

No. 24938

**CANADA
and
EGYPT**

**Agreement for co-operation in the peaceful uses of nuclear
energy (with annexes and table). Signed at Ottawa on
17 May 1982**

Authentic texts: English, French and Arabic.

Registered by Canada on 16 July 1987.

**CANADA
et
ÉGYPTE**

**Accord pour la coopération dans les utilisations pacifiques
de l'énergie nucléaire (avec annexes et tableau). Signé à
Ottawa le 17 mai 1982**

Textes authentiques : anglais, français et arabe.

Enregistré par le Canada le 16 juillet 1987.

AGREEMENT¹ BETWEEN THE GOVERNMENT OF CANADA AND THE GOVERNMENT OF THE ARAB REPUBLIC OF EGYPT FOR CO-OPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY

The Government of Canada (hereinafter referred to as Canada) and the Government of the Arab Republic of Egypt (hereinafter referred to as Egypt), and both hereinafter referred to as the Parties,

Desiring to strengthen the friendly ties that exist between Canada and Egypt;

Recognizing the advantages of effective co-operation in the peaceful uses of nuclear energy;

Recognizing that Canada and Egypt are both non-nuclear-weapon States Parties to the Treaty on the Non-Proliferation of Nuclear Weapons² (hereinafter referred to as the NPT) and as such have undertaken not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices and that both countries have concluded agreements with the International Atomic Energy Agency for the Application of Safeguards in connection with the NPT;³

Underlining further that the Parties to the NPT have undertaken to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy and that Parties to the NPT in a position to do so may also co-operate in contributing together to the further development of the applications of nuclear energy for peaceful purposes;

Confirming their interests in the peaceful uses of nuclear energy in accordance with the Joint Canada/Egyptian Statement on Nuclear Co-operation signed at Cairo on 17 January 1982;

Intending, therefore, to co-operate with one another to these ends,

Have agreed as follows:

Article I. (1) The co-operation under this Agreement relates to the use, development and application of nuclear energy for peaceful purposes and may include, but is not limited to:

(a) The supply of information, which includes technology, including but not limited to:

- (i) Research and development,
- (ii) Health, safety and environmental protection,
- (iii) Equipment (including the supply of designs, drawings and specifications), and
- (iv) Uses of equipment, materials and nuclear material;

¹ Came into force on 8 November 1982, the date of the exchange of notes by which the Parties informed each other of the completion of their respective constitutional and legal procedures, in accordance with article X (1).

² United Nations, *Treaty Series*, vol. 729, p. 161.

³ See Agreement of 21 February 1972 between the International Atomic Energy Agency and Canada, United Nations, *Treaty Series*, vol. 814, p. 255, and Agreement of 7 October 1981 between the International Atomic Energy Agency and Egypt, *ibid.*, vol. 1328, p. 309.

- (b) The supply of material, nuclear material and equipment;
- (c) The implementation of projects for research and development as well as for design and application of nuclear energy for use in such fields as agriculture, industry, medicine and the generation of electricity;
- (d) The conclusion of contracts for industrial co-operation between governmental enterprises and persons in Canada and in Egypt;
- (e) Licensing arrangements and the transfer of patent rights;
- (f) Access to and use of equipment;
- (g) The rendering of technical assistance and services;
- (h) Visits by nuclear scientists;
- (i) Technical training; and
- (j) The exploration for and development of uranium and thorium resources.

(2) Notwithstanding the provisions of Article V of the NPT, the development, manufacture, acquisition or detonation of nuclear weapons or other nuclear explosive devices shall not be regarded as a use, development or application of nuclear energy for peaceful purposes.

Article II. (1) The Parties shall encourage and facilitate co-operation between each other's governmental enterprises and persons under their jurisdiction on matters within the scope of this Agreement.

(2) Subject to the terms of this Agreement, governmental enterprises and persons under the jurisdiction of either Party may supply to or receive from governmental enterprises or persons under the jurisdiction of the other Party, material, nuclear material, equipment, and technology, within the scope of this Agreement, on commercial or other terms as may be agreed by the governmental enterprises or persons concerned.

