

ISSN 2063-5346



NUCLEAR TESTING AND THE ESTABLISHMENT OF THE INTERNATIONAL ATOMIC ENERGY AGENCY

Maha Hussein Awad Al-Jumaili ¹, Prof. Dr. Iyad Nazim Jassim ²

Article History: Received: 01.02.2023

Revised: 07.03.2023

Accepted: 10.04.2023

Abstract

The Second World War had included the whole world and in order to resolve the war Britain and Germany thought of using lethal weapons to end that war, and force the other party to surrender. The United States of America had preceded its ally Britain by producing fissile material that was discovered in 1941 to be used as nuclear material in wars, and research and studies were conducted on this matter and was at the University of Chicago the production of those reactions of fissile material and the production of the nuclear bomb that was dropped on Japan after they were warned to surrender, but it refused to do so, and the race to produce a nuclear bomb began between the countries of the world, especially the United States of America and the Soviet Union, and the former sought to limit the role of other countries in the production of the nuclear bomb through the establishment of the International Atomic Energy Agency, which would reduce the danger caused by these materials on the one hand and the United States of America to take over on the other hand.

Keywords: IAEA, nuclear, energy, construction.

University of Anbar - College of Arts - Department of History, Eyadprince0@gmail.com

DOI: 10.31838/ecb/2023.12.s1.136

Introduction

The first of September 1939 was the start of World War II, which included the continents of the world, as the Germans succeeded in invading Berlin in 1939 and Germany entered Paris on the sixteenth of June 1940 and the armistice was held between France and Germany and Italy declared war on Britain and France and the Italians began the war in the twenty-second in **1941** on the roads of the main Italian naval air base in Cyrenaica and after this battle the British achieved victories in the Middle East and Germany began in **1942** to wage war on its ally Russia and the entry of the United States of America into the war and the tension of relations between Japan and the United States of America and the declaration of war between them, as the Allies, including the Soviet Union, began to attack and control Berlin, as well as Italy was fallen in 1943 by the Allies and the advance of the Allied armies in Germany, and British forces advanced on the borders of Belgium on the third of September **1944** and the fighting gradually approached the Japanese islands.

First: the arms race methods of war have evolved and with them also the uses of weapons of all kinds and began with the arms race, and the United States of America began its race on nuclear weapons and the use of uranium material to make the atomic bomb as it was in a race with Western countries in this field, especially Germany and Britain on the manufacture of weapons, as "Franklin Roosevelt" (1) issued a decision to start work on the atomic bomb production project (2), and as a result of which a special uranium committee was formed called (Maud Committee) (MAUD) It began to draw conclusions from scientists about uranium, and the committee issued a

report that confirmed that the use of uranium in

the bomb would have a direct impact on the thinking of both Winston Churchill (**Winston Churchill**) and Roosevelt The Committee concluded that the Uranium bomb, which was discovered in 1941 as a fissile material and could be used to make nuclear weapons in war, requested the formation of an urgent bomb development committee after the attack on Burke Harbor in December 1941 gave priority attention to the bomb, as some nuclear experts at the University of Chicago were able to generate a series of nuclear reactions with enormous radiant energy in their laboratory and were able to He successfully built the world's first nuclear reactor, through which the bomb was ready in 1943, after which the United States, Britain and China held A conference in Potsdam at which it was decided to give an ultimatum to Japan for surrender, which Japan ignored. The American plane dropped on Hiroshima on the sixth of August 1945 the first atomic bomb that was used in the war and so the first atomic bomb was launched after which the United States of America and the Soviet Union became great powers on the international scene, days after the Hiroshima disaster and the second atomic bomb was dropped on the city of Nagasaki on the ninth of August 1945 Plutonium bomb called "Fat Man" fell on this city because it is larger than the first and this city was known as "the city of the dead".

On September **12, 1945**, Satamut recommended to President **Harry S. Truman** that the United States approach the Soviet Union to conclude a charter to control the use of the atomic bomb and limit its use as a tool.

War, and the meeting was held on the twenty-seventh of December 1945 in

Moscow of the Council of Foreign Ministers, the United States of America and Britain and the Soviet Union agreed to establish the United Nations Atomic Energy Commission to consider the problems arising from the discovery of atomic energy and the work of the United Nations Commission was to submit to the directives of the Security Council and also its work was not only to prevent the proliferation of nuclear weapons but to eliminate them completely.

