

No. 24874

**CANADA
and
INDONESIA**

**Agreement concerning the peaceful uses of nuclear energy
(with annexes). Signed at Ottawa on 12 July 1982**

Authentic texts: English, French and Indonesian.

Registered by Canada on 16 July 1987.

**CANADA
et
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**Accord concernant les utilisations pacifiques de l'énergie
nucléaire (avec annexes). Signé à Ottawa le 12 juillet
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Textes authentiques : anglais, français et indonésien.

Enregistré par le Canada le 16 juillet 1987.

AGREEMENT¹ BETWEEN THE GOVERNMENT OF CANADA AND THE GOVERNMENT OF THE REPUBLIC OF INDONESIA CONCERNING THE PEACEFUL USES OF NUCLEAR ENERGY

The Government of Canada (hereinafter referred to as Canada) and the Government of the Republic of Indonesia (hereinafter referred to as Indonesia);

Conscious of the many benefits that the application of nuclear energy to peaceful purposes is providing;

Desiring to accelerate and enlarge the contribution that the development of nuclear energy can make to the welfare and prosperity of their peoples;

Recognizing the advantages to them both of effective co-operation in the development and application of nuclear energy for peaceful purposes;

Affirming their commitment to ensuring that the international development and use of nuclear energy for peaceful purposes are carried out under arrangements that will, to the maximum possible extent, further the objectives of the Treaty on the Non-Proliferation of Nuclear Weapons;²

Mindful that Indonesia and Canada as non-nuclear-weapon States Party to the Treaty on the Non-Proliferation of Nuclear Weapons have undertaken not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, and that they have concluded agreements with the International Atomic Energy Agency (hereinafter referred to as the "Agency") for the application of safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons;³

Affirming their support for the objectives of the Statute of the Agency, and their desire to promote universal adherence to the Treaty on the Non-Proliferation of Nuclear Weapons;

Underlining that the Treaty on the Non-Proliferation of Nuclear Weapons provides that nothing in that Treaty shall be interpreted as affecting the inalienable right of Parties to the Treaty on the Non-Proliferation of Nuclear Weapons to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with Articles I and II of that Treaty;

Underlining further that the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons 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 Treaty on the Non-Proliferation of Nuclear Weapons in a position to do so shall also co-operate in contributing together to the further development of the applications of nuclear energy for peaceful purposes;

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

¹ Came into force on 14 July 1983, the date of an exchange of notes by which the Parties informed each other of the completion of the necessary requirements, in accordance with article XV (1).

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

³ *Ibid.*, vol. 814, p. 255, and vol. 1227, p. 257.

Have agreed as follows:

Article I. For purposes of this Agreement:

(a) "Territory" means:

- (i) In respect of Canada, the territory of Canada as defined in its laws and parts of the continental shelf and adjacent waters, over which Canada has sovereignty, sovereign rights or other rights in accordance with international law;
- (ii) In respect of Indonesia, the territory of Indonesia as defined in its laws and parts of the continental shelf and adjacent seas, over which Indonesia has sovereignty, sovereign rights or other rights in accordance with international law.

(b) "Appropriate governmental authority" means such authority or authorities as the Party concerned may from time to time notify to the other Party;

(c) "Equipment" means the items and major components thereof specified in Part A of Annex B to this Agreement;

(d) "Material" means the non-nuclear material for reactors specified in Part B of Annex B to this Agreement;

(e) "Non-Proliferation Treaty safeguards agreement" means an agreement concluded in accordance with paragraph 1 of Article III of the Treaty on the Non-Proliferation of Nuclear Weapons, done at London, Moscow and Washington on 1 July 1968;

(f) "Nuclear material" means any "source material" or "special fissionable material" as those terms are defined in Article XX of the Statute of the Agency. Any determination by the Board of Governors of the Agency under Article XX of the Agency's Statute¹ that amends the list of materials considered to be "source material" or "special fissionable material" shall only have effect under this Agreement when both Parties have informed each other in writing that they accept that amendment;

(g) "Technology" means technical data, important for the design, production, operation or maintenance of equipment and significant in terms of non-proliferation, that the supplier Party has designated, prior to transfer in physical form and after consultation with the recipient Party, 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) "The Agency's safeguards system" means the safeguards system set out in the Agency document INFCIRC/66 (Rev.2) as well as any subsequent amendments thereto accepted by both Parties.

