INTERNATIONAL ATOMIC ENERGY AGENCY

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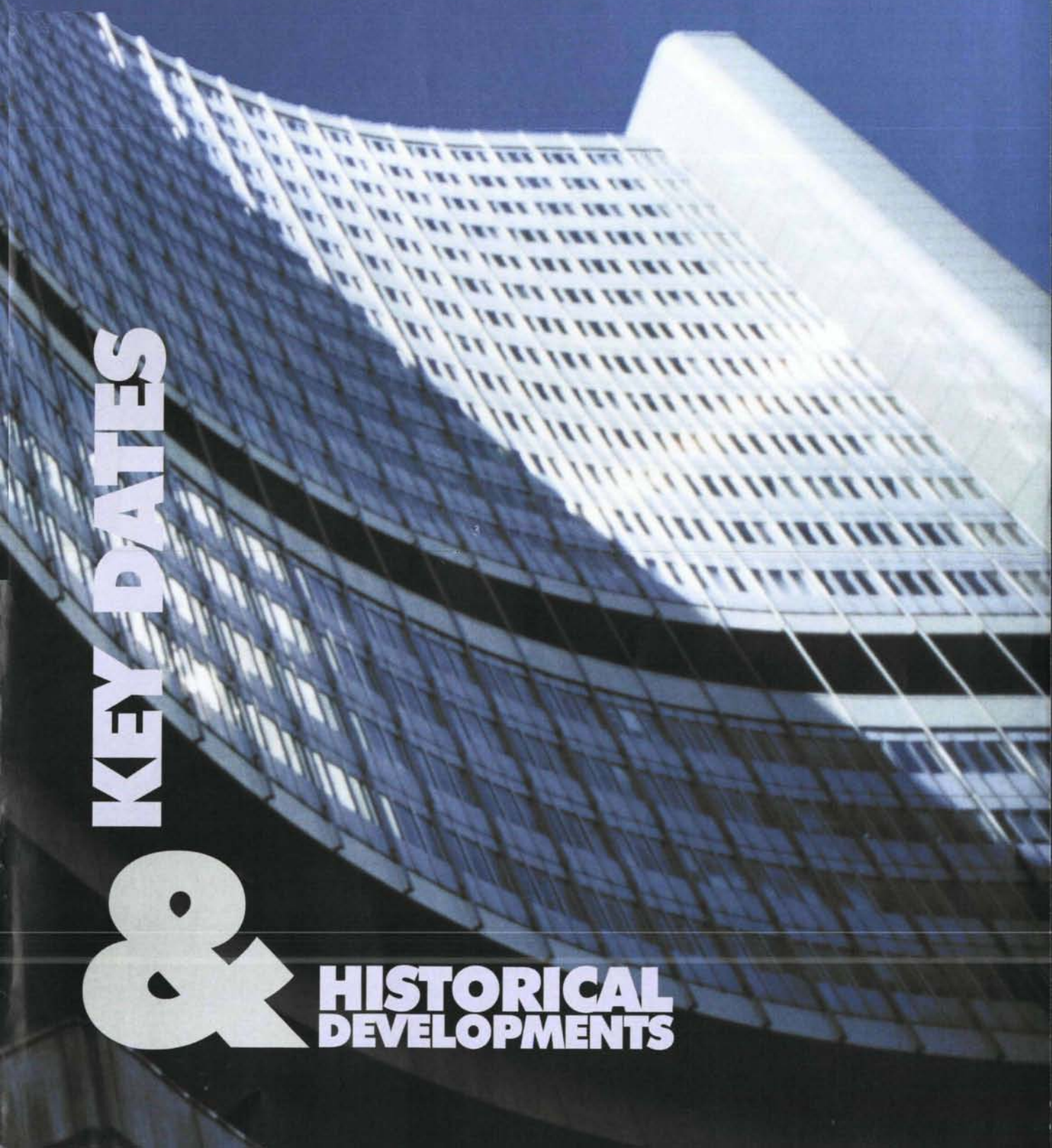

KEY DATES & HISTORICAL DEVELOPMENTS

This chronology and associated links to selected historical material are available electronically over the IAEA's WorldAtom Internet services at http://www.iaea.org.

Compiled and written by Lothar Wedekind, based on staff reports published in Agency periodicals and publications, including the *IAEA Bulletin, IAEA Newsbriefs, IAEA Yearbook,* and *Annual Reports,* various media sources covered in the IAEA's *Daily Press Review,* as well as information from the *Law & Practices of the International Atomic Energy Agency* by Paul Szasz, and external sources including David Fischer's two recent books, *Towards 1995: The Praspects for Ending the Proliferation of Nuclear Weapons* (UNIDIR, 1993), and *A History of the International Atomic Energy Agency: The First Forty Years* (IAEA, 1997), Lawrence Scheinman's *The International Atomic Energy Agency and World Nuclear Order* (RFF, 1987), and the *International Law of Nuclear Energy,* edited by Mohamed ElBaradei, Edwin Nwogugu, and John Rames (Nijhof Publishers, 1993).

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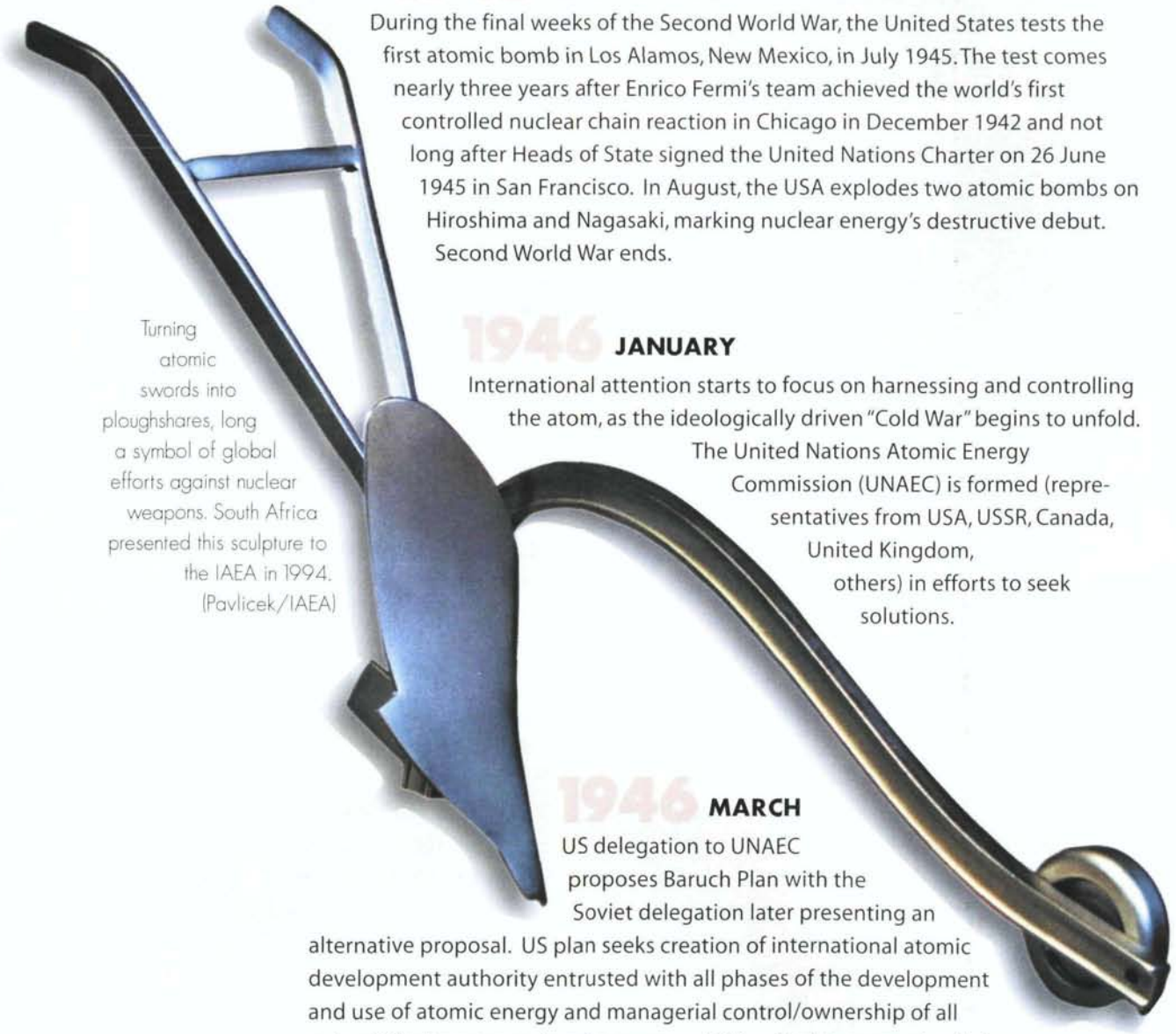
International Atomic Energy Agency, Vienna, Austria (July 1997)

THE FORTIES & THE TERRIBLE SWORD



Turning atomic swords into ploughshares, long a symbol of global efforts against nuclear weapons. South Africa presented this sculpture to the IAEA in 1994. (Pavlicek/IAEA)

1945 JULY/AUGUST

During the final weeks of the Second World War, the United States tests the first atomic bomb in Los Alamos, New Mexico, in July 1945. The test comes nearly three years after Enrico Fermi's team achieved the world's first controlled nuclear chain reaction in Chicago in December 1942 and not long after Heads of State signed the United Nations Charter on 26 June 1945 in San Francisco. In August, the USA explodes two atomic bombs on Hiroshima and Nagasaki, marking nuclear energy's destructive debut. Second World War ends.

1946 JANUARY

International attention starts to focus on harnessing and controlling the atom, as the ideologically driven "Cold War" begins to unfold. The United Nations Atomic Energy Commission (UNAEC) is formed (representatives from USA, USSR, Canada, United Kingdom, others) in efforts to seek solutions.

1946 MARCH

US delegation to UNAEC proposes Baruch Plan with the Soviet delegation later presenting an alternative proposal. US plan seeks creation of international atomic development authority entrusted with all phases of the development and use of atomic energy and managerial control/ownership of all potentially dangerous atomic energy activities. Soviet proposal calls for international convention prohibiting production and use of atomic weapons for mass destruction. UNAEC over the next three years fails to reach agreement.