Second: Discussions on the establishment of the International Atomic Energy Agency By **1946**, Truman presented a detailed plan that included many proposals to limit the use of nuclear weapons or the production of atomic fission materials for weapons and global control of nuclear fuel. Truman was not alone in thinking about new fundamentals to stop the spread of this new weapon, and on the thirteenth of June 1946 Bernard Baruch presented his plan that bears his name and proposed the establishment of an international atomic development authority (Energy Research and Development Administration). Ration) to be entrusted with administrative control over all atomic energy activities Baruch has made an important addition to

The Izzisot and Linishal report was tasked with implementing LADA decisions and imposing sanctions, and the Great Powers were particularly opposed to the plan in the eyes of the Soviets. Joseph Stalin decided to launch the Manhattan Project, intended for research and development, as it was worked on during World War II to produce nuclear weapons for the first time, which led the United States of America, Britain and Canada fear of the project, which aimed to develop German scientists nuclear weapons and was for Manhattan and had no

intention of giving up the field and allowing the United States of America to keep its weapons, and Stalin and **Robert Oppenheimer** were distrustful of Baruch and his proposals, which they considered unrealistic.

Joseph Stalin decided to launch the Manhattan Project, intended for research and development, as it was worked on during World War II to produce nuclear weapons for the first time, which led the United States of America, Britain and Canada fear of the project, which aimed to develop German scientists nuclear weapons and was for Manhattan and had no intention of giving up the field and allowing the United States of America to keep its weapons, and Stalin and Robert Oppenheimer were distrustful of Baruch and his proposals, which they considered unrealistic.

The Soviet Union conducted their first nuclear test in September **1949** The timing came as a shock to American officials until the Soviet Union became the second country to possess nuclear weapons in the world, after the success of the first Soviet test and there was a tremendous effort to achieve

A new stage for the development and testing of the new bomb from the Soviet Union and the United States of America for use in wars, and there was great keenness in the United States of America on the nuclear materials necessary for the manufacture of nuclear weapons, so it established the accounting system for the control of nuclear materials, and when the amount of nuclear materials increased in **1950**, the US Atomic Energy Commission allocated a section, which is the "Department of Control of Nuclear Materials" and the United States of America developed the principle of

measurements of nuclear materials at both the shipper or importer. Third: The competition between the United States of America and the Soviet Union over nuclear weapons. After the United States of America had nuclear materials during that period, the Korean War in 1950 was fought by an armed conflict, as a result of which the United States of America moved to the policy of intervention to stand by South Korea, as the United States of America concluded with South Korea an agreement to defend and assist in the duration of the war, and this means giving the right to military intervention in Korea and MacArthur met with Syngman Rhee () in Tokyo in order to prepare for the invasion of North Korea, and the war began and went through four stages, the first stage was on the twenty-fifth of June 1950 with the attack on North Korea, but North Korea won over South Korea because North Korea had strike forces larger than the South and advanced towards the western, central and southern axis and the American forces wanted to prevent this advance, and **MacArthur** was surprised by attacking North Korea

, but China intervened. In addition to North Korea, MacArthur fell into the trap of Korean-Chinese forces and declared victory in the second phase of the war, and the US-Korean forces returned to the Thunderbolt War in **1951** in order to liberate the Seoul front from the enemy and stop the fighting in South Korea, as the United Nations Assembly developed a new plan for peace, which is to stop fighting in Korea, withdraw foreign troops, and that the United States of America take over the administration of South Korea during the period of the armistice. China's response to the proposal The United States of America

has adopted a ceasefire because it serves the interests of the United States of America, and China has proposed to hold a joint conference ..

The third phase of the war of liberation ended with the expulsion of aggressors from the territory of the Republic of Korea. After the negotiations began during the fourth phase of the period between (**1952-1953**) and the negotiations did not continue because of the disagreement and conflict between the decisions of China and the United States of America and each of the parties resorted during the negotiations to wage war in order to force the other party to give up some of the demands and announced US President (**Dwight David Eisenhower**) at the beginning of **1952** that military action instead of negotiations and drawing a new plan of attack and end the war, and the inability of the US administration to achieve a military victory. The Korean-Chinese delegation presented an eight-point armistice project, Eisenhower sent Syngman-ri a letter accepting the terms of the armistice when it was signed, and Syngman-ri refused.