Article II. 1. The co-operation contemplated by this Agreement relates to the peaceful uses of nuclear energy and shall include but is not limited to:

(a) The supply of information, which encompasses technology, including that relating to:

- (i) Research and development;

¹ United Nations. *Treaty Series*, vol. 276, p. 3 and vol. 471, p. 334.

- (ii) Health and safety;
 - (iii) Equipment (including the supply of designs, drawings and specifications); and
 - (iv) Uses of nuclear material, material and equipment;
- (b) The supply of nuclear material, material and equipment;
 - (c) Transfer of rights to patents and licenses;
 - (d) Access to and use of equipment;
 - (e) The rendering of technical assistance and services; and
 - (f) The training of personnel.

2. The co-operation envisaged in this Article shall be effected on terms and conditions to be agreed and in accordance with the laws, regulations and policies of Indonesia and Canada respectively. The Parties may designate governmental authorities and natural or legal persons to undertake such co-operation.

3. The Parties shall, to such extent as is practicable, assist each other on matters within the scope of this Agreement. They shall encourage and facilitate co-operation between their governmental enterprises and persons under their jurisdiction on matters within the scope of this Agreement.

4. Subject to the terms and conditions 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 atomic energy for peaceful purposes, on commercial or other terms as may be agreed by the governmental enterprises or persons concerned.

5. 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 envisaged by this Agreement.

Article III. Nuclear material, material, equipment and technology that are listed in Annex A (hereinafter referred to as items) shall be subject to this Agreement.

Article IV. 1. The Parties shall agree in writing prior to transfer on any items which shall not be subject to the provisions of this Agreement.

2. Before the transfer of any equipment or technology, the Parties shall agree in writing on the physical or chemical processes that characterize the equipment or technology being transferred.

Article V. 1. Nuclear material referred to in Article III shall remain subject to the provisions of this Agreement until:

- (a) It is determined that it is no longer usable or it is no longer practicably recoverable for processing into a form in which it is usable for any nuclear activity relevant from the point of view of the safeguards referred to in Article VII;
- (b) It has been transferred beyond the territory of the recipient Party in accordance with the provisions of Article X; or
- (c) Otherwise agreed between the Parties.

2. For the purpose of determining when nuclear material subject to this Agreement is no longer usable or is no longer practicably recoverable for processing into a form in which it is usable for any nuclear activity relevant from the point of view of safeguards, both Parties shall accept a determination made by the Agency in accordance with the provisions for the termination of safeguards of the relevant safeguards agreement to which the Agency is a party and which is referred to in Article VII of this Agreement.

3. Material and equipment referred to in Article III shall remain subject to the provisions of this Agreement until:

- (a) It has been transferred beyond the jurisdiction of the recipient Party in accordance with the provisions of Article X; or
- (b) Otherwise agreed between the Parties.

Article VI. Items subject to this Agreement shall not be used for, or diverted to, the manufacture of any nuclear weapon, other military uses or the manufacture of any other nuclear explosive device.

Article VII. Nuclear material subject to this Agreement shall be subject while with the territory or under the jurisdiction or control of the recipient Party to safeguards applied by the Agency under the Non-Proliferation Treaty safeguards agreements in force, or, if the Agency is not administering such safeguards, under an agreement or agreements to which that Party and the Agency are parties that will provide safeguards equivalent in scope and effect to those provided by a Non-Proliferation Treaty safeguards agreement.