1949 SEPTEMBER

The Soviet Union carries out its first nuclear weapons test, signalling arms race and effectively ending UNAEC's role.

THE FIFTIES & ATOMS FOR PEACE

1952

UN General Assembly formally dissolves the UNAEC, which had been inactive since July 1949. In October, the UK tests a nuclear weapon. The USA tests the first hydrogen bomb in November.

1953 DECEMBER

"Atoms for Peace" speech by US President Eisenhower before UN General Assembly. Its main proposal calls for "the governments principally involved" (naming the USA and Soviet Union) to make joint contributions from their stockpiles of normal uranium and fissionable materials to an international atomic energy agency set up under the UN. Among the agency's responsibilities would be to store and safeguard the material and to "devise methods" whereby it would be allocated to serve the "peaceful pursuits of mankind".

1954

The USA amends its Atomic Energy Act to permit peaceful international nuclear cooperation, leading to bilateral agreements with a number of States. In the USSR, the world's first nuclear power plant is commissioned at Obninsk.

1955 APRIL

In Washington, DC, work begins on drafting the Statute of the International Atomic Energy Agency (IAEA) with the participation of governmental representatives from Australia, Belgium, Canada, France, Portugal, South Africa, United Kingdom, and USA. Later, in early 1956, group expands to twelve with representatives from the USSR, Czechoslovakia, India, and Brazil.

1955 AUGUST

Beneficial uses of nuclear power are showcased at the UN's First International Conference on Peaceful Uses of Nuclear Energy in Geneva, a landmark scientific meeting of more than 1500 delegates. Dr. Homi Bhabha, the eminent Indian physicist, serves as President.

1956 OCTOBER

In New York, States approve the Statute of the IAEA at a conference of 82 States at the UN. It incorporates responsibilities for both the control and development of nuclear energy for exclusively peaceful purposes. Global political crises make headlines: in the Middle East, conflict over control of the Suez Canal, and in Hungary, the Soviet Union's intervention.

1957

Mr. Sterling Cole

The Agency's Preparatory Commission begins work in February toward the first General Conference in October. The IAEA Statute enters into force 29 July, by which time 26 States had deposited their instruments of ratification. In October, delegates from 59 States attend the first General Conference of the IAEA in Vienna, Austria, for three weeks. They appoint Sterling Cole, from the United States, as first Director General and approve $4.1 million programme of activities. Mr. Cole assumes post, after the interim term as Acting Director General of the Preparatory Commission's Executive Director, Paul Jolles of Switzerland. The former Grand Hotel on Vienna's Ringstrasse is selected as the temporary headquarters of the Agency. ***Board of Governors:*** Dr. Pavel Winkler, of Czechoslovakia, is elected as the IAEA's first Board Chairman. As provided by the Agency's Statute, the first Board includes 23 Member States: Argentina, Australia, Brazil, Canada, Czechoslovakia, France, Guatemala, India, Indonesia, Italy, Japan, Korea, Pakistan, Peru, Portugal, Romania, Sweden, Turkey, Union of South Africa, USSR, United Arab Republic (Egypt), United Kingdom, and USA. ***Regional nuclear bodies:*** In March, six European countries sign the "Rome treaties" establishing the European Atomic Energy Community (Euratom) and the Common Market. In December, countries agree to set up the European Nuclear Energy Agency of the Organization for European

The former Grand Hotel, the IAEA's first headquarters.

Economic Cooperation (today the NEA of the OECD). Actions led to formation of other regional nuclear bodies around the world. ***Global events:*** The Soviet Union announces the launching of the first satellite into outer space, the unmanned Sputnik-I.

1958

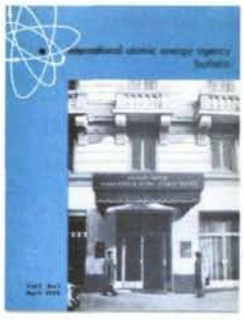
In July, the Soviet Union and Western countries meet in Geneva on nuclear arms control, discussing the feasibility of detecting underground tests. Also in Geneva, the UN convenes the Second International Conference on Peaceful Uses of Nuclear Energy, which opens more technical and scientific information to the international community about most aspects of the civil nuclear fuel cycle except for uranium enrichment. ***IAEA developments:*** The IAEA initiates its technical assistance programme with a modest fund of $125,000 — which includes $2.01 a New York school boy and his classmates voluntarily contributed to the Agency. The IAEA sends its first mission to Latin America to study need for a regional centre. A panel of health and safety experts is set up for preparation of a manual on the safe use of radioactive sources. Canada offers to provide to the IAEA at no cost three tons of natural uranium to meet the first request for nuclear fuel, which was made by Japan for a research reactor. The United States donates two mobile radioisotope laboratories to the Agency that can be transported for use by researchers in other countries. The IAEA begins concluding research contracts with laboratories and other scientific institutes, awarding its first contract to the Vienna Chemical Institute for a study of the factors controlling the distribution of fission products in the biosphere. In November, the first Scientific Advisory Committee to the IAEA's Director General is formed, composed of Dr. Homi Bhaba of India, Sir John Cockcroft of the UK, Prof. Vasilij S. Emelyanov of the Soviet Union, Mr. Bertrand Goldschmidt of France, Dr. Bernhard Gross of Brazil, Dr. Wilfrid B. Lewis of Canada, and Dr. Isidor Rabi of the USA.

One of the two mobile radioisotope laboratories donated by the USA.

In 1958, the IAEA received a gift of $2.01 from Joseph Santore, a schoolboy in New Rochelle, New York, who organized a collection among his classmates to help the development of nuclear science. He is shown here with his mother; Dr. Ralph Bunche, Under Secretary General of the United Nations; and Mr. Sterling Cole, Director General of the IAEA.

1959 APRIL

In February, the issue of liability for nuclear accidents appears on the global agenda, as the IAEA convenes the first meetings of a panel of experts examining the question of civil liability and State responsibility for nuclear hazards. The IAEA and World Heath Organization (WHO) jointly sponsor the Agency's first scientific meeting, with thirty-eight experts from 22 countries attending the seminar on medical radioisotope scanning. In April, the first edition of the *IAEA Bulletin,* the International Atomic Energy Agency's quarterly journal, is published. By mid-year, the IAEA becomes a scientific publisher, having issued nine publications. They include the first manual in the IAEA's Safety Series, *Safe Handling of Radioisotopes*; the first volume of a three-volume *International Directory of Reactors*; and the first volume of a two-volume *International Directory of Radioisotopes and Labelled Compounds*. In September, the Agency convenes its first scientific conference, on the application of large radiation sources in industry, in Warsaw. In Monaco in November, the IAEA, jointly with the United Nations Educational, Scientific and Cultural Organization (UNESCO), convenes a pioneering scientific conference on the disposal of radioactive wastes. In Switzerland, a team of IAEA experts conducts the Agency's first safety evaluation of a nuclear research reactor. In the Soviet Union, the first nuclear-powered ship, the *Lenin*, is built.



THE SIXTIES & THE RISING HOPES

1960

France explodes a nuclear weapon in tests, becoming the fourth State to declare itself a nuclear-weapons power. ***IAEA developments:*** The Agency awards its first research grant to an Indian scientist for research at the Massachusetts Institute of Technology in the USA on solid state physics. In April, the IAEA Board of Governors adopts the Agency's official emblem and seal. In October, the Agency begins publication of its first scientific periodical, the quarterly *Nuclear Fusion* journal.

1961

Dr. Sigvard Eklund

Dr. Sigvard Eklund from Sweden, a physicist who served as Secretary General of the 1958 UN Conference in Geneva, is appointed as the IAEA's second Director General. The scientific and technical character of the Agency comes more sharply into focus. First nuclear inspections under IAEA safeguards system take place at a research reactor in Norway. The IAEA's Laboratory opens in Seibersdorf, Austria, near Vienna, opening a novel channel for cooperative global nuclear research. The Agency signs a trilateral agreement with Monaco and the Oceanographic Institute headed by Jacques Cousteau for research on the effects of radioactivity in the sea, an action that eventually leads to creation of a Laboratory today known as the IAEA's Marine Environment Laboratory. In September, the IAEA convenes the first major global conference on plasma physics and controlled nuclear fusion in Salzburg, Austria; more than 500 scientists attend. Through various programmes, the Agency emphasizes the development of radiation health and safety standards; sharing experience in areas of waste disposal; and explaining the beneficial uses of radioisotopes in medical, agricultural, industry, and other fields. It issues the first international regulations for the safe transport of radioactive waste. ***Nuclear-weapon-free zone:*** At a time when atmospheric testing of nuclear bombs is growing to average more than one explosion per week, States adopt the Antarctic Treaty, the first regional approach to non-proliferation. It demilitarizes that vast, but unpopulated area, and bans all nuclear weapons and nuclear testing in the region. ***Environment:*** The IAEA and World Meteorological Organization (WMO) initiate a joint global network for surveying the content of hydrogen and oxygen isotopes in precipitation, which serves to monitor tritium releases associated with nuclear testing and today is widely used in studies of water cycles and global climate change. ***Global events***: In Berlin, East Germany begins to build the wall dividing the city and symbolizing the Cold War.

First nuclear inspections under IAEA safeguards system take place in 1961 at a research reactor in Norway.

1962

In May, the IAEA convenes its first major symposium on nuclear reactor safety, reviewing the safety picture from the global perspective. In June, the IAEA Board approves the Agency's *Basic Safety Standards for Radiation Protection*, upon which countries can, and do, base their national standards and regulations (subsequent editions, the latest in 1994, update the standards). ***Global events:*** In October, in the Caribbean, the Cuban missile crisis rivets international attention on the proliferation dangers of the nuclear age, and initiates a consultation process among Latin American countries for denuclearizing the region. Reflecting a global concern about the possible spread of the bomb, US President Kennedy warns that the world could see more than twenty countries acquiring nuclear-weapons capabilities by the mid-1970s.