Chinese forces also launched a crushing attack on South Korea, and the South divisions collapsed and the strongest attack on the liberation battlefield led to important results, including stopping the American aggression on North Korea and maintained the achievements of the Democratic Republic and raised Korea's reputation all over the world and so ended the Korean War of Liberation with the victory of North Korea on the battlefield in the war of liberation (), and during the Korean War the United States of America and the Soviet Union continued to search for nuclear technology or fissile material, and in In

April **1952**, Secretary of State Dean Acheson appointed a "Committee of Disarmament Advisors" chaired by Robert Oppenheimer to make recommendations on the nuclear policy of the United States of America and urged the Committee to take full confidence in the production of fissile material by the United States of America and assessments of Soviet power so that the parties would not misjudge the situation.

Fourth: Development of nuclear research and projects After the United States of America reached the atomic bomb industry, it proceeded to develop its nuclear research and the Soviet Union followed the same policy, as each country drew its nuclear policy and the power of its influence on the world, and in this race the United States of America conducted a new test, a hydrogen bomb and threw the first bomb over one of the Marshall Islands in **1952**, and then the Soviet Union tested its first hydrogen bomb in August **1953** in the Pacific Ocean, then the United States of America conducted a test of its second bomb on the Pacific Ocean as well, as the experiments caused severe radioactive diseases of animals and plants and rain pollution, and the goal of the United States of America from these nuclear tests was to make them weapons Peaceful war, not military.

The two ideas that originated from the United States of America and the Soviet Union were a phase of nuclear fission and its use for peaceful purposes, and Eisenhower viewed this development as a means of way to the **IAEA** to strengthen its status as well as the way to civilian applications of nuclear energy. Before Eisenhower launched the "For Peace Atom". The Government of the United States of America negotiated an agreement on nuclear assistance or sales to Britain,

Belgium and Canada. Belgium and Canada played a crucial role in Supply of uranium for United States nuclear weapons.

In **1953**, U.S. President Eisenhower presented to the United Nations Assembly his famous "Atoms for Peace" proposal, which marked the first breakthrough towards .The International **Atomic Energy Agency** (IAEA) was established, and it is most important objective was to provide nuclear energy in the world and produce this energy.

In 1954, the U.S. Congress provided the legal basis for "**Atoms for Peace**" through the enactment of the Atomic Energy Act of 1954.

The first Soviet reactions to Eisenhower's proposals were rejected on the nineteenth of March 1954 and the U.S. State Department handed Soviet Ambassador Georgy Plekhanov a blueprint for the statute of the proposed agency. Five memoranda were approved two years later. Net before (81) countries, but the idea of the agency "Atoms for Peace" was still Unacceptable at the time for the Soviet Union, and on the first of May 1954 the United States of America told the Soviet Union that it would establish the Agency, whether the Soviet Union participated or not, and the United States of America informed the United Nations Assembly of its plans to establish the Agency and call for an international scientific conference on all peaceful aspects of atomic energy and the concept of the United States of America began to change has informed the United Nations Ambassador to a number of countries, including **Vietnam Henry Cabot Lodge** (2) in Fifth of November **1954** United Nations General Assembly that in It would be preferable for the IAEA to act as a "**clearing house**" for nuclear transactions as an alternative to an international

collection or bank of nuclear material, and in December 1954 Britain submitted to the U.S. Department of State the first text of the new IAEA bill. On January 1, 1955, the United States of America, along with Britain, France, Canada, Australia, South Africa and Belgium, began negotiations in Washington on the basis of the draft of the United States and Britain. Text of the IAEA "**Statute**" This agreement was the reason for the establishment of the International Atomic Energy Agency (**IAEA**) to be a peaceful war between Moscow and Washington.

This agreement was important to promote the peaceful atom as the United Nations General Assembly held a conference known as the "First Geneva Conference" on August 8-20, **1955** has turned into the largest gathering of scientists in the world at all, it is the first intergovernmental conference ever held to shed light on the progress in the field of technology and was approved through the conference to pay attention to the proposed International Atomic Energy Agency, and after the first Geneva conference experts from the United States of America, the Soviet Union and Britain met to consider Establishing the system of safeguards This was the first discussion on nuclear controls within the United Nations Atomic Energy Assembly Within the framework of this meeting, the Americans directed efforts in the development of nuclear energy after the Suez Canal crisis in October 1956 stimulated the state European efforts in nuclear power as an alternative to oil and the need for an "atom for peace" policy were providing economic linkages.