Article VIII. Notwithstanding the provisions of Article VII, if items subject to this Agreement are present in the territory of a Party or under its jurisdiction or control and the Agency is not administering safeguards pursuant to a safeguards agreement or agreements with that Party referred to in Article VII, 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 that provides for the application of safeguards to items subject to this Agreement. Such safeguards will be for the purpose of verifying compliance with Article VI. The Parties shall consult and assist each other in the establishment and application of that safeguards system.

Article IX. 1. Each Party shall take measures in accordance with its national laws and regulations to ensure adequate physical protection of nuclear material and, as necessary, of material, equipment and technology subject to this Agreement. In regard to nuclear material each Party shall apply, as a minimum, measures of physical protection that satisfy the levels set out in Annex C to this Agreement.

2. The Parties shall consult at the request of either Party concerning matters relating to physical protection of items subject to this Agreement, including those concerning physical protection during international transportation.

Article X. 1. Items subject to this Agreement shall be transferred beyond the jurisdiction of the recipient Party only with the prior written consent of the supplier Party.

2. Nuclear material subject to this Agreement shall be:

- (a) Enriched to more than 20 per cent in the isotope U235; or
- (b) Reprocessed;

only with the prior written consent of the supplier Party. Such consent shall include the conditions under which the resultant uranium enriched above 20 per cent or plutonium may be stored and used.

3. A Party shall not withhold its consent to a matter referred to in paragraph 1 or 2 for the purpose of securing commercial advantage.

4. If a Party considers that it is unable to grant consent to a matter referred to in paragraph 1 or 2, that Party shall provide the other Party with an immediate opportunity for full consultation on that issue.

Article XI. 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 Agency may be invited by either Party to participate in such consultations.

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

3. The appropriate governmental authorities of the Parties shall establish administrative arrangements to facilitate the implementation of this Agreement and shall consult annually or as otherwise agreed. Such consultations may be in writing.

4. The cost of reports and records that either Party is required to provide pursuant to the administrative arrangements referred to in paragraph 3 shall be borne by the Party that is required to provide the reports or records.

5. Each Party shall take all appropriate precautions in accordance with its laws and regulations to preserve the confidentiality of technology, of commercial and industrial secrets and of other confidential information received as a result of the operation of this Agreement.

Article XII. 1. The supplier Party shall have the right in the event of:

- (a) Detonation by the recipient Party of a nuclear explosive device; or
- (b) Determination in accordance with paragraph C of Article XII of the Statute of the Agency, that there has been non-compliance with, or repudiation of, a relevant safeguards agreement concluded with the Agency, by the recipient Party;

to suspend or cancel further transfers of nuclear material, material, equipment and technology and to require the return of items subject to this Agreement, subject to payment therefor at prices then current.

2. In the event of non-compliance by the recipient Party with the provisions of this Agreement, the supplier Party shall have the right to suspend or cancel further transfers of nuclear material, material, equipment and technology and to require the recipient Party to take corrective steps. If, following consultation between the Parties, such corrective steps are not taken within a reasonable time, the supplier Party shall thereupon have the right to require the return of items subject to this Agreement subject to payment therefor at prices then current.

Article XIII. Unless otherwise specified at the time of transfer, nothing in this Agreement shall be interpreted as imposing any responsibility on the Parties with regard to the suitability for any particular use of items supplied pursuant to commercial contracts.

Article XIV. Any dispute arising out of the interpretation or implementation of this Agreement shall be settled amicably through mutual consultation or negotiation between the two Parties.

Article XV. 1. This Agreement shall enter into force upon the date on which the Parties exchange diplomatic notes informing each other that they have complied with all applicable requirements for its entry into force and shall remain in force for a period of ten years. If neither Party has notified the other Party at least 180 days prior to the expiry of such period, this Agreement shall continue in force thereafter until 180 days after notice of termination has been given by either Party to the other Party.

2. In the event of termination of the present Agreement, the provisions of Articles I and III to XIV shall continue in effect so long as any item that was subject to this Agreement remains in existence, except as otherwise agreed between the Parties.

Article XVI. 1. This Agreement may be amended or revised if the Parties so agree.

2. Any amendment shall enter into force on the date the Parties, by an exchange of Notes, specify for its entry into force.