1963

The USA and Soviet Union, in the aftermath of the Cuban crisis, begin to seek common ground in areas of nuclear arms control. The Partial Nuclear Test Ban Treaty is negotiated, co-sponsored by the USA, Soviet Union, and UK. It bans nuclear tests in the atmosphere, underwater, and in outer space. ***IAEA developments:*** The IAEA safeguards system is extended to large reactors, an important step in the internationalization of bilateral safeguards agreements. In Cairo, the first regional

radioisotope centre is established under IAEA auspices for training researchers from countries in the region.

1964

The Oyster Creek nuclear plant in the USA is built for electricity generation at price many countries find affordable. It heightens interest in nuclear power plants for electricity generation. The IAEA moves to establish greater capabilities in areas of technology transfer, setting up its Department of Technical Assistance as well as a Joint Division with the Rome-based Food and Agriculture Organization (FAO) of the United Nations. In Trieste, Italy, the IAEA inaugurates the International Centre for Theoretical Physics, which serves as a research and training centre for scientists from developing countries. (Today it is operated by UNESCO with the Agency's support.) In Geneva, the Third UN International Conference on the Peaceful Uses of Nuclear Energy convenes in August, under the presidency of Prof. Emelyanov of the USSR. ***Nuclear testing:*** China becomes the fifth country to test a nuclear weapon.

1967

The Tlatelolco Treaty for the Prohibition of Nuclear Weapons in Latin America opens for signature (enters into force 25 April 1969) in Mexico. It establishes a nuclear-weapon-free zone covering Latin America and the Caribbean. Requires comprehensive IAEA safeguards. A year later, Mexico becomes the first country to place its entire nuclear programme under IAEA safeguards in accordance with the Treaty.

1968

An idea that Ireland first formally proposed as early as 1958 bears fruit: following extensive negotiations, the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) is finalized and opens for signature. It essentially freezes the number of declared nuclear-weapon States at five (USA, Soviet Union (now Russia), UK, France, China), who are obligated to make "good faith" efforts toward disarmament. Other States grouped as non-nuclear weapon States, who are required to forswear the nuclear weapons option and to conclude comprehensive safeguards agreements with the IAEA on their nuclear materials. The Treaty provides for these States to receive

The opening of the IAEA Seibersdorf Laboratories in 1961 opened a new channel for cooperative global research.

assistance for the transfer of technology for peaceful applications of nuclear energy. Treaty review conferences are set at five-year intervals over 25-year period. *(Treaty enters into force in March 1970 and in 1995 is indefinitely extended by Parties. Membership in July 1997: 185 Parties; non-members include Brazil, Pakistan, India, Israel, who refrain for specific political or security reasons. By mid-1997, Brazil had taken steps to join the Treaty.)* ***Health care:*** The WHO joins the Agency's programme for the postal distribution of dosimeters for measuring radiation doses to patients at radiotherapy centres, strengthening efforts to promote achievement of international standards.

1969

Applications of nuclear and radiation technologies in fields of agriculture, medicine, industry, and other fields continue to make inroads globally, particularly in developing countries. Nuclear power serves as an energy source during the historic Apollo missions, as three astronauts place an atomic generator on the moon.

The 1960s saw growing use in developing countries of nuclear and radiation technologies for health care.

THE SEVENTIES & THE DUAL CHALLENGE

1970

The IAEA sets up a Safeguards Committee to advise the Agency on its responsibilities under the NPT, which enters into force in March. In May, the IAEA begins operating the bibliographic reference database, the International Nuclear Information System (INIS), with participating Member States, distributing Atomindex, computer tapes, and microfiche. The IAEA Board had given the green light for its establishment in February 1969, but imposing restrictions (lifted in 1972) for controlling the growth and cost. By mid-decade, thirty-five countries had agreed to take part in INIS, thus ensuring that the system would cover at least 90% of the sources of the world's nuclear publications.

1971

Austria's Kurt Waldheim, who later became UN Secretary General and President of Austria, was Chairman of the Safeguards Committee.

The Zangger Committee (named after Swiss Prof. Claude Zangger) is formed, composed of NPT States engaged in major exports of nuclear plant equipment or materials, in efforts to interpret NPT provisions related to exports of nuclear material. Committee draws up trigger list of items whose export would require IAEA safeguards. In Geneva, the UN convenes the Fourth International Conference on the Peaceful Uses of Nuclear Energy in September, drawing 1800 delegates from 79 countries. In Vienna, the IAEA Safeguards Committee completes its work, which includes a model comprehensive safeguards agreement for non-nuclear-weapon States party to the NPT. Finland becomes the first country to sign an NPT safeguards agreement with the IAEA.

1972

UN Conference on the Human Environment is held in Stockholm. Discussions include nuclear energy's environmental benefits; "greenhouse effect". The IAEA starts a two-year "market survey" to assess nuclear power prospects in developing countries, with a focus on the demand for smaller-sized power reactors, and launches its first agreement for standing regional technical co-operation in the nuclear field, the Regional Cooperative Agreement (RCA) for Asia and the Pacific, which today has 17 participating countries. The Agency further intensifies programmes on environmental protection and the safe management of nuclear wastes. In London, a Conference under the auspices of what today is the International Maritime Organization (IMO) adopts a convention banning sea dumping of wastes, identifying the IAEA as the competent body regarding recommendations on radioactive wastes.

1973

The oil crisis puts energy issues at the top of the global agenda, as oil supplies from members of the Organization of Petroleum Countries (OPEC) are restricted and prices quadruple. Nuclear power prospects initially brighten, then wane as high energy prices change economic conditions and lead to energy measures that over time help to slow demand.

Apollo-12 astronaut Charles Conrad at the IAEA.

IAEA developments: In April, the IAEA and Euratom sign an agreement for the implementation of safeguards provisions under the NPT, a major step forward in international verification. The IAEA Board of Governors is expanded to 34 Member States, including the Federal Republic of Germany and Italy as designated members and permitting election of more developing countries. The Agency hosts three Apollo-12 astronauts who placed the first atomic power generator on the moon in 1969. With the WMO, the IAEA launches a postal dosimetry service for intercomparisons using data from weather stations around the world; this complements the global network of hydrology laboratories for isotope analysis of the world's water resources.

1974

With the first NPT review conference on the horizon, nuclear safeguards and non-proliferation issues rise higher on global agenda. On 18 May, India explodes what it describes as a "peaceful" nuclear device in tests. In the United States, steps are taken to reinforce the non-proliferation regime and policy on nuclear exports, a process leading to review of nuclear fuel cycles from the standpoint of prolif-

In 1979, the IAEA moved from downtown Vienna to its new headquarters at the Vienna International Centre.

eration risks they may pose. ***Nuclear safety:*** The IAEA inaugurates its Nuclear Safety Standards Programme (NUSS) to develop codes and guides that would be revised over time for nuclear power plant safety in design, construction, operation and other areas. ***Nuclear power:*** For the first time, the IAEA serves as a channel for supplying nuclear fuel for power reactors, concluding contracts for enriched uranium with the US Atomic Energy Commission for supply to Mexico and Yugoslavia. ***Nuclear fuel cycle:*** The IAEA begins studying the possibility of regional nuclear fuel cycle centres for reprocessing nuclear fuel and for waste management.

1975

In London, the US and other major suppliers of nuclear materials from industrialized countries meet secretly for the first time to draw up new rules for nuclear exports. The meeting follows discussions in Moscow in late 1974 between the USA and Soviet Union on the establishment of such a group, which would come to be called the "London Club". At the IAEA's Seibersdorf Laboratories, construction is completed on special facilities for the Safeguards Analytical Laboratory, the coordinating centre of a global network of analytical laboratories for analyzing samples of plutonium, uranium, and other materials.

1976

Jointly with the WHO, the IAEA establishes a global network of Secondary Standards Dosimetry Laboratories for promoting global standards in the safe use of radiation sources in medicine, industry, and other fields.

1977

In September, the Nuclear Suppliers' Group reaches agreement on export controls of sensitive nuclear technology, issuing a list called the "London Guidelines". (Fifteen years later, after the Iraqi case, the Group agreed to require full-scope IAEA safeguards as a condition of supply to non-nuclear-weapon States.) In Vienna, the International Nuclear Fuel Cycle Evaluation (INFCE) begins to assess the interrelated problems associated with peaceful uses of nuclear energy and any risk they may pose of further proliferation; concludes in 1980. The work further reinforces support for IAEA safeguards as a central element of the non-proliferation regime. The safeguards agreement between the IAEA and Euratom enters into force, coordinating their respective inspection responsibilities and bringing under IAEA verification all nuclear plants and reprocessing and enrichment facilities in Euratom non-nuclear-weapon States. ***Nuclear power conference:*** Following up the previous four UN conferences, the IAEA convenes a major global conference in Salzburg on nuclear power and its fuel cycle; nearly 2000 delegates attend.

1978

The United States enacts the Nuclear Non-Proliferation Act, setting restrictions on exports of nuclear technology and reaffirming support to strengthening the IAEA and its system of comprehensive nuclear safeguards. Requires full-scope safeguards as a condition of nuclear supply. ***Fusion:*** The IAEA launches a series of workshops, known as INTOR, on the concept of a large, "next generation" fusion reactor.

1979

Opening of Vienna International Centre along the Danube. The IAEA moves to new headquarters from downtown Vienna. In the United States, headlines report a nuclear power plant accident on 28 March at the Three Mile Island site, near Harrisburg, Pennsylvania. Becomes the first nuclear plant accident to draw extensive international attention. Post-accident studies report negligible radiation releases. The accident causes no loss of life or injury, but leaves the nuclear unit destroyed, and the utility with extensive and lengthy cleanup operation at costs estimated at exceeding $1 billion. In Vienna, an IAEA expert group is formed and establishes guidelines on emergency planning and response.

