15 November 1945, the heads of the American, British and Canadian Governments, meeting in Washington, decided to adopt a policy of secrecy in the nuclear field until a system had been established for the effective international control of the new and formidable source of power. By also deciding to buy up all available uranium, they thus created a perfect policy of non-proliferation based on blocking the transfer of the two things essential for nuclear development: the technical knowledge and uranium, both of which are widely dispersed in the world today.

A month later, the Soviet Union accepted an Anglo-American proposal to establish within the United Nations an atomic energy commission consisting of the 11 countries represented on the Security Council, and Canada. On 24 January 1946, the United Nations approved the establishment of such a commission.

The Acheson-Lilienthal Report

In March 1946, on the initiative of the US Secretary of State, a group of prominent persons – presided over by Lilienthal, later the first Chairman of the US Atomic Energy Commission, and including also Oppenheimer and three industrialists – was entrusted with the task of studying the problem of the peaceful development of nuclear energy and the elimination of nuclear weapons. The study led to a report which was almost as revolutionary at the political level as nuclear energy at the technical level. The report centred round the idea – which we now encounter again in the proposals made by President Carter – that in the atomic age no security system based on agreements banning

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nuclear weapons or even on safeguards and inspections will work. In the report, it was proposed that all operations which were dangerous from the point of view of nuclear weapons development be placed outside the competence of individual States and entrusted to a single international authority. An international administrative body would own, operate and develop the nuclear industry on behalf of all nations. The international authority would be the owner of nuclear ores and fuels, would carry out research (even in the field or nuclear explosives) and would operate nuclear fuel fabrication plants and nuclear power reactors, while international inspectors would be responsible for discovering any clandestine activities which took place.

The Debate at the United Nations

Secretary of State Dean Acheson backed the draft report, which was presented almost without change, on 14 June 1946, at the inaugural session of the United Nations Atomic Energy Commission by the American delegate Baruch. One political clause had been inserted – it concerned abolition of the veto in respect of immediate sanctions against a nation seriously violating the treaty which was proposed. In the American proposal, the authority was called the International Atomic Energy Control Agency, because its purpose was to control nuclear energy world-wide.

The transition from national to international controls would take place in stages still to be specified, the last stage being accompanied by the surrender of nuclear weapons to the international control agency.

From the outset, the Soviet Union, supported by Poland, was against the American plan; it demanded as a preliminary step the unconditional prohibition of nuclear weapons, later accepting the idea of periodic international inspections but not subscribing to the principles of international ownership and management, which it regarded as an unacceptable limitation on national sovereignty.

The negotiations continued during the autumn of 1946. For the first time, delegations contained scientists as well as diplomats, the former becoming advisers to the latter. The first headquarters of the United Nations were at Lake Success, about an hour's drive from New York, symbolically located in the reconverted part of an armaments factory which was still in operation. During the long drive we had time to initiate the diplomats into the mysteries of the atom and of nuclear fission.

Despite initial disagreement, Baruch wanted to go ahead and forced a vote; this took place on 30 December 1946, the result being ten in favour and two – the Soviet Union and Poland – abstaining. Four days before – as we learned only several years later – the first Soviet atomic reactor had gone into operation. The Soviet Union had decided to place its trust in its technicians and not to negotiate from a position of weakness.

The Majority Plan

The American plan, which had become known as "the plan of the majority", was studied in detail throughout 1947 by experts from the Western countries under the amused gaze of the Soviet representative, who emphasized from time to time the obvious faults of the theoretical structure to which this exercise was leading, for at that time there was no change of the Soviet Union's joining in.

Even within the majority group, agreement was sometimes difficult to achieve. For example, many meetings were devoted to the question of whether or not uranium ore still in the ground should belong to the future international control agency. Under pressure from Belgium and Brazil, it was finally agreed that uranium- and thorium-producing countries should remain the owners of ore in the ground; ore would become the property of the international control agency only after extraction. At the same time, the international control agency would be empowered to impose each year quotas for the extraction of ore or for the production of fissionable materials, which would belong to it together with the reactors in which they were produced and – naturally – the isotopic separation and irradiated fuel reprocessing plants.

It was decided that the international control agency should have the sole right to manufacture nuclear explosives, so that it would be in the forefront in this field also and hence in a better position to detect any prohibited activities. At no time, however, was a study made of the question of the crucial transition period during which the United States would be handing over its nuclear weapons gradually to the international control agency prior to the stage of universal controlled nuclear disarmament.