(3) Subject to the terms of this Agreement, governmental enterprises and persons under the jurisdiction of either Party may provide governmental enterprises or persons under the jurisdiction of the other Party with technical training in the application of nuclear energy for peaceful uses on commercial or other terms as may be agreed by the governmental enterprises or persons concerned.

(4) The Parties, subject to their respective immigration and customs laws and regulations, will make efforts to facilitate exchanges of experts, technicians and specialists related to activities under this Agreement.

(5) Unless otherwise agreed by the Parties, information, other than technology, that is non-proprietary, arising from activities under this Agreement may be made public.

(6) The Parties shall take all appropriate precautions in accordance with their respective laws and regulations to preserve the confidentiality of technology, of commercial and industrial secrets and of other confidential information received under the provisions of this Agreement.

(7) The Parties may, if appropriate and subject to terms and conditions to be agreed upon, collaborate on safety and regulatory aspects of the production of nuclear energy including (a) exchange of information and (b) technical cooperation and training.

(8) A Party shall not use the Provisions of this Agreement for the purpose of securing commercial advantage nor for the purpose of interfering with the commercial relations of the other Party.

Article III. (1) Unless otherwise agreed by the Parties, nuclear material, material, equipment, and technology (hereinafter referred to as *items*) shall be subject to the provisions of this Agreement when transferred between the Parties. Nuclear material, material, and equipment identified in Annex A to this Agreement are also *items* subject to the provisions of this Agreement.

(2) *Items* subject to the provisions of this Agreement shall be transferred from the territory of either Party to this Agreement to a third party only with the mutual written consent of the Parties prior to the transfer.

(3) Nuclear material subject to this Agreement shall be enriched to more than twenty (20) percent in the isotope U 235 or reprocessed only with the mutual written agreement of the Parties prior to enrichment or reprocessing. Such consent shall include the conditions under which the resultant uranium enriched above twenty (20) percent or plutonium may be stored and used.

Article IV. (1) The Parties agree that the *items* subject to the provisions of this Agreement shall not be used to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices.

(2) With respect to nuclear material, the commitment contained in paragraph 1 of this Article shall be verified pursuant to the agreement between each Party and the International Atomic Energy Agency for the application of safeguards under a Non-Proliferation Treaty Safeguards Agreement. However, if for any reason or at any time the International Atomic Energy Agency is not administering such safeguards within the territory of a Party, that Party shall forthwith enter into an Agreement with the other Party for the establishment of a Safeguards System that conforms with the principles and procedures of the Agency's Safeguards System and provides for the application of safeguards to all *items* subject to this Agreement.

Article V. (1) Nuclear material shall remain subject to this Agreement until:

- (a) It is determined that it is no longer usable or practicably recoverable for processing into a form in which it is usable for any nuclear activity relevant from the point of view of safeguards referred to in Article IV of this Agreement. Both Parties shall accept a determination made by the International Atomic Energy Agency in accordance with the provisions for the termination of safeguards of the relevant safeguards agreement to which the Agency is a party,
- (b) It has been transferred from the territory of the recipient Party in accordance with the provisions of Article III paragraph 2 of this Agreement, or
- (c) Otherwise agreed between the Parties.

(2) Material and equipment shall remain subject to the provisions of this Agreement until:

- (a) They have been transferred from the territory of the recipient Party in accordance with the provisions of Article III paragraph 2 of this Agreement, or

(b) Otherwise agreed between the Parties.

(3) Technology shall remain subject to the provisions of this Agreement until otherwise agreed between the Parties.

Article VI. (1) Each Party shall take all measures necessary, commensurate with the assessed threat prevailing from time to time, to ensure the physical security of nuclear material subject to this Agreement and shall, as a minimum, apply levels of physical protection as set out in Annex E to this Agreement.

(2) The Parties shall inform each other promptly of any losses of *items* subject to the provisions of this Agreement, except for characteristic process losses of material or nuclear material.

Article VII. (1) The Parties shall consult at any time at the request of either Party to ensure the effective fulfillment of the obligations of this Agreement. The International Atomic Energy Agency may be invited to participate in such consultations upon the request of the Parties.