THE EIGHTIES & THE CHANGING AGENDA

1980

In Geneva, the Second Review Conference of the NPT is deadlocked, arriving at no agreed concluding declaration. Two issues dominate: nuclear supplies and a nuclear test ban. Later that year, the UN General Assembly adopts a resolution to convene an International Conference on the Peaceful Uses of Nuclear Energy (PUNE) with the IAEA's contribution. (The Conference, which was to take place in 1983, is not actually held until 1987.) At the IAEA, Member States create the Committee on Assurances of Supply (CAS) to establish procedures in global nuclear commerce and cooperation of transfers for peaceful uses in line with non-proliferation aims. The Agency launches the Power Reactor Information System, a computerized database that becomes the world's most authoritative source of nuclear power status and trends.

1981

Dr. Eklund and Dr. Blix.

In June, Israel attacks the French-built Tamuz nuclear research reactor in Iraq on the suspicion that it was being used for nuclear weapons research. The reactor was under IAEA safeguards. The attack draws harsh international criticism. In November 1981, IAEA Director General Eklund reports to the UN Security Council on the Tamuz matter. *IAEA leadership:* In September, the General Conference appoints Dr. Hans Blix, former Minister of Foreign Affairs in Sweden, as Director General for an initial term of four years beginning in December 1981.

1982

Progress in global nuclear cooperation is assessed as the IAEA marks its 25th anniversary in Vienna. Taking further steps in support of regional cooperation, the Agency concludes the ARCAL agreement for promotion of nuclear science and technology in Latin America, which today has nineteen member countries. The IAEA and NEA work to expand the operation of the Incident Reporting System, a databank for analyzing plant events of significance to safety that today is jointly operated by the two agencies. In September 1982, the Israeli delegation's credentials are rejected by the IAEA General Conference. The United States, in a reaction to the rejection, temporarily withdraws support from the IAEA.

1983

In February, Director General Blix reports to the Board on the outcome of discussions concerning the USA's withdrawal, welcoming the USA's decision to resume its participation in the Agency. A landmark IAEA Conference on Radioactive Waste Management is convened in Seattle, USA, at which international experts agree that the technology is available for the safe disposal of radioactive waste.

1984

China joins the IAEA, as part of its policy of opening to the international community. The Joint Division of the IAEA and FAO marks its 20th anniversary of cooperation for agricultural development. The Agency carries out a new global survey to determine the availability of and market for smaller-sized nuclear power plants. Three organizations — the IAEA, WHO, and FAO — set up the International Consultative Group on Food Irradiation to advise governments on safety, regulatory, and other aspects of applying the technology, in which interest is heightened for reasons related to public health and global trade.

1985

At the Third Review Conference of the NPT in Geneva, Parties do not adopt a final declaration because of disagreement on key issues related to disarmament and the transfer of peaceful nuclear technologies. In November, the first summit meeting takes place between newly elected leader of the Soviet Union, Mikhail Gorbachev and US President Ronald Reagan.

1986

On 26 April, a disastrous nuclear power plant accident at the Chernobyl site in the USSR destroys unit-4 of the reactor, causes deaths and injuries, and releases radiation across national boundaries; it is first internationally

The IAEA becomes the site for post-accident review conference following the catastrophic nuclear power plant accident at Chernobyl in April 1986. The review provided the world's first authoritative account of the accident.

detected and reported by experts in Sweden and Finland. In August, the IAEA becomes the site for post-accident review conference, which provides the world's first authoritative account of the accident. Analytical services of the IAEA's Laboratories in Vienna, Seibersdorf and Monaco are mobilized to support assessments of Chernobyl's radiological impact. In September, following work of preparatory groups of experts, IAEA Member States adopt two international conventions on early notification of a nuclear accident and emergency assistance and response, and endorse an expanded nuclear safety programme. An Emergency Response System is set up at the Agency in support of the conventions. Issues of nuclear plant safety, radiological protection, waste management, health, and environment begin to dominate global, and IAEA, agendas, and nuclear power's future is reassessed in many countries. ***Non-proliferation:*** In December, the Rarotonga Treaty enters into force, for establishing a nuclear-weapon-free zone in the South Pacific. Requires comprehensive IAEA safeguards. ***Health care:*** The IAEA initiates the first regional project on radioimmunoassay of thyroid-related hormones, involving 123 laboratories in 13 Asian and Pacific countries, that over a 10-year period would significantly enhance diagnostic services and screening programmes for thyroid deficiencies.

1987

The IAEA Board of Governors expands from 34 to 35 Member States so as to provide a seat to China. The Convention on Physical Protection of Nuclear Materials, under IAEA auspices, enters into force. It requires Parties to ensure the protection of nuclear materials during international transport on their territories or under their jurisdiction. In October, delegations of the world's four major programmes in nuclear fusion — from the European Community, Japan, USA, and USSR — agree to recommend to their respective governmental authorities the start of collaborative work under IAEA auspices on the design of an international thermonuclear experimental reactor (ITER), with preliminary studies to start in early 1988. In November, the Agency works to mobilize resources in Member States in response to a request from Brazil for emergency assistance following a radiological accident at Goiânia involving an old radiation source whose mishandling claimed the lives of four people and hospitalized others. Extensive cleanup activities are foreseen and initiated at the site.

1988

A deadly livestock disease spread by the New World Screwworm surfaces in Libya and threatens North Africa. The IAEA, FAO, and other agencies join forces to eradicate the insect using a radiation-based technology (sterile insect technique) developed at the Agency's Seibersdorf Laboratories in the 1960s, and since effectively used in Mexico, Chile, Guatemala, Tanzania, and other countries. They launch a programme in 1989 that rids Libya of the pest by June 1992, about a year earlier and millions of dollars less than estimated.

1989

The IAEA submits a report to the United Nations on the practical contributions of nuclear energy and the Agency's activities to environmentally sound and "sustainable development". The document critically examines the conclusions of the World Commission on Environment and Development with respect to nuclear energy, which were submitted to the UN in 1987. ***Radiological safety:*** For the first time, the USSR issues a public report on the 1957 radiological accident at a military site at Khshtym in the Southern Urals.

THE NINETIES & THE NEW REALITIES

1990

The Fourth NPT Review Conference takes place in Geneva; no final declaration is issued. October sees the reunification of East and West Germany. Reflects political developments in Eastern Europe that dramatically signal the closing period of the Cold War and the dissolution of the Soviet military and political bloc. ***Nuclear safety:*** In May, the IAEA and Nuclear Energy Agency of the Organization for Economic Cooperation and Development initiate the International Nuclear Event Scale (INES) to standardize the reporting of nuclear incidents and accidents worldwide. ***Radioactive waste:*** The IAEA Board approves preparation of a series of safety standards covering radioactive waste management. In September, IAEA Member States adopt a Code of Practice on the International Transboundary Movement of Radioactive Waste. ***Nuclear non-proliferation:*** Argentina and Brazil issue a Declaration on Common Nuclear Policy. ***Regional cooperation:*** The African Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology (AFRA) enters into force; its membership today includes 21 countries in the region.

1991

China, France announce intention to sign the NPT; Zambia, Tanzania, South Africa, and Zimbabwe accede in May, June, July, and September, respectively. In September, South Africa signs safeguards agreement with IAEA. Argentina and Brazil move to set up common system of verification for the peaceful use of nuclear energy, including acceptance of comprehensive IAEA safeguards.

1991 JANUARY/FEBRUARY

Gulf War. UN coalition of States militarily moves against Iraq to enforce UN Security Council resolutions demanding Iraq's withdrawal from Kuwait, which it invaded in August 1990. In the battles, Iraqi nuclear facilities are significantly destroyed.

1991 APRIL/MAY

In April, as part of ceasefire terms of the Gulf War, nuclear inspections in Iraq are required under UN Security Resolution 687, which demands dismantling Iraq's nuclear, chemical and biological weapons capabilities, to be overseen by newly formed UN Special Commission. The IAEA sets up Iraq Action Team to carry out its responsibilities under the Security Council resolution and nuclear inspections begin in May 1991. Safeguards strengthening measures are discussed by IAEA Board of Governors.

1991 MAY/JUNE

In May, global experts meet at the International Symposium on Electricity and Environment, in Helsinki, which the IAEA sponsors with international partners. Discussions focus on comparative assessments of nuclear and other major electricity generation sources. In late May, the results of International Chernobyl Project are reported (year-long project involving more than 100 scientists and four international organizations, including the World Health Organization, Food and Agriculture Organization, Commission of European Communities, and United Nations Scientific Committee on the Effects of Atomic Radiation). Study assesses the radiological situation in 2225 settlements in three republics (Belarus, Russia, Ukraine), covering about 825,000 people. Not included are the "liquidators", or decontamination workers at the Chernobyl plant after the accident. Among the people surveyed, the project teams find significant health disorders, but no health effects that could be attributed to radiation exposure. They caution, however, that increased thyroid cancers among exposed children are possible in the future, and they urge continued monitoring. ***Nuclear safety in Eastern Europe:*** In June, an IAEA project on the safety of older Soviet-designed nuclear plants in Bulgaria, Czech Republic, Slovakia and Russia reports serious safety deficiencies at most plants compared to Western levels. Technical and financial assistance is expanded through the Commission of the European Communities, World Association of Nuclear Operators, and other avenues.

1991 SEPTEMBER/DECEMBER

Nuclear inspections in Iraq: In September, international headlines are made by sixth IAEA inspection team, which is detained for four days by Iraqi authorities who question their rights of access to documents and buildings the team wants to inspect. Security Council is engaged to

resolve dispute and team subsequently leaves with evidence of a clandestine Iraqi programme for the enrichment of uranium, including global procurement efforts to obtain key components for centrifuge process. ***IAEA membership:*** In September, the General Conference approves membership of newly independent Baltic States — Estonia, Latvia, Lithuania. Ukraine and Belarus inform IAEA of change of official designations. USSR informs IAEA that it will not be able to pay its membership dues (about $20 million for 1991), precipitating financial crisis. IAEA 1992 budget is cut 13% overall. In December, USSR officially dissolves; Confederation of Independent States is announced. Breakup of Soviet Union signals end of Cold War period.