It was during these meetings, in 1947, that Oppenheimer gave us his views about the future of nuclear energy. He predicted that electricity generation on an experimental basis would start within five years, that a number of nuclear power plants would be built in industrialized regions where electricity is expensive during the next 10–20 years and that large-scale development would begin after 30–50 years. His predictions have proved to be remarkably accurate.

The Failure of the UN Atomic Energy Commission

After two years' work and over 200 meetings, the UN Atomic Energy Commission informed the Security Council, in 1948, that it had reached an impasse and discontinued its work. The first attempts to achieve international nuclear disarmament had failed and mankind's last chance of living in a world without the atomic bomb disappeared.

In the ensuing years, from 1949, the Americans' nuclear monopoly disappeared. From 1951 onward, the negotiations on nuclear controls were linked with those on traditional disarmament. There was no more talk about the International Atomic Energy Control Agency, the idea of international ownership and management becoming more difficult to put into practice as the world's uranium resources increased and further countries embarked upon large national nuclear programmes. Moreover, the safeguards against all diversion of fissile materials which were to have been applied by the international control agency became far less important, for atomic bomb stockpiles were increasing steadily and a substantial fraction of them could always be concealed when controlled world-wide disarmement was being established.

So the direction of the discussions on nuclear disarmament changed and, as in the case of conventional disarmament, attention focused on the transitional stages and the various prohibitions covering the use, manufacture and stock-piling of nuclear weapons which would accompany the gradual establishment of safeguards.

The surprising speed with which the Soviet Union was catching up in the nuclear field (and in particular its breakthrough into the thermonuclear field in 1953), the British explosion

of 1952 and the French decision – of the same year – to build large plutonium-producing reactors fuelled with the uranium recently discovered in France itself made it clear that the Soviet Union and the United Kingdom had reached the most advanced stages of industrial nuclear technology and that France would do the same fairly soon.

The demonstration of the relative ineffectiveness of the policy of secrecy, the risk that a system of international nuclear co-operation and commerce would be established without the Anglo-Saxon powers – excluded by their own rigorous laws – and, above all, the desire to initiate a process of détente and disarmament induced the United States to change its policy quite suddenly at the end of 1953.

President Eisenhower's Proposal

In his famous speech of 8 December 1953 before the UN General Assembly, President Eisenhower, just back from the Bermuda Summit Conference between the United States, the United Kingdom and France, after describing the balance of terror which was becoming the principal element in the relations between the two largest of the major powers, again proposed the establishment of an international agency for atomic energy, to which the countries most advanced in the nuclear field would contribute natural uranium and fissionable materials drawn from their national stockpiles. The agency would be created under the auspices of the United Nations and would be responsible for the materials entrusted to it. These materials – available initially in only small amounts – would serve to promote the peaceful applications of atomic energy, especially electricity generation, and would be distributed and used in such a way as to yield the greatest benefit for all. The new agency would have control powers limited to verification of the peaceful utilization of the materials which it would be responsible for receiving, storing and redistributing. Such a "bank" would have to be absolutely secure against attack or theft; for the first time, nuclear terrorism – about which so much is talked today – was mentioned in an official document.

Such an embryo international authority for atomic energy would assume ever greater importance with the increase in the contributions of the countries most interested, of which Eisenhower stated that as a prerequisite the Soviet Union must be a part.

For the first time since the Second World War, a plan for nuclear détente was not characterized by the opposing demands of the two major nuclear powers – the American demand that the Soviet Union throw itself open to international inspections and the Soviet demand for the prohibition and destruction of nuclear weapons.

The Soviet-American Dialogue (1954–55)

At the end of 1953, the Soviet Union agreed to discuss the Eisenhower proposal directly with the United States through diplomatic channels. Initially, however, the Soviet Government was very reluctant: it insisted on prior solemn renunciation of the use of the hydrogen bomb and of other weapons of mass destruction and espoused the American arguments of 1946, pointing out that the production of energy for peaceful purposes could not be distinguished arbitrarily from the production of materials usable for military purposes and that a country could not engage in one without engaging in the other.

Later, at the end of 1954, the Soviet Union subordinated discussions on the future international agency for atomic energy to the conclusion of an agreement on nuclear weapons;

it proposed a meeting of Soviet and American experts to consider the technical possibility of preventing the diversion to military uses of fissionable materials originally intended for non-military uses and ways of making such materials unsuitable for military uses without detracting from their non-military value. A meeting of experts from the main nuclear powers took place in Geneva in September 1955, but no solution was found to the problems which have arisen again in connection with the international fuel cycle evaluation programme (INFCEP) proposed by the United States.