[For the testimonium and signatures, see p. 98 of this volume.]

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

DONE in duplicate at Ottawa, this [12th] day of [July] 1982, in the English, French and Indonesian languages, each version being equally authentic.

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

FAIT en double exemplaire à Ottawa, ce [12^e] jour de [juillet] 1982, dans les langues française, anglaise et indonésienne, chaque version faisant également foi.

SEBAGAI BUKTI, yang bertandatangan di bahwa ini, yang telah dikuasakan oleh Pemerintah masing-masing, menandatangani Persetujuan ini.

DIBUAT di pada tanggal dalam rangkap dua asli dalam bahasa Inggris, Indonesia dan Perancis, tiap naskah mempunyai kekuatan hukum yang sama.

MARK MACGUIGAN

For the Government of Canada
Pour le Gouvernement du Canada
Untuk Pemerintah Kanada

Prof. Dr. SUBROTO

For the Government of the Republic of Indonesia
Pour le Gouvernement de la République d'Indonésie
Untuk Pemerintah Republik Indonesia

ANNEX A

1. Nuclear material, material, equipment and technology transferred between the Parties whether directly or through a third country;

2. Nuclear material, material, equipment and technology derived from items described in 1 above as follows:

(a) All forms of nuclear material prepared by chemical or physical processes including isotopic separation in a quantity that is in the same proportion to the total quantity of each form as the quantity of nuclear material subject to this Agreement used in the process is to the total quantity of nuclear material used;

(b) All generations of nuclear material produced by neutron irradiation in a quantity that is in the same proportion to the total quantity of nuclear material produced as the contribution made by nuclear material subject to this Agreement is to the total production;

(c) Equipment located within the jurisdiction of the recipient Party designed, constructed or operated with technology subject to this Agreement, or with technology incorporating physical or chemical processes characteristic of transferred equipment subject to this Agreement;

(d) Equipment that:

- (i) First commences operation within 20 years of the date of the operation of equipment subject to this Agreement,
- (ii) Is of the same type (i.e. its design, construction or operating processes are based on the same or similar physical or chemical processes) as the equipment referred to in (i), and
- (iii) Is designated by the recipient Party, or the supplier Party after consultation with the recipient Party;

(e) Material that is produced by equipment subject to this Agreement and nuclear material that is produced, processed or used by or with material or equipment subject to this Agreement.

ANNEX B

PART A

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 vessels, 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 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 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, annually 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 UF_6
- Jet nozzle separation units
- Vortex separation units
- Large UF_6 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 especially 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.

PART B. NON-NUCLEAR MATERIALS FOR REACTORS

1. Deuterium and deuterium compounds: 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 Part A of this Annex 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 C

LEVELS OF PHYSICAL PROTECTION

The levels of physical protection to be satisfied by the Parties in the use, storage and transportation of the materials in the attached table shall as a minimum include protection characteristics as follows:

1. *Category III*

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

(b) Transportation under special precautions including prior arrangements among sender, recipient and carrier, and prior agreement between entities subject to the jurisdiction and regulation of supplier and recipient states, respectively, in case of international transport specifying time, place and procedures for transferring transport responsibility.

2. *Category II*

(a) 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.

(b) Transportation under special precautions including prior arrangements among sender, recipient and carrier, and prior agreement between entities subject to the jurisdiction and regulation of supplier and recipient states, respectively, in case of international transport specifying time, place and procedures for transferring transport responsibility.

3. *Category I*. Materials in this Category shall be protected with highly reliable systems against unauthorized use as follows:

(a) 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 which is 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.

(b) Transportation under special precautions as identified above for transportation of Category II and III materials and, in addition, under constant surveillance by escorts and under conditions which assure close communication with appropriate response forces.

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 natural uranium, thorium or low enriched fuel (less than 10% fissile content) ^{e, f}	

^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 Although this level of protection is recommended, it would be open to a Party upon evaluation of the specific circumstances, to assign a different category of physical protection.

^f 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.