1992 JANUARY/FEBRUARY

In New York, the Security Council, in a Summit Declaration of 31 January, states that "the proliferation of all weapons of mass destruction constitutes a threat to international peace and security." It specifically underscores the "integral role" of fully effective IAEA safeguards and its members' resolve to take "appropriate measures" in case of any violation brought to the Council's attention by the IAEA. From Moscow, new Russian President Boris Yeltsin informs IAEA that the Russian Federation will continue former USSR's membership in Agency; officials state they will take all feasible measures to pay dues. ***Disarmament/ nuclear security:*** End of Cold War is seen as generally warming international political climate, improving prospects in areas of non-proliferation and arms control. President Yeltsin announces major arms reductions; states that Russian Federation has control of nuclear weapons (strategic A-bombs are also located in Ukraine, Kazakhstan, Belarus). IAEA proposes assistance in verification of nuclear materials from dismantled nuclear weapons in former USSR. ***Safeguards:*** In February, the IAEA Board considers various measures, and adopts several, for strengthening the Agency's safeguards and verification system. Significantly, the Board reaffirms the Agency's right to request special inspections in States having comprehensive safeguards agreements.

1992 APRIL

The Democratic People's Republic of Korea (DPRK) signs NPT-safeguards agreement with the IAEA, which enters into force in April 1992. IAEA inspections begin in the DPRK in May 1992. Syria states it agrees to conclude NPT-safeguards agreement. Libya, Iran give assurances to IAEA senior officials that their nuclear programmes are only for peaceful purposes. China and France accede to the NPT in March and August, respectively. Among newly independent States emerging from the former USSR, Estonia, Uzbekistan, and Azerbaijan become parties to the NPT. Working with authorities in these and other countries, the IAEA initiates preparatory activities for the future application of safeguards in newly independent States. In Brussels, the IAEA Director General and Commissioner of Euratom endorse an agreement for a "New Partnership Approach" in the application of safeguards within the European Union designed to be more effective and efficient.

In April 1991, the Agency set up its Action team to conduct nuclear inspections in Iraq as required under UN Security Resolution 687. Nuclear inspections began a month later.

1992 JUNE

The UN Conference on Environment and Development — the "Earth Summit" — in Rio de Janeiro, Brazil, in June adopts Agenda 21, a document calling for action to ensure the world's sustainable development. The IAEA is made the focal point for issues related to nuclear waste. The environmentally conscious Club of Rome (group studying global issues) announces it has reversed its earlier opinion and now supports the future development of nuclear energy, with qualifications on safety, in light of the environmental problems associated with burning of fossil fuels. The IAEA launches a major inter-agency project, called Decades, on the comparative assessment of different energy sources for electricity generation. It builds upon global expertise and computer tools and models developed through IAEA-supported

After the government's decision to abandon a former nuclear-weapon programme, South Africa in 1994 presents a symbol to the IAEA of its commitment to peaceful uses of nuclear energy.

activities since the early 1970s. Also drawing greater interest are IAEA-supported programmes for radiation and nuclear applications targetted at industrial efficiency and environmental protection. ***Nuclear safety:*** Multilateral assistance package is formulated for nuclear-safety improvements at Soviet-designed nuclear plants operating in Central and Eastern Europe (includes IAEA technical support, with overall co-ordination by CEC on behalf of OECD Group of 24 industrialized countries).

1992 NOVEMBER/DECEMBER

In Rome, the first global conference on nutrition, co-sponsored by the FAO and WHO, issues a "world declaration" squarely focusing on the problems of nutrition and health. It is adopted by government ministers and senior policymakers from more than 150 countries. Interest further increases in IAEA-related work in this field, through applications of isotopes in health and nutrition studies, which today extends beyond 30 countries.

1993

NPT Conference preparations: With the question of its extension on the line, the Fifth NPT review conference takes on greater importance. The Preparatory Committee holds first meeting in New York in May. Support is voiced for work of IAEA, and efforts to strengthen international safeguards. In April, the 28-member Nuclear Suppliers Group adopts stronger controls on nuclear exports, requiring comprehensive IAEA safeguards. Belarus joins the NPT in February. In December, Algeria's Foreign Minister declares that his country resolves to adhere to the NPT, a step it later takes. ***Nuclear safety/radiation protection in former USSR:*** A co-operative IAEA/UNDP programme is launched to assist newly independent States in building up their systems for radiation protection and nuclear safety, specifically with respect to the control and use of radiation sources. ***Radiological assessments:*** A four-year project is launched by the IAEA in co-operation with Russia and Norway to assess the effects of sea dumping of radioactive wastes in the Arctic Seas. ***Arms control/disarmament:*** The United States and Russia sign the second Strategic Arms Control Reduction Treaty (START-2), under which their respective nuclear arsenals would fall to about 3500 warheads by the year 2003. Under START-1, the two sides had committed to reducing their strategic nuclear weapons to about 6500 each by the year 2000. Though both treaties require destruction of missiles and bombers, not their warheads, the two countries begin to voluntarily dismantle surplus nuclear weapons.

1993 JANUARY

The long-awaited Convention on the Prohibition of Chemical Weapons, which had been debated over the past 25 years, opens for signature. Its provisions indicate a greater willingness among States to grant strong rights and responsibilities to an international verification authority, holding some implications for the evolution of the IAEA's safeguards system. The Convention's Secretariat is headquartered in The Hague, Netherlands.

1993 FEBRUARY/MARCH

Nuclear non-proliferation and safeguards issues move higher on the global agenda, following developments in the DPRK and South Africa. ***Regarding the DPRK***, "inconsistencies" emerge from the IAEA's analysis of samples and measurements from its safeguards inspections, opening the question of whether the DPRK has more plutonium than it declared to the Agency. IAEA seeks to resolve differences with authorities, to no avail. The government in March announces its intention to withdraw from the NPT because of what it called threats to its supreme interests. The move follows the IAEA Board of Governors' adoption of a resolution holding the DPRK in non-compliance with its safeguards agreement because the Agency is not being allowed to verify the completeness and correctness of the DPRK's previously declared nuclear inventory. Specifically, DPRK authorities

Protecting cattle against the plague known as rinderpest, targeted for eradication soon throughout Africa.

denied the IAEA access to sites that are considered critical to the Agency's verification activities in the country. In May 1993, the UN Security Council backs the IAEA's position and urges the DPRK to reconsider its intended NPT withdrawal. In June 1993, following bilateral talks between the USA and DPRK, it is announced that the DPRK had "suspended" its withdrawal decision. More talks ensue and the IAEA continues its efforts to carry out its verification activities. ***Regarding South Africa***, President de Klerk announces in March that the country abandoned its former nuclear-weapons programme before signing the NPT because the reasons for keeping the nuclear option had disappeared. He invites the IAEA to visit sites involved in the former programme, as part of its overall verification in the country. IAEA technical teams visit South Africa for that purpose in May and June.

1993 JUNE

The IAEA Board begins consideration of a safeguards development programme called "93+2" to strengthen the effectiveness of safeguards and improve the system's efficiency. Among other aims, the proposals seek broader IAEA access to information and sites under comprehensive safeguards agreements so as to verify the absence or existence of undeclared nuclear activities.

1993 SEPTEMBER

The IAEA General Conference adopts resolutions supporting actions to strengthen the Agency's safeguards, nuclear and radiation safety, and technical cooperation activities. ***IAEA membership:*** Seven countries move to join the IAEA: Slovakia, Czech Republic, Marshall Islands, Armenia, and Kazakhstan are approved by General Conference in September; Lithuania and Uzbekistan officially become members in November 1993 and January 1994, respectively. ***Physical protection:*** A conference in Vienna on the Convention on the Physical Protection of Nuclear Material reaffirms the Parties' full support of the agreement and the sound basis it provides for physical protection during international transport.

1994

Possible new verification tasks: Steps under the auspices of the Conference on Disarmament are taken to negotiate a Comprehensive Nuclear Test Ban Treaty, under which some States then see a verification and supporting role for the IAEA. Consultations also continue between the USA and the IAEA concerning the US initiative to place under IAEA safeguards some of the excess nuclear material released from weapon programmes. Separately, the USA and Russia announce the establishment of a working group on the subject of nuclear arms reduction and the possibility of putting a portion of fissionable material under IAEA safeguards. Talks also continue regarding the possible IAEA role for plutonium storage, in light of the material's release from dismantled nuclear-weapons and the high level of existing commercial stocks. In Africa, prospects brighten that a nuclear-weapon-free zone treaty will be concluded. ***Radiological assessments:*** The Agency completes a preliminary radiological assessment of the Semipalatinsk nuclear test site in Kazakhstan at its request. Results show that radiation doses to people in the area are low, but that certain areas should continue to be restricted and that more studies are needed on levels of plutonium in soil and of radionuclides in drinking water. ***Technical cooperation:*** As part of efforts for strengthening programmes, a Policy Review Seminar sets in motion the process of redefining the Agency's strategy for technical cooperation. The meeting focuses on three themes: strengthening radiation protection and waste management infrastructures; the need for systematic country planning; and increasing the impact of IAEA technical cooperation by reaching the end users of technology. Among the results are newly defined Model Projects, Country Programme Frameworks, and thematic planning as major elements of the new strategy. ***Animal health:*** An extensive joint project of the IAEA and FAO in Africa reports significant results in helping countries eradicate "cattle plague", or rinderpest, a deadly viral livestock disease devastating to their agricultural economies.

In February 1994, the IAEA supervised the shipment of the final consignment of spent fuel from Iraq to the Russian Federation.

1994 JANUARY/FEBRUARY

Iraq nuclear inspections: In February, the IAEA supervises the shipment from Iraq of the final consignment of spent fuel, which is sent to Russia under contract. The operation removes all declared nuclear-weapons-grade materials from Iraq; the IAEA's work continues under a long-term plan for monitoring and verification of Iraq's nuclear activities. ***Waste dumping:*** In February, a ban on sea dumping of radioactive wastes at sea takes effect under the London Dumping Convention; the IAEA's technical role under the Convention is to define radioactivity levels below which material may be considered exempt from this provision. ***Safeguards & non-proliferation:*** Kazakhstan joins the NPT in February. In March 1994, the quadripartite safeguards agreement (IAEA, ABACC, Argentina, Brazil) enters into force, under which the two countries accept comprehensive IAEA safeguards on all their nuclear activities. Further steps are taken with respect to the Tlatelolco Treaty in Latin America for establishing a nuclear-weapon-free zone; the Treaty enters into force for Argentina and Chile in early 1994, bringing closer into view the Treaty's full implementation.