The Soviet reluctance did not prevent the United States from preparing and submitting to the Soviet Union several successive drafts of the statute of the future agency, drawn up after consultations with the main nuclear powers and the principal producers of uranium: Australia, Belgium, Canada, France, Portugal, South Africa and the United Kingdom. In the summer of 1954, the American Government relaxed its internal nuclear legislation and authorized the putting of nuclear know-how and materials at the disposal of other countries provided that they were used only for peaceful purposes. It also announced its decision to go ahead with the establishment of the new agency, even without the Soviet Union.

In the autumn of 1954, the UN General Assembly urged a continuation of negotiations and decided on the holding – under United Nations auspices – of a large technical conference on the peaceful uses of atomic energy, designed to lift the veil of atomic secrecy to a great extent. The conference took place in August 1955 in Geneva, with the success about which we all know and with the full participation of the Soviet Union.

Soon after the conference, the Soviet Government announced its willingness to participate in the future agency, to transfer fissionable materials to it and to accept as a basis for discussion the third draft statute prepared by the American Government in March 1955. The discussion of principles thus ended, to be followed by a period of a year during which the final statute text was arrived at in the course of two conferences, held at the beginning and end of 1956 in Washington and New York respectively.

The Conference in Washington

In 1955, the UN General Assembly entrusted the United States with the organization – in Washington – of a conference of the 12 countries most interested in the creation of the new agency. The countries invited to participate were those which had been consulted over the drafts of the statute plus the Soviet Union, Czechoslovakia, Brazil and India. The conference took place in February and March 1956. The discussions centred on the draft of March 1955, which had been circulated the following summer to the 84 member countries of the United Nations and its specialized agencies for comments.

The American delegation was headed by Ambassador Wadsworth, the deputy representative of the United States to the United Nations; Belgium was represented by its Commissaire à l'énergie atomique Mr. Ryckmans, former Governor of the Congo, who was to play a major role as conciliator during the negotiations; India was represented by its brilliant Secretary of State for Atomic Energy, Dr. Bhabha, whose love of art and music was to tip the scales in favour of Vienna rather than Geneva as future headquarters city of the new agency. All the other countries were represented by their ambassadors in Washington, who included Mr. Zarubin (Soviet Union) and Mr. Couve de Murville (France).

A feature of the negotiations, which lasted four weeks, was the conciliatory attitude of the Soviet Union. The type of organization which emerged from the negotiations was to have the role of a broker rather than a banker and possess very broad control powers which would apply both to agreements for the transfer of materials which had been placed at the new agency's disposal and – above all – to bilateral or multilateral agreements the parties to which wished the new agency to verify their non-military character. With regard to the latter type of agreement it was decided, despite Soviet opposition, that the associated safeguards costs should be borne by the new agency, since the safeguards would be contributing to the maintenance of world peace.

The Indian delegation, while accepting safeguards on special fissionable materials (enriched uranium and plutonium), opposed safeguards on natural uranium. The only delegation to take this line, it put forward the view that safeguards on natural uranium would divide the countries of the world into two categories: on one hand, countries which did not have uranium deposits on their territory or had not been able to acquire uranium through commercial channels, which would be subject to constant controls in the industrial area – the only one they could develop; on the other hand, countries with a military nuclear programme, which could benefit from such a programme as regards industrial secrecy since they had uncontrolled materials available which could be switched to non-military uses.

The most difficult question, and one which required negotiations through diplomatic channels even after the Washington conference had ended, concerned the new agency's "board of directors" – the Board of Governors.

The intransigence of the uranium and thorium producers, whose output was kept secret and absorbed entirely by the military programmes of the Anglo-Saxon nuclear powers, the demands of India and the Soviet Union for very broad geographical representation and the desire to accommodate both the industrialized and the developing countries were not easy to reconcile with a small Board membership in the interests of efficiency.

The compromise reached in April 1956 was that the Board should have 23 members, consisting of the five largest nuclear powers (the United States, the Soviet Union, the United Kingdom, France and Canada), four producers of source materials (Belgium, Portugal, Poland and Czechoslovakia) which would have a seat on the Board every second year, one provider of technical assistance and at least one member – almost always two in fact – from the following geographical areas: Latin America, Western Europe, Eastern Europe, Africa and the Middle East, South Asia, South East Asia and the Pacific, and the Far East. It was the first time that the expression "equitable geographical distribution" had been replaced by a list of geographical areas in the statute of a United Nations agency. Most other important questions – such as the respective roles of the various organs of the new agency, the relationship between it and the United Nations, and the financial regulations – had been resolved unanimously.