(2) The appropriate governmental authorities shall establish administrative understandings to facilitate the implementation of this Agreement and shall consult annually. Such annual consultations may take the form of an exchange of correspondence.

(3) Each Party shall, upon request, inform the other Party of the main conclusions of the most recent report by the International Atomic Energy Agency on its verification activities in the territory of that Party relevant to the nuclear material subject to the provisions of this Agreement.

Article VIII. Any dispute arising out of the interpretation or application of this Agreement which is not settled by negotiation or as may otherwise be agreed between the Parties shall, on the request of either Party, be submitted to an arbitral tribunal which shall be composed of three arbitrators. Each Party shall designate one arbitrator and the two arbitrators so designated shall elect a third, who shall be the Chairman. If within thirty (30) days of the request for arbitration either Party has not designated an arbitrator, the other Party to the dispute may request the President of the International Court of Justice to appoint an arbitrator for the Party which has not designated an arbitrator. If within thirty (30) days of the designation or appointment of arbitrators for both the Parties the third arbitrator has not been elected, either Party may request the President of the International Court of Justice to appoint the third arbitrator. All decisions shall be made by majority vote of all the members of the arbitral tribunal. The arbitral procedure shall be fixed by the tribunal. The decisions of the tribunal shall be binding on both Parties and shall be implemented by them. The remuneration of the arbitrators shall be determined on the same basis as that for *ad hoc* judges of the International Court of Justice.

Article IX. For the purpose of this Agreement:

(a) "Appropriate governmental authority" means for Canada, the Atomic Energy Control Board, and for Egypt, the Nuclear Power Plants Authority;

(b) "Equipment" means any of the equipment listed in Annex B to this Agreement as well as any major components thereof which may exist;

(c) "Material" means any of the material listed in Annex C to this Agreement;

(d) "Nuclear material" means any source material or any special fissionable material as these terms are defined in Article XX of the Statute of the International Atomic Energy Agency which is attached as Annex D to this Agreement. Any determination by the Board of Governors of the International Atomic Energy Agency under Article XX of the Agency's Statute which amends the list of materials considered to be "source material" or "special fissionable material" shall only have effect under this Agreement when both Parties to this Agreement have informed each other in writing that they accept that amendment;

(e) "Governmental enterprise" means an enterprise under the jurisdiction of a Party which that Party has designated to the other Party in writing as a government enterprise;

(f) "Persons" means individuals, firms, corporations, companies, partnerships, associations and other entities private or governmental and their respective agents and local representatives; but the term "persons" shall not include "governmental enterprises" as defined in subparagraph (e) of this Article;

(g) "Technology" means technical data that the supplier Party has designated, prior to transfer in physical form and after consultation with the recipient Party, as being relevant in terms of non-proliferation and important for the design, production, operation or maintenance of equipment or for the processing of nuclear material or material and: (i) includes, but is not limited to, technical drawings, photographic negatives and prints, recordings, design data and technical and operating manuals; and (ii) excludes data available to the public;

(h) "International Atomic Energy Agency Safeguards in Connection With the Treaty on the Non-Proliferation of Nuclear Weapons" means the safeguards system provided for in the International Atomic Energy Agency's document INFCIRC/153.

Article X. (1) For the purpose of the entry into force of this Agreement, the Parties will inform each other by an exchange of notes that their respective constitutional and legal requirements have been completed. This Agreement shall enter into force on the date of the exchange of notes or, in the event that the exchange of notes does not take place on the same day, on the date of the reception of the last note.

(2) This Agreement may be amended at any time with the written consent of the Parties. Any such amendments shall enter into force by an exchange of notes as outlined in paragraph 1 of this Article.

(3) This Agreement shall remain in force for a period of thirty (30) years. If neither Party has notified the other Party of its intention to terminate the Agreement at least six (6) months prior to the expiry of that period, this Agreement shall continue in force for additional periods of five (5) years each unless, at least six (6) months before the expiration of any such additional period, a Party notifies the other Party of its intention to terminate this Agreement. Notwithstanding termination of this Agreement, the obligations contained in Article II paragraph 6, and in Articles III, IV, VI and VII of this Agreement shall remain in force until otherwise agreed between the Parties.