1994 JUNE/JULY

The DPRK announces its withdrawal from the IAEA; its safeguards agreement with Agency remains in force. The action follows the Board of Governor's resolution of 10 June, in which it again urged the DPRK to fully co-operate with the IAEA in its attempts to verify nuclear activities and suspended non-medical technical assistance to the country. The UN Security Council, which had been kept informed of safeguards developments in the DPRK, continues to back the IAEA's position. Following the private visit of ex-US President Jimmy Carter to the DPRK for talks, the governments of the USA and the DPRK schedule further talks on the nuclear situation and other matters in Geneva; the USA states no progress can be made unless the DPRK fully accepts IAEA international safeguards. IAEA safeguards inspectors remain in the DPRK to monitor operations at the experimental nuclear power plant, which was refuelled in May/June. Because of restrictions on its access during the refuelling campaign, the IAEA states that it can no longer verify the history of the reactor's core and that it cannot rule out the possible past diversion of nuclear material. Regarding the fuel that was removed over the summer, the Agency states it is under safeguards and has not been diverted.

1994 SEPTEMBER

Two milestones in nuclear safety are reached: One is the Convention on Nuclear Safety, adopted in June, which opens for signature at the IAEA General Conference in Vienna. Stands as the first international legal instrument that binds countries to basic safety standards for land-based nuclear power plants. Forty nine countries sign it. The Conference adopts a resolution for starting preparations on an international convention on the safety of radioactive waste management and disposal. Second, the IAEA Board approves the new edition of the *International Basic Safety Standards for Protection Against Ionizing Radiation and the Safety of Radiation Sources*, which the Agency developed working with five other organizations. The Standards incorporate international consensus on key issues of radiation safety.

Austria was among the first signatories of the Convention on Nuclear Safety.

1994 OCTOBER/NOVEMBER

Bilateral talks between the USA and the DPRK result in an "agreed framework" concluded in Geneva 21 October. The DPRK agrees to "freeze" its present nuclear programme and the USA agrees to assist in efforts to provide light-water reactors, which would be under full-scope IAEA safeguards, for electricity generation. The IAEA-DPRK safeguards agreement remains valid and in

WorldAtom, the IAEA's Internet services on the World Wide Web was officially launched in June 1995 and featured during that year's regular session of the General Conference in September.

full force but full compliance is not foreseen until a significant portion of the reactor project is completed. In November, an IAEA team visits the DPRK and confirms that facilities subject to the freeze are not in operation and that construction has stopped. The Agency establishes the continuing presence of its safeguards inspectors in the DPRK. ***Radiation issues:*** In October, the IAEA International Conference on Radiation and Society held in France, draws 400 governmental policymakers, specialists, and media from 51 countries. Sessions explore ways to improve communication and comprehension of radiation risks. ***Trafficking:*** In November, the IAEA brings together governmental experts on issues of illicit trafficking in nuclear materials, in response to growing concerns over reports and an IAEA General Conference resolution of September 1994. Role of IAEA examined in assisting States to counteract such trafficking.

1995 JANUARY/FEBRUARY

Argentina and Algeria officially join the NPT, on 10 and 12 January respectively. Following its accession to the NPT in 1994, Ukraine concludes an agreement with the IAEA on the application of safeguards. ***Food & agriculture:*** Gauging progress over the past decades, reports indicate that nearly 1800 new mutant varieties of 150 crop species have been released for planting in 52 countries, mostly by national plant breeders and frequently with FAO/IAEA support, using radiation-based techniques.

1995 MARCH/APRIL

At meetings in March, the IAEA Board endorses the Director General's proposal for a Standing Advisory Group on Technical Assistance and Cooperation (SAGTAC), whose twelve members from developing and industrialized Member States will provide advice on programme strategy, policy, and effectiveness. In April, Belarus, which along with Kazakhstan and Ukraine inherited nuclear weapons on its territory following the dissolution of the Soviet Union, officially signs its comprehensive safeguards agreement with the IAEA.

1995 MAY/JUNE

The NPT, under which most safeguards agreements with the IAEA are concluded, is indefinitely extended on 11 May at the Review and Extension Conference in New York. Although Parties do not agree on a Final Declaration, they adopt a set of principles that include statements reaffirming support for Agency safeguards and technical assistance programmes, and the need to adequately fund them. The Conference sets 1996 as the target date for the conclusion of a Comprehensive Test Ban Treaty (CTBT), which States are negotiating at the Conference on Disarmament in Geneva, and underlines the aim of achieving a nuclear-weapons-free world. ***Information technology:*** The Agency's pioneering International Nuclear Information System (INIS) marks its 25th year of operations. The IAEA officially launches its public Internet services on the World Wide Web. Called *World Atom*, the service features a range of information and documents about global nuclear developments and the Agency's work. ***Safeguards:*** The IAEA Board approves the Agency's implementation in consultation with Member States of certain measures (Part-1 measures) proposed under the safeguards "93+2" development programme. They include, for example, broader access to information regarding sites and activities relevant to States' nuclear programmes, and environmental sampling at locations to which the IAEA has access under comprehensive safeguards agreements. It agrees to consider Part-2 measures, namely those requiring complementary legal authority, later in the year.

1995 JULY/AUGUST

Shortly after the NPT Conference concludes, China conducts a nuclear test, and France, in line with its stated intention to sign the test ban treaty, announces its "final"

A study to assess the radiological conditions at former nuclear test sites in the South Pacific took root in late 1995.

series of nuclear tests in the South Pacific. The testing is strongly criticized and opposed by countries in the region. In a letter to IAEA Director General Blix, France asks the Agency to conduct a radiological study of the Mururoa and Fangataufa atolls once the tests have been completed; the Agency studies the request. ***Inspections in Iraq:*** New disclosures emerge concerning Iraq's former secret nuclear programme, following information provided by a high-level defector, Iraqi Gen. Hussein Kamel. Revelations include that Iraq had embarked on a "crash" nuclear-weapon programme in 1990-91 but that plans were thwarted for technical and other reasons. Withheld documents and data are received by the IAEA Iraq Action Team for examination.

1995 SEPTEMBER

States meeting at the IAEA General Conference adopt a resolution expressing grave concern over resumption of nuclear testing and stating their expectation that a Comprehensive Test Ban Treaty will be concluded in 1996. Other adopted resolutions endorse the Agency's efforts to strengthen safeguards and technical co-operation programmes, and condemn Iraq for withholding information from the IAEA about its nuclear-weapon programme in violation of its obligations under Security Council resolutions. ***Nuclear data services:*** Following a meeting at the IAEA, global experts emphasize the ongoing importance of the IAEA's nuclear data services developed over the past decades. The services today include a global network of data used by researchers in more than 40 countries in fields such as medicine, industry, and energy, and a data centre maintaining the world's most comprehensive collection of nuclear and atomic data libraries. ***Safeguards laboratories:*** A new "clean" laboratory is set up at the Agency's SAL facilities in Seibersdorf, for analysis of environmental samples collected during safeguards inspections. ***Nuclear medicine:*** More than 95% of the Agency's developing Member States are reported to have set up nuclear medicine services for improved health care and diagnosis. An IAEA survey finds that more than 2000 gamma cameras for medical uses have been installed in 78 developing countries.

1995 OCTOBER

Energy issues. In Vienna, the Agency and other organizations jointly convene the International Symposium on Electricity, Health, and the Environment, where experts review the record and options for sustainable energy production and electricity generation. They specifically review results of the inter-agency Decades project for assessments of energy options and their impacts. ***UN anniversary:*** The United Nations officially marks it's 50th anniversary on 24 October as the international community critically assesses its achievements, roles, and future directions.

1995 NOVEMBER/DECEMBER

At the request of governmental delegates in Geneva, the Agency responds to questions about legal, organizational, and financial matters relative to the administration and verification of a Comprehensive Test Ban Treaty. Any substantive functions that might be assigned to the IAEA would require prior approval of the Agency's policy-making bodies. ***Radiological assessments:*** The IAEA advises the French Foreign Minister that in principle it will conduct the requested radiological study of the Mururoa and Fangataufa atolls, pending conclusion of a formal agreement on how the study would be organized and conducted. In December, the IAEA convenes an Advisory Group in response to a request from the Marshall Islands to review the current radiological conditions at Bikini Atoll, former site of nuclear testing by the USA. The scientific group reviews existing data on the radiological situation there to further reassure the local people, and recommends additional tests on various foods from Bikini at the IAEA's Seibersdorf Laboratories as part of remedial measures that could be taken. ***NWFZs:*** In New York, the UN General

Some of the 800 governmental delegates at the widely covered Chernobyl Conference held at IAEA headquarters in Vienna in 1996.

Assembly adopts a resolution inviting States to sign and ratify the Treaty on the African Nuclear-Weapon-Free Zone (called the Pelindaba Treaty), under which the IAEA is the verification body. At the fifth summit meeting in Bangkok, leaders of seven countries belonging to the Association of South East Asian Nations (ASEAN) sign the text of a South East Asian Nuclear-Weapon-Free Zone; the "Bangkok Treaty" obliges States to conclude a comprehensive safeguards agreement with the IAEA. ***DPRK:*** In New York on 15 December, the DPRK and the Korean Peninsula Energy Development Organization sign a contract on the supply of two 1000-megawatt light-water reactors, at a total cost of $4.5 billion. Construction is expected to be completed in 2003. Contractual terms also obligate the DPRK to permit the IAEA to resume safeguards inspections of facilities not covered by the nuclear freeze; to remain a party to the NPT; and to comply fully with the IAEA safeguards agreement when a significant portion of the project is completed but before delivery of the key nuclear components. ***Safeguards and non-proliferation:*** At the December meeting of the IAEA Board of Governors, Mexico reports that Cuba on 5 December signed amendments to the Tlatelolco Treaty, brightening prospects for the Treaty's full entry into force. The IAEA Board discusses details of Part-2 measures for strengthening Agency safeguards, including a proposed protocol to existing comprehensive safeguards agreements under which measures could be implemented. ***Scientific events:*** The scientific world marks the 100th anniversary of the discovery of X-rays on 28 December 1895 by German scientist Wilhelm Roentgen.