The Conference in New York

At last, on 23 September 1956, the draft statute was presented to a gathering of 81 countries at the headquarters of the United Nations. It was decided that a two-thirds majority would be necessary for amending the statute, so that the final version adopted on 23 October did not differ much from the text which had been drafted in Washington six months previously.

Most proposed amendments were withdrawn or did not obtain the two-thirds majority necessary for acceptance. That was particularly so in the case of the fundamental amendments proposed by the Soviet Union and its allies: admission of the People's Republic of China as a founder member; demands for additional guarantees that the sovereignty of States would be respected; budgetary limitations; a demand that a three-quarters majority be required in financial matters; a proposal that the Agency should be able to acquire installations and equipment only if they were provided in the form of gifts.

On several occasions, the delicate equilibrium achieved in Washington was invoked as a reason for not adopting proposed amendments, such as those concerning the composition of the Board of Governors and the financial regulations.

The Article XII Battle

The most controversial issue was that of the scope of safeguards. The principle of safeguards was criticized by many countries (several of them from the "third world") which tried to exempt natural uranium. They likened safeguards to neo-colonialism, pointing out that in general the nuclear-weapons powers would be exempted since, owing to their advanced stage of development, they would never have to request the assistance of the new agency.

India spearheaded the opposition to a very strict application of safeguards and France, which I represented, supported it by proposing a relaxation of safeguards on natural uranium and urging that safeguards should not be so severe as to deter future member countries from turning to the new agency for help.

India's position was stated clearly by Dr. Bhabha, who enjoyed great personal prestige. He was opposed above all to a perpetuation of safeguards applied to successive generations of nuclear materials, which was very likely to occur in the case of his country, which possessed nuclear materials but needed assistance in order to embark on a nuclear programme. He pointed to the illusory nature of strict safeguards and emphasized that any aid in the nuclear field – be it training opportunities or nuclear materials – was potentially military aid since it might allow a country to switch resources to a military programme. At the conference, he proposed that the new agency give assistance only to those countries which did not have military programmes – defined as programmes in the field of nuclear and thermonuclear explosives and radiological weapons, but not including the military nuclear propulsion.

Lastly, the point on which the Indian delegate stated that he would be most intransigent, to the extent of categorical opposition, was the new agency's right under Article XII.A.5, in respect of all facilities subjected to its safeguards, "to decide on the use of all special fissionable materials recovered or produced as a by-product and to require that such special fissionable materials be deposited with the Agency, except for those quantities which the Agency allows to be retained for specified non-military purposes under continuing Agency safeguards." Such power in the hands of the new agency might well give it too strong a hold on a country's economy if the latter were based on nuclear power generation following an effort to which the new agency had contributed only in the initial stages.

Negotiations took place throughout the conference between the American and the Indian delegation. The American delegation, which had consulted the Secretary of State and had his backing, refused to modify its position to any appreciable extent.

On 19 October 1956, the day the conference was to end with a vote on Article XII, the Soviet Union, which had not yet declared its position, joined its allies, which had come out clearly on the side of India. Seeing that the vote might lead to an impasse or to approval of the American line by a slight majority, I and my Swiss colleague, Minister Lindt, permanent observer at the United Nations, decided to table a compromise amendment. This amendment, the form of which was modified slightly the day after it had been tabled, gave a country the right to retain, from the fissionable materials which it had produced, those quantities which it considered necessary for its research activities and for fuelling the nuclear reactors which it already possessed or was constructing.

The American delegation requested 48 hours for reflection and the matter was put before Secretary of State John Foster Dulles and US Atomic Energy Commission Chairman Admiral Lewis Strauss. After discussions which lasted throughout Sunday 21 October and in which the Canadian delegation's influence worked in favour of acceptance of the compromise, while the British delegation tended to be intransigent, the three Anglo-Saxon delegations accepted the Franco-Swiss proposal, to which the Indian delegation agreed in its turn at the beginning of the night. The Indian delegation, in recognition of the way in which we had helped it, stopped pressing its proposal that the new agency should assist only countries which did not have a military programme.

The next day Article XII was voted on and adopted unanimously, but for one abstention, at a session during which the main Anglo-Saxon powers – among others – expressed their gratitude to the Swiss and the French delegation.

A failure of the conference had thus been narrowly avoided and the last obstacle to the establishment of the International Atomic Energy Agency and its safeguards, fundamental elements in the present world policy of non-proliferation, had been overcome.