ANNEX A

(1) Equipment under the jurisdiction of the recipient Party designed, constructed or operated with technology subject to this Agreement, or with technology derived from transferred equipment subject to this Agreement.

(2) Without restricting the generality of the foregoing, equipment that satisfies all three following criteria:

- (a) That is of the same type as the equipment subject to this Agreement (i.e. its design, construction or operating processes are based on essentially the same or similar physical or chemical processes, as agreed in writing by the Parties prior to the transfer),
- (b) That is so designated by the recipient Party, or the supplier Party after consultation with the recipient Party, and
- (c) The first operation of which commences on a location within the jurisdiction of the recipient Party within 20 years of the date of the first operation of the equipment referred to in sub-paragraph (a).

Before the transfer of any equipment or technology the supplier Party shall specify in writing, and the recipient Party shall agree in writing, on the physical or chemical processes referred to above that characterize the relevant equipment.

(3) Material and nuclear material produced, reprocessed, enriched, fabricated, converted or otherwise altered in form or content as a result of the use of equipment subject to this Agreement.

(4) Nuclear material that is produced, reprocessed, enriched, fabricated, converted or otherwise altered in form or content as a result of the use of nuclear material or material subject to this Agreement.

ANNEX B

(1) *Nuclear reactors* capable of operation so as to maintain a controlled self-sustaining fission chain reaction, excluding zero energy reactors, the latter being defined as reactors with a designed maximum rate of production of plutonium not exceeding 100 grams per year.

A "nuclear reactor" basically includes the items within or attached directly to the reactor vessel, the equipment which controls the level of power in the core, and the components which normally contain or come in direct contact with or control the primary coolant of the reactor core.

It is not intended to exclude reactors which could reasonably be capable of modification to produce significantly more than 100 grams of plutonium per year. Reactors designed for sustained operation at significant power levels, regardless of their capacity for plutonium production, are not considered as "zero energy reactors".

(2) *Reactor pressure vessels.* Metal vessel, as complete units or as major shop-fabricated parts therefor, which are especially designed or prepared to contain the core of a nuclear reactor as defined in paragraph 1 above and are capable of withstanding the operating pressure of the primary coolant.

A top plate for a reactor pressure vessel is a major shop-fabricated part of a pressure vessel.

(3) *Reactor internals* (e.g. support columns and plates for the core and other vessel internals, control rod guide tubes, thermal shields, baffles, core grid plates, diffuser plates, etc.).

(4) *Reactor fuel charging and discharging machines.* Manipulative equipment especially designed or prepared for inserting or removing fuel in a nuclear reactor as defined in paragraph 1 above capable of on-load operation or employing technically

sophisticated positioning or alignment features to allow complex off-load fuelling operations such as those in which direct viewing of or access to the fuel is not normally available.

(5) *Reactor control rods*. Rods especially designed or prepared for the control of the reaction rate in a nuclear reactor as defined in paragraph 1 above.

This item includes, in addition to the neutron absorbing part, the support or suspension structures therefor if supplied separately.

(6) *Reactor pressure tubes*. Tubes which are especially designed or prepared to contain fuel elements and the primary coolant in a reactor as defined in paragraph 1 above at an operating pressure in excess of 50 atmospheres.

(7) *Zirconium tubes*. Zirconium metal and alloys in the form of tubes or assemblies of tubes, and in quantities exceeding 500 kg per year, especially designed or prepared for use in a reactor as defined in paragraph 1 above, and in which the relationship of hafnium to zirconium is less than 1:500 parts by weight.

(8) *Primary coolant pumps*. Pumps especially designed or prepared for circulating the primary coolant for nuclear reactors as defined in paragraph 1 above.