1996 JANUARY

The world marks the 100th anniversary of the discovery of radioactivity in January 1896 by French scientist Henri Becquerel. ***IAEA developments:*** The IAEA restructures its former Department of Nuclear Energy and Safety into two separate Departments -- the Department of Nuclear Energy and the Department of Nuclear Safety. The Agency publishes the latest edition (1996) of its advisory *Regulations for the Safe Transport of Radioactive Material*, which were first issued in 1961 and form the basis of national, regional, and international regulations worldwide.

1996 MARCH

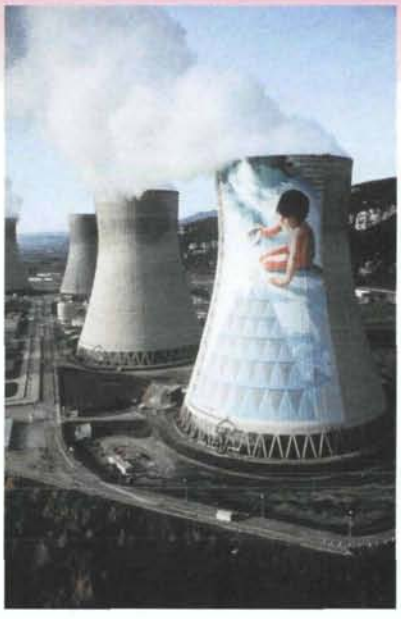
The UN Security Council on 27 March unanimously adopts a resolution to bring into force a mechanism for monitoring sales or supplies to Iraq of certain items or technologies that could be used for the production or acquisition of banned biological, chemical, and nuclear weapons. The mechanism, developed by the Sanctions Committee, UNSCOM, and the IAEA under previously adopted Security Council resolutions, is to be operated by a joint unit of UNSCOM and the IAEA. ***Rarotonga Treaty:*** At a ceremony in Fiji on 25 March, France, the USA, and the UK sign protocols to the South Pacific Nuclear Free Zone Treaty that bind them not to use nuclear force or the threat of its use in the region; ban the stationing of nuclear weapons on any territory in the region; and prohibit testing of nuclear weapons there. (The world's other two declared nuclear-weapon powers, Russia and China, already are party to the protocols relevant to them.)

1996 MARCH/APRIL

In March, a four-member IAEA technical team completes a mission to the Mururoa and Fangataufa atolls to help lay the groundwork for the radiological study of the French nuclear test site. In April, the study's International Advisory Committee holds its first formal meeting at IAEA headquarters to outline action plans for its task and working groups.

1996 APRIL

At a ceremony in Cairo on 11 April, the African Nuclear-Weapon-Free Zone Treaty opens for signature. Among those invited to attend are IAEA Director General Hans Blix and IAEA Assistant Director General Mohamed



Safety and safeguards: A global convention on nuclear safety takes effect in October 1996, and new verification measures are approved in May 1997.

ElBaradei; the Agency's support of the negotiations on the Treaty included adoption of relevant General Conference resolutions and the provision of advice on technical and legal aspects. ***Nuclear and radiation safety:*** Hundreds of delegates attend the International Conference One Decade After Chernobyl: Summing up the Radiological Consequences, in Vienna organized by the IAEA, European Commission, WHO, and a number of other organizations. Results document the actual consequences, drawing upon conferences held by WHO in November 1995 and by Ukraine, Russia, Belarus and the European Union in March 1996, and recommend additional steps that are needed to assist the victims and improve the safety of Chernobyl-type plants (RBMK reactors). At a nuclear safety forum preceding the Conference, international experts review remedial measures that have been taken over the past decade and issue recommendations for further safety improvements, and associated financial support to upgrade RBMK safety. ***Moscow Summit:*** Leaders of the Group of Seven countries and the Russian Federation meet in Moscow at a Nuclear Safety and Security Summit hosted by President Yeltsin 19-20 April. Among its conclusions, the Summit recognized the importance of nuclear power as an energy source consistent with goals of sustainable development; emphasized commitments to an international nuclear safety culture and to strengthening the IAEA safeguards and verification system; and noted the importance of global cooperation against illicit trafficking in nuclear materials.

1996 JUNE

In its consideration of the second part of measures to strengthen safeguards, the IAEA Board of Governors agrees to establish a special Committee to negotiate a new legal instrument that would be attached to existing comprehensive safeguards agreements. The instrument would define, among other things, the nature of additional access to information and to nuclear-related locations for the Agency's safeguards inspectors. The Committee begins its work in July.

1996 JULY/AUGUST

International teams of scientists collect terrestrial and marine samples at the Mururoa and Fangataufa atolls under the IAEA's radiological study. Samples will be shared with a range of laboratories for analysis, including the IAEA's Laboratories in Seibersdorf, Austria, and in Monaco. The study's International Advisory Committee states that its members intend to visit the sites in late 1996 and to report on the study's progress at that time.

1996 SEPTEMBER

Ushering in the 40th year of the Agency's international service, delegates from more than 100 countries attend the IAEA General Conference in Vienna 16-20 September. The Conference adopts resolutions on a range of subjects, including the strengthening of safeguards and technical co-operation activities. At the Conference, a "Trilateral Initiative" is launched at a meeting of IAEA Director General Hans Blix, US Secretary of Energy Hazel O'Leary, and Russian Minister of Atomic Energy Viktor Mikhailov. They consider practical measures to fulfill statements made by the US and Russian Presidents in April 1996 concerning the IAEA's verification of weapon-origin fissile materials, which represents an important first step for international verification of nuclear disarmament. ***Nuclear test ban:*** At the United Nations in New York on 10 September, the General Assembly overwhelmingly approves the Comprehensive Test Ban Treaty by a vote of 158 to three. The Treaty will have its own verification arm,

the implementing organization will be located near IAEA headquarters in Vienna. ***IAEA leadership:*** Director General Blix advises the Board that he will not be available to serve beyond his present term which expires in December 1997.

1996 OCTOBER

The Convention on Nuclear Safety enters into force on 24 October, with 27 States Parties and 65 signatories. Preparations continue for a first meeting of Parties in early 1997 to discuss the Convention's review process and periodic reporting requirements, among other matters. ***IAEA Statute:*** On 26 October, the IAEA marks the 40th anniversary of the opening for signature of its Statute. More than 70 countries signed the Statute at a conference in New York on 26 October 1956; the Agency officially came into existence ten months later, in July 1957. ***Information technology:*** The Agency introduces an Intranet computer service called *Oasis* for more efficiently disseminating administrative and programme-related information to staff. ***Chemical weapons:*** The UN announces that the Chemical Weapons Convention will enter into force on 29 April 1997, having attained the necessary 65 ratifications; it has been signed by 160 countries, including all five declared nuclear-weapons powers.

1996 NOVEMBER

Under their Trilateral Initiative, the USA, Russia, and the IAEA take the first steps to expand international verification of weapons-usable nuclear materials through the application of IAEA safeguards. Delegations including Bruno Pellaud, head of the IAEA's Department of Safeguards, and senior Russian and US officials visit three sites in the US for demonstrations of technology and discussions on the inspection process. ***UN Security Council:*** IAEA Director General Blix briefs the Security Council on the Agency's ongoing nuclear inspections in Iraq and in the DPRK, where the Agency maintains a continuous inspector presence. He emphasizes that the technological know-how for weapons production remains in Iraq and that the IAEA is continuing its rigorous implementation of the long-term monitoring and verification plan, and with its in-depth appraisal of Iraq's reissued "full, final, and complete" declaration of its nuclear programme. Concerning the DPRK, he reports

A scientific project assessing former nuclear waste dumping in the Arctic Seas concluded in 1996.

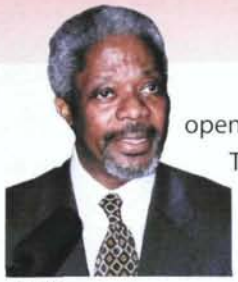
that technical talks to date have not resolved outstanding issues, and the country remains in non-compliance with its IAEA safeguards agreement. ***Waste management:*** In London at the IMO, States adopt a protocol that supersedes the original Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter ("London Convention 1972"); the IAEA has some responsibilities under the Convention related to radioactive wastes. ***Radiological assessments:*** The Agency completes its three-year study, the International Arctic Seas Assessment Project, and submits its summary report to the Parties of the London Convention. The study concludes that the current radiological risks represented by the dumped wastes are small and the future risks to typical local population groups also are small. It finds no justification on radiological grounds alone for a programme of remedial action.

1996 DECEMBER

In Suva, Fiji, the International Advisory Committee for the Study of the Radiological Situation at the Atolls of Mururoa and Fangataufa meets for technical visits and assessment of progress. Members report that analysis of samples taken earlier in 1996 is continuing, and that the study's results are expected in 1998.

1997 JANUARY/FEBRUARY

The Board Committee negotiating the draft protocol to expand the IAEA's legal authority for implementing strengthened safeguards measures nears completion of a final draft document for the IAEA Board in May. ***Radioactive waste convention:*** The sixth session of the



UN Secretary General Kofi Annan

open-ended Group of Legal and Technical Experts preparing the draft of a convention on the safety of radioactive waste management prepares to submit the draft document to the IAEA Board in June. Unresolved issues include the question of whether the convention should cover the safe management of both spent fuel and radioactive waste in one text. ***Nuclear liability:*** The final stages are reached in extensive preparatory work on a draft protocol to amend the 1963 Vienna Convention on Nuclear Liability and to draft a Convention on Supplementary Funding. The Standing Committee which is preparing the two instruments -- which together will revise the international nuclear liability regime -- submits the draft texts to the IAEA Board for consideration at its March meetings, with a view to the Agency's convening of a Diplomatic Conference later this year. ***United Nations:*** In New York, Mr. Kofi Annan of Ghana takes office as United Nations Secretary-General, succeeding Mr. Boutros Boutros-Ghali of Egypt.