The United Nations General Assembly agreed to expand the group of countries for the statute of the International Atomic Energy Agency The conference was held at

the headquarters of the United Nations General Assembly in New York and the conference approved the statute on the twenty-third of October 1956, and the draft statute was adopted by the meeting by **(81)** States that participated in the conference and the original copies were prepared in English, French, Russian, Spanish and Chinese, and it came into force on the twenty-ninth of **1957** as it stipulated Article I of the Statute establishing an International Atomic Energy Agency, and that the system consists of (23) articles, each of which includes a specific case of the work of the International Agency, as well as the system strengthened the principles of the United Nations at the level of peace and international cooperation, as well as the law stipulated the membership of States in the International Agency and what concerns the organs of the Agency in terms of organization and functions, as well as emphasized the peaceful uses of nuclear energy.

After the Basic Law that was approved for its establishment, the International Atomic Energy Agency (**IAEA**) was established as it began its work at its headquarters in Vienna on the twenty-ninth of July 1957 and its mission is to work on activating and expanding atomic energy in the countries of the world and using it in the service of peaceful purposes

Conclusion

It is clear from the above that the war is what made the weapon in continuous development, as well as the competition between the major countries made the research in a continuous permanence, for that the United States of America and the Soviet Union sought after World War II to show their military superiority by possessing advanced weapons, especially

the atomic bomb. In order to control and prevent other countries from possessing advanced weapons, the United States sought to propose the idea of establishing the international agency under the umbrella of the United Nations in order to control the new weapons so that other countries would not compete with them and have the power and ability to keep pace with them in the future.

Peace cannot be achieved with the presence of initiatives to produce weapons and nuclear bombs, as the world has reached the stage of terror by possessing the nuclear bomb and reaching the hydrogen bomb, which threatened the world with annihilation if launched. The United States launched the Atoms for Peace program, which in fact was nothing but a false slogan because the US administration did not give up its nuclear program easily, if we compare this to the Soviet Union, which reached the same stage in controlling the world's resources.

The establishment of the International Atomic Energy Agency was nothing but the knowledge of the countries that possess uranium that goes into the manufacture of nuclear bombs, and the US administration made the Agency a façade to dictate its will to the peoples and the forced inspection that the Agency accompanied to know the nuclear industries in the world.

References

1. Franklin D. Roosevelt (1882-1945): Born on December 30, 1882, the thirty-second president of the United States of America 1933-1945, politician and statesman was governor of the state of New York, a wealthy family graduated from Harford University served as assistant secretary to the Secretary of the Navy under Wilson and during his reign was able to overcome the economic collapse experienced by the United States of America was paralyzed and died in 1945. For details, see: John Woodes, Roosevelt and Modern America, translated by: Ahmed Shenawy, Cairo, d.t., pp. 7-20.
2. Mohsen Hanoun Ghali, The extent of the project of using nuclear energy for peaceful purposes, Al-Halabi Human Rights Publications, Beirut, 1st Edition, 2016, p. 22.
3. Winston Churchill (1874-1965): Born in 1874 in Oxfordshire, England, a British man and was the Prime Minister of Britain during the years 1940-1945 and Churchill spent in the first of his life an officer in the British Army during World War II and was the first president to receive = = Nobel Prize in Literature in 1953 in his historical writings and his death was in 1965. For details see: Katie Danes and Winston Churchill, The Great Oriental Library, 2007, pp. 1-5.
4. Joseph Cernisioni, The Horror of the Bomb: History and Future of Nuclear Weapons, translated by: Ibn Al-Imad, reviewed and edited by the Definition and Programming Center, Abu Dhabi, 1st Edition, 2009, p. 22.
5. R.L. Mozi, Nuclear Energy in the Concepts, Systems and Applications of Nuclear Processes, translated by: Vaib Adel Khalil, University of Mosul, D.T., p. 228.
6. Vannevar Bush (1890-1974): Born on the eleventh of March 1890 in the city of Massachusetts in the United States of America was a scientist, inventor, engineer and computer scientist who headed the Office of Scientific Research and Development during