(9) *Plants for the reprocessing of irradiated fuel elements*, and equipment especially designed or prepared therefor:

A "plant for the reprocessing of irradiated fuel elements" includes the equipment and components which normally come in direct contact with and directly control the irradiated fuel and the major nuclear material and fission product processing streams. In the present state of technology only two items of equipment are considered to fall within the meaning of the phrase "and equipment especially designed or prepared therefor". These items are:

- (a) Irradiated fuel element chopping machines: remotely operated equipment especially designed or prepared for use in a reprocessing plant as identified above and intended to cut, chop or shear irradiated nuclear fuel assemblies, bundles or rods; and
- (b) Critically safe tanks (e.g. small diameter, annular or slab tanks) especially designed or prepared for use in a reprocessing plant as identified above, intended for dissolution of irradiated nuclear fuel and which are capable of withstanding hot, highly corrosive liquid, and which can be remotely loaded and maintained.

(10) *Plants for the fabrication of fuel elements*. A "plant for the fabrication of fuel elements" includes the equipment:

- (a) Which normally comes in direct contact with or directly processes, or controls, the production flow of nuclear material, or
- (b) Which seals the nuclear material within the cladding.

The whole set of items for the foregoing operations, as well as individual items intended for any of the foregoing operations, and for other fuel fabrication operations, such as checking the integrity of the cladding or the seal, and the finish treatment to the sealed fuel.

(11) *Equipment, other than analytical instruments, especially designed or prepared for the separation of isotopes of uranium*. "Equipment, other than analytical instruments, especially designed or prepared for the separation of isotopes of uranium" includes each of the major items of equipment especially designed or prepared for the separation process. Such items include:

- Gaseous diffusion barriers
- Gaseous diffuser housings
- Gas centrifuge assemblies, corrosion resistant to UF₆
- Jet nozzle separation units

- Vortex separation units
- Large UF₆ corrosion-resistant axial or centrifugal compressors
- Special compressor seals for such compressors.

(12) *Plants for the production of heavy water.* A “plant for the production of heavy water” includes the plant and equipment specially designed for the enrichment of deuterium or its compounds, as well as any significant fraction of the items essential to the operation of the plant.

- (13) Any major components of items 1 to 12 above which may exist.

ANNEX C

NON-NUCLEAR MATERIALS FOR REACTORS

(1) *Deuterium and heavy water.* Deuterium and any deuterium compound in which the ratio of deuterium to hydrogen exceeds 1:5000 for use in a nuclear reactor, as defined in paragraph 1 of Annex B, in quantities exceeding 200 kg of deuterium atoms in any period of 12 months.

(2) *Nuclear grade graphite.* Graphite having a purity level better than 5 parts per million boron equivalent and with a density greater than 1.50 grams per cubic centimetre in quantities exceeding 30 metric tons in any period of 12 months.

ANNEX D

ARTICLE XX OF THE STATUTE OF THE INTERNATIONAL ATOMIC ENERGY AGENCY

Definitions

As used in this Statute:

(1) The terms “special fissionable material” means plutonium-239; uranium-233; uranium enriched in the isotopes 235 or 233; any material containing one or more of the foregoing; and such other fissionable material as the Board of Governors shall from time to time determine but the term “special fissionable material” does not include source material.

(2) The term “uranium enriched in the isotopes 235 or 233” means uranium containing the isotopes 235 or 233 or both in an amount such that the abundance ratio of the sum of these isotopes to the isotope 238 is greater than the ratio of the isotope 235 to the isotope 238 occurring in nature.

(3) The term “source material” means uranium containing the mixture of isotopes occurring in nature; uranium depleted in the isotope 235; thorium; any of the foregoing in the form of metal, alloy, chemical compound, or concentrate; any other material containing one or more of the foregoing in such concentration as the Board of Governors shall from time to time determine; and such other materials the Board of Governors shall from time to time determine.

ANNEX E

AGREED LEVELS OF PHYSICAL PROTECTION

The agreed levels of physical protection to be ensured by the appropriate governmental authorities in the use, storage and transportation of the materials of the attached table shall as a minimum include protection characteristics as follows:

Category III

Use and Storage within an area to which access is controlled.

Transportation under special precautions including prior arrangement between sender, recipient and carrier, and prior agreement between states in case of international transport specifying time, place and procedures for transferring transport responsibility.