1997 MARCH/APRIL

At its March meeting, the IAEA Board considers the first candidates for appointment of the next IAEA Director General to succeed Dr. Blix, who is retiring after four consecutive four-year terms. ***Disarmament:*** At their Helsinki Summit in March, Presidents Clinton and Yeltsin agree to start negotiations on cutting nuclear arsenals to 20% of Cold-War levels, in an accord to be called START-3, once the Russian Duma ratifies START-2. They agree to extend the deadline for destroying missiles and silos set out in START-2 from the year 2003 to the end of 2007. ***UN reform:*** In New York, UN Secretary-General Annan announces a 10-point process for structurally and administratively reforming the United Nations. ***Trafficking:*** In April, Namibia becomes the 50th country to join the IAEA's programme on illicit trafficking in nuclear materials, which supports efforts in Member States. ***Nuclear safety:*** At their first preparatory meeting in April, Parties to the Convention on Nuclear Safety set the framework for their respective peer reviews of national reports on measures for ensuring the safety of nuclear power plants. The first review meeting is set for April 1999. ***Climate change:*** Global experts meet in Vienna at an IAEA symposium to examine the role that isotopes play in understanding the complex processes affecting climate changes, and in investigating historical records.

1997 MAY

Opening a new chapter in nuclear safeguards, the IAEA Board takes a major step by granting the IAEA's safeguards inspectorate broader rights. At meetings on 15-16 May, it approves a Model Protocol additional to safeguards agreements setting out new measures through which countries would accept stronger, more intrusive verification on their territory. ***Chemical weapons:*** In The Hague, IAEA Director General Hans Blix speaks at the first session of the Conference of States Parties to the Organization on the Prohibition of Chemical Weapons, calling for greater cooperation among international verification bodies in years ahead. ***Nuclear power status:*** The world's number of operating nuclear power plants climbs above 440, with new plants starting up in three countries in 1996, the IAEA reports. Worldwide, seventeen of the 32 countries with plants rely on nuclear power for 25% or more of their total electricity production.

1997 JUNE

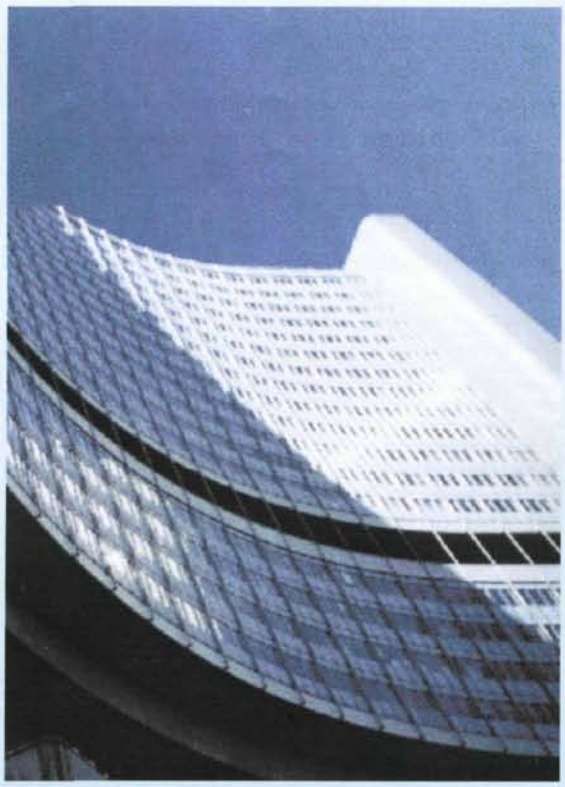
At its meetings in June, the IAEA Board receives reports from the Director General on developments related to safeguards and technical cooperation. Among other matters, the reports note the Agency's continuing inability to verify the correctness and completeness of the DPRK's initial declaration of nuclear material; the ongoing work to clarify aspects of Iraq's past nuclear programme; and progress through the Trilateral Initiative on the verification of fissile materials released from the military sector. Dr. Blix further informs the Board that he has sent letters to Foreign Ministers of States having IAEA safeguards obligations to initiate the

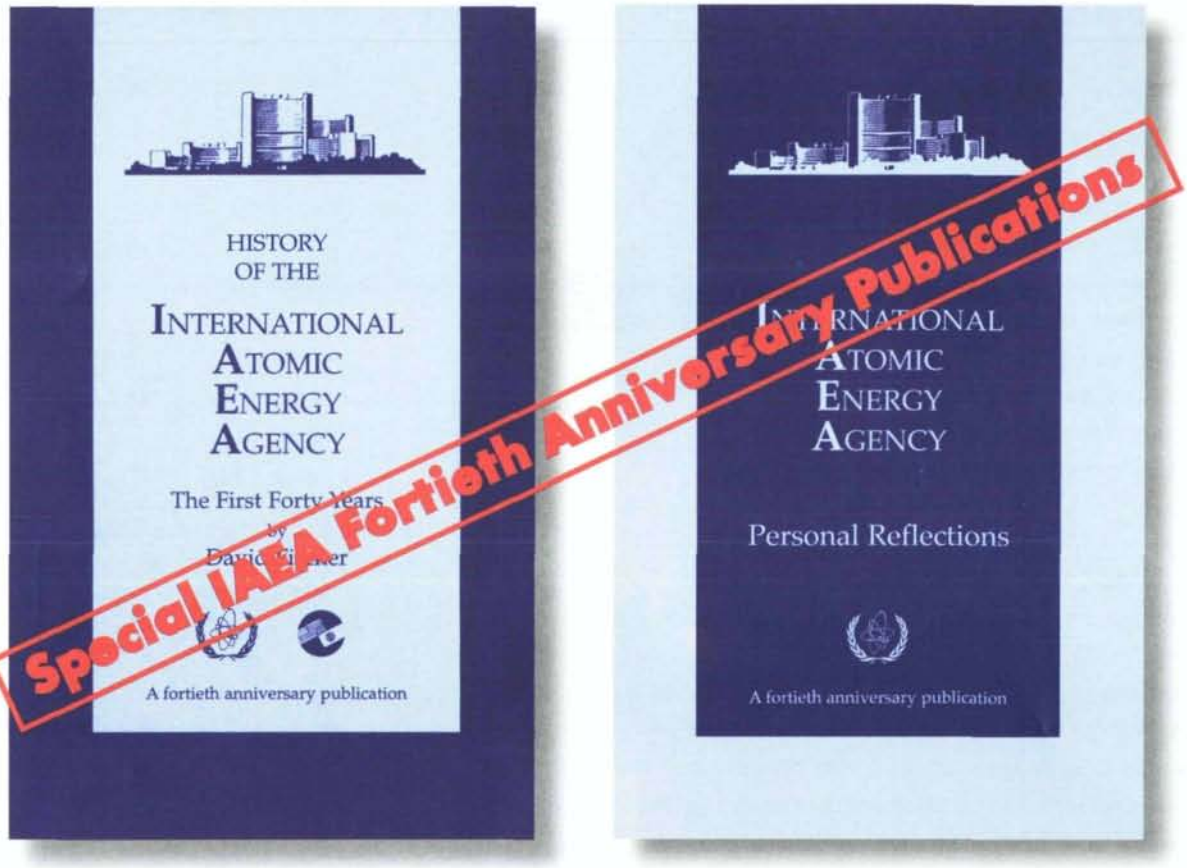
IAEA Director General-Designate Mohamed ElBaradei

acceptance process for the new measures under the Model Protocol. Regarding technical cooperation, the reports point to the continuing record-high levels of implementation of the Agency's projects in more than 90 countries, and to the need for greater and more stable resources to maintain and strengthen the programme. On other matters, the Board approves two Diplomatic Conferences for early September: the Diplomatic Conference on Liability for Nuclear Damage, at which States will be asked to adopt a draft protocol to amend the 1963 Vienna Convention and the text of a Convention on Supplementary Funding; and the Diplomatic Conference on the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, which covers applications in the civilian sector. ***Director General appointment:*** The Board selects Dr. Mohamed ElBaradei of Egypt as its candidate to succeed IAEA Director General Blix. Dr. ElBaradei is presently the IAEA's Assistant Director General for External Relations. The appointment moves for approval by the IAEA's 125 Member States at the IAEA General Conference in September. ***Energy & plutonium:*** The changing realities affecting nuclear power development and its fuel cycle, including issues related to the disposition of rising plutonium stocks, are examined at an IAEA symposium in June. ***Water needs:*** Options for the use of nuclear energy at plants for desalting seawater are reviewed in the Republic of Korea at an IAEA symposium. ***Earth Summit revisited:*** The UN General Assembly convenes a special session on sustainable development in New York. Addressing the session, Dr. Blix emphasizes the fundamental importance of energy, issues of waste safety and nuclear energy's environmental benefits. ***Denver Summit of the Eight***: In a final document, leaders of the world's eight major industrialized countries underline their commitments to nuclear safety and security, and to the IAEA's global role.

1997 JULY

On 29 July, the IAEA officially turns 40.





To mark the fortieth anniversary of its founding, the IAEA is issuing a set of two books: a history and a collection of personal reflections.

The history was undertaken in conjunction with the Monterey Institute of International Studies, Monterey, California, which commissioned David Fischer as author. David Fischer took part in the negotiations on the Statute of the IAEA in Washington in the mid-1950s and served on the Preparatory Commission for the Agency. From 1957 to 1976 he was the Agency's Director for External Relations and subsequently Assistant Director General. The text of the history covers the period since the time of the Atoms for Peace speech by US President Eisenhower at the General Assembly of the United Nations in December 1953. The author assesses the main achievements and setbacks in the history of the IAEA and what can be learned from them.

The reflections in the second book are written by a group of distinguished scientists and diplomats who were involved in the establishment or subsequent work of the IAEA. It represents a collection of less formal "essays" which offer a complementary and personal view on some of the topics considered in the full history.

The books will be issued in September 1997 to mark the anniversary of the first meeting of the IAEA's General Conference. They are available separately or as a set.

History of the International Atomic Energy Agency:
The First Forty Years *by David Fischer*
(18 x 24 cm; hard cover; approx. 550 pages) AS 480

The International Atomic Energy Agency:
Personal Reflections
(18 x 24 cm; hard cover; 311 pages) AS 260

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