- World War II and after the Manhattan Project Bush focused on providing national security and economic life and established the National Science Foundation until his death in 1974. Science the Endless for Ntier, Vannevar Bush, with companion essay by Rush D. Holt, New York, 1945, p10-15.
7. JOHN LEWIS GADDIS, Rethinking cold war History, Published in the United States by Oxford University Press Inc. New York, 1997, p20-22.
 8. G. J. Malik, Clarifications on the compilation [about the Atomic Bomb], September 1945, Wilson Center Digital Archive, Carnegie Corporation of New York, 1945, p3-5.
 9. Harry Truman (1884-1972): Truman was born on May 8, 1884 in Missouri, the thirty-third president of the United States of America. Truman served as vice president for 82 days and then took over from President Roosevelt. Truman oversaw the end of World War II. He also ordered the launch of the Hiroshima and Nagasaki bombs in 1945. During his reign, the Cold War between the United States of America and the Soviet Union began. He also contributed to the military intervention in the Korean War in 1950. He died on the 26th of January 1972.
 10. John O, Sullivan Memorial lecture harr. S. Truman, the Bomb, and the transformation of U.S. foreign policy, by Wilson, Department of history Florida. Attaritic University, 2000, p1-3.
 11. David Fischer, History of the in tern Atinnal atomic energy the first forty years, AlNamsa, 1997, p17-18.
 12. Bernard Baruch: Born in South America in 1870 is a Jewish-American man whose family settled in the United States of America in 1855 and graduated from City College in New York and became a successful member of the New York Stock Exchange and became Chairman of the Committee on Raw Materials and Minerals to benefit from his experience and took over during World War I Chairman of the Council of War Industries Baruch was chosen in 1946 as the representative of the United States to the United Nations Nuclear Energy Commission and presented a project on international control of energy and nuclear weapons known as " The Baruch Plan was the first American policy project and died in New York in 1965. See: Abd al-Wahhab al-Messiri, Jewish Communities of Modernization and Culture, vol. 3, d.t., p. 202.
 13. Alexei Valerivic Ivanovna, Problem de\ Ukraine et de iukrainedans la politique Russ// Wester Moscow University, Series 25: New Town and Cities, 2009, p66.
 14. Joseph Stalin (1879-1953): Born in 1879 in the city of Gori in Georgia, originally Russian and was the second leader of the Soviet Union and served as General Secretary of the Central Committee of the Communist Party of the Soviet Union from 1922 to 1952 and as head of state from 1941 to 1953 and made industrial achievements and developed and transformed society from a peasant society to an industrial society and had victories in World War II and died on the fifth of March 1953. See: Abboud Mustafa Abboud, Joseph Stalin, Department of Translations and Biographies of Flags of People, Dar Al-Farouk for Cultural Investments, 2009, pp. 3-5.

15. Robert Oppenheimer (1904-1967): Oppenheimer was born in New York City in 1904 to a family of German Jewish immigrants whose academic and scientific prowess appeared in 1921. He graduated from high school and graduated from Harvard University and then took over the management of the Los Alamos laboratory during the period of development of the atomic bomb after the invasion of Poland in 1939 by Germany. Oppenheimer was chosen to direct the laboratory to implement the Manhattan Project, a program that developed the first nuclear weapon during World War II and then resigned from his post.
16. In 1954 he became Chairman of the General Advisory Committee of the International Atomic Energy Agency until his death in 1967. Consider: Carson Cathryn, *Reappraising Oppenheimer: Centennial Studies and Reflections*, Office for History of Science and Technology, New York, 2005, p17-20.
17. Agreement Between the Government of [Nation] and the International Atomic Energy Agency about the Application of Safeguards in Accordance with the NPT, 1968, Wilson Center Digital Archive, Carnegie Corporation of New York, 1968, p42-44.
18. Security Council States (USA, Soviet Union, Britain, France and China).
19. Thomas B. Cochran, Roberts, Norris. Oleg, Bukharin, *Making the Russian Bomb from Stalin to Jeltsin*, Oxford, 1995, p25.
20. Agreement Between the Government of [Nation] and the International Atomic Energy Agency about the Application of Safeguards in Accordance with the NPT, 1968, Wilson Center Digital Archive, Carnegie Corporation of New York, 1968, p45-46.
21. MacArthur (1880-1964): Born on January 26, 1880 in the US state of Arkansas, an American officer and one of the most famous officers of the US Army and participated in World War II (1939-1945) and then became the military governor of Japan after that war and led the United Nations forces in the war against Korea in 1950 until his death in 1964. Consider: Miller Merle, *Like the Soldier: As they Knew Him*, New York, Putnam's, Sons, 1987, p56.
22. International Atomic Energy Agency, *The Evolution of IAEA Safeguards*, Vienna, 1998, p8.
23. Henry Cabot Lodge (1902-1985): American politician and historian born in Boston in 1902 and became a member of the United States Senate and was the United Nations ambassador in 1953 to a number of countries, including Vietnam in 1963 and represented the United States in international meetings until his death in 1985. See: Khalil Khanna Tadros, *Memoirs of Charles de Gaulle*, Rose Island Library, 2nd Edition, 2016, pp. 34-35.
24. Syngman Ri (1875–1965): Born on March 26, 1875, a Korean politician who converted to Christianity and studied in the United States of America in 1948, was elected the first president of the Republic of South Korea during the Japanese occupation of South Korea and announced the withdrawal of American troops from the Korean Peninsula until his death in 1965. See:

- Fakhria Ali Amin, The War on the Korean Peninsula 1950-1953, Diyala Magazine, No. 38, 2009, p. 649.
25. Stokes bury James, A short History of the Korean War, New York City, William Morrow and Company, 1988, 1st ed, p144-153.
 26. The seven countries are: (Britain, the Soviet Union, the United States of America, France, India, China and Egypt).
 27. Bassam Al-Ali, Famous Leaders of the Second World War Eisenhower, Dar Al-Nafais for Printing and Publishing, Beirut, 1st Edition, 1989, pp. 5-6.
 28. Dwight David Eisenhower (1890-1969): Born on October 14, 1890 in Kansas City, he is of Dutch descent and lived in the United States of America and became an American politician and general who served as the thirty-fourth president of the United States of America from 1953 to 1961 He was a commander-in-chief in the United States Army during World War II and commander-in-chief of the Allied forces in Europe and became the first commander-in-chief of NATO in 1951 He died on the twenty-eighth of March 1969.
 29. Associated Press Report, Syngman Rhee Statement on Chinese Occupying North Korea, October 2, 1953, Wilson Center Digital Archive, Institute Syngman Rhee, Yonsei, 1953, p2-3 , Statement by President Syngman Rhee, June 6, 1953, Wilson Center Digital Archive, Institute Syngman Rhee, University Yonsei, 1953, p2-3
 30. Marc Frankenstein, L'orgination des Nations Unies et le conflitcoreen, Paris, 1958, p64.
 31. Dean Acheon (1893-1971): Acheon was born in Middletown in 1893 and is of English origin and then moved to the United States of America and became an American politician who served as Secretary of State in his country for the period (1949-1953) during the rule of US President Harry Truman and the establishment of NATO, which convinced Harry Truman in 1950 to go into the Korean War until 1953, after which he died in 1971. Consider: Robert L. Beisner, Dean Acheson: a life in the Cold War, New York, 2009, p620-641.
 32. David Fischer, op. cit, p22.
 33. R. Cameron et J. H. Keppler, La Securite d'approvisionnement energetique et lerole du Nuclear, Faits et opinions, AEN, 2010, p22-30.
 34. Thomas B. Cochran. Roberts. Norris. Olega, op. cit, p33.
 35. Richard G. Hewlett Nuclear Power in the Public Interest: the Atomic Energy Act of 1954, Cpaper delivered the before the American Historical Association Dallas, tx, December, 1977, p1-3.
 36. Richard G. Hewlett, op. cit, p3-4.
 37. Maxime LEFEBVRE, Les garanties de l'agence International de l'anrgi atomique l'eppure des crises recentes du regime de la non-proliferation Nuclear, AFDI, Vol. 42, 1996, p137.
 38. David Fischer, op. cit, p33.
 39. Voir: Bertand Goldshmidt, les origins de l' Agerice international de l'energie atomique, AIAE Bulletin, vol. 19, n4, p12-16.
 40. Maxime LEFEBVRE, op. cit, p138.
 41. Hans Blix, Aspects Juridiqs des garnaties de l' Agence International de l'energie atomique, AFDI, Vol. 29, 1983, p39.