Category II

Use and Storage within a protected area to which access is controlled, i.e. an area under constant surveillance by guards or electronic devices, surrounded by a physical barrier with a limited number of points of entry under appropriate control, or any area with an equivalent level of physical protection.

Transportation under special precautions including prior arrangement between sender, recipient and carrier, and prior agreement between states in case of international transport specifying time, place and procedures for transferring transport responsibility.

Category I

Materials in this category shall be protected with highly reliable systems against unauthorized use as follows:

Use and Storage within a highly protected area, i.e. a protected area as defined for Category II above, to which, in addition, access is restricted to persons whose trustworthiness has been determined and under surveillance by guards who are in close communication with appropriate response forces. Specific measures taken in this context should have as their objective the detection and prevention of any assault, unauthorized access or unauthorized removal of material.

Transportation under special precautions as identified above for transportation of Category II and III materials and, in addition, under constant surveillance of escorts [and under conditions which ensure close communication with an appropriate rapid deployment force.]¹

¹ The text within brackets was missing in the authentic English text, and was translated by the Secretariat on the basis of the authentic French text.

TABLE. CATEGORIZATION OF NUCLEAR MATERIAL

<i>Material</i>	<i>Form</i>	<i>Category I</i>	<i>Category II</i>	<i>Category III</i>
1. Plutonium ^a	Unirradiated ^b	2 kg or more	Less than 2 kg but more than 500 g	500 g or less ^c
2. Uranium-235	Unirradiated ^b			
	— Uranium enriched to 20% ²³⁵ U or more	5 kg or more	Less than 5 kg but more than 1 kg	1 kg or less ^c
	— Uranium enriched to 10% ²³⁵ U but less than 20%		10 kg or more	Less than 10 kg ^c
	— Uranium enriched above natural, but less than 10% ²³⁵ U ^d			10 kg or more
3. Uranium-233	Unirradiated ^b	2 kg or more	Less than 2 kg but more than 500 g	500 g or less ^c
4. Irradiated fuel			Depleted or nat- ural uranium, thorium or low enriched fuel (less than 10% fissile content) ^e	

^a All plutonium except that with isotopic concentration exceeding 80% in plutonium -238.

^b Material not irradiated in a reactor or material irradiated in a reactor but with a radiation level equal to or less than 100 rads/hour at one meter unshielded.

^c Less than a radiologically significant quantity should be exempted.

^d Natural uranium, depleted uranium and thorium and quantities of uranium enriched to less than 10% not falling in Category III should be protected in accordance with prudent management practice.

^e Other fuel which by virtue of its original fissile material content is classified as Category I or II before irradiation may be reduced one category level when the radiation level from the fuel exceeds 100 rads/hour at one meter unshielded.

IN WITNESS WHEREOF, the undersigned, being duly authorized by their respective Governments, have signed this Agreement.

DONE in duplicate at Ottawa, this 17th day of May 1982 in the English, French and Arabic languages, each version being equally authentic.

EN FOI DE QUOI, les soussignés, dûment autorisés par leurs Gouvernements respectifs, ont signé le présent Accord.

FAIT en double exemplaire à Ottawa ce 17^e jour de mai 1982 dans les langues française, anglaise et arabe, chaque version faisant également foi.

وَأَشْهَدُ الْبُيُوتَانِ أَدْنَاهُ عَلَى هَذَا • وَتَفْوِضُ سَلِيمٍ مِنْ حُكُومَتَيْهِمَا - وَقَعَا
عَلَى هَذَا الْاِتِّفَاقِ •

حرر من صورتين في أوتاوا بتاريخ ١٧ / ٥ / ١٩٨٢
بكل من اللغات الانجليزية والفرنسية والعربية • وكل منها له نفس الحجية •

For the Government of Canada:
Pour le Gouvernement du Canada :

عن حكومة كندا

[Signed — Signé]¹

For the Government of the Arab Republic of Egypt:
Pour le Gouvernement de la République Arabe d'Egypte :

عن حكومة جمهورية مصر العربية

[Signed — Signé]²

¹ Signed by Marc Lalonde — Signé par Marc Lalonde.

² Signed by M. Abaza — Signé par M. Abaza.