

AGREEMENT  
BETWEEN THE GOVERNMENT OF CANADA  
AND THE GOVERNMENT OF THE HUNGARIAN PEOPLE'S REPUBLIC  
FOR CO-OPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY\*

The Government of Canada and the Government of the Hungarian People's Republic, both hereinafter referred to as the Parties;

DESIRING to strengthen the friendly relations that exist between the Parties;

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

RECOGNIZING that Canada and the Hungarian People's Republic are both non-nuclear weapon States Party to the Treaty on the Non-Proliferation of Nuclear Weapons done at London, Moscow and Washington on July 1, 1968 (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 Parties have concluded agreements with the International Atomic Energy Agency for the application of safeguards in connection with the NPT;

UNDERLINING further that the Parties to the NPT have undertaken to facilitate, and have the right to participate in, the fullest possible exchange of nuclear material, material, equipment 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;

INTENDING, therefore, to co-operate with one another to these ends;

HAVE AGREED as follows:

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\* The Agreement entered into force on 12th January 1988.

## ARTICLE I

For the purpose of this Agreement:

- a) "The Agency's Safeguards System" means the safeguards system set out in the International Atomic Energy Agency document INFCIRC/66 Rev. 2 as well as any subsequent amendments thereto;
- b) "Appropriate governmental authority" means for Canada, the Atomic Energy Control Board, and for the Hungarian People's Republic, the National Atomic Energy Commission;
- c) "Equipment" means any of the equipment listed in Annex B to this Agreement;
- d) "Material" means any of the material listed in Annex C to this Agreement;
- e) "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 material considered to be "source material" or "special fissionable material", shall only have effect under this Agreement when the Parties to this Agreement have informed each other in writing that they accept that amendment;
- f) "Persons" means individuals, firms, corporations, companies, partnerships, associations and other entities, private or governmental, and their respective agents; and
- g) "Technology" means technical data that the supplier Party has designated, prior to transfer 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.

## ARTICLE II

1. The co-operation contemplated under this Agreement relates to the use, development and application of nuclear energy for peaceful purposes and may include, inter alia:

- a) The supply of information, which includes technology, related to:
  - i) Research and development,

- ii) Health, nuclear safety, emergency planning and environmental protection,
  - iii) Equipment (including the supply of designs, drawings and specifications),
  - iv) Uses of nuclear material, material and equipment (including manufacturing processes and specifications), and
  - v) Transfer of patent and other proprietary rights;
- b) The supply of nuclear material, material and equipment;
  - c) The implementation of projects for research and development as well for design and application of nuclear energy for use in such field agriculture, industry, medicine and the generation of electricity;
  - d) Industrial co-operation between persons in Canada and in the Hungary People's Republic;
  - e) Technical training and related access to and use of equipment; and
  - f) The rendering of technical assistance and services, including exchange of experts and specialists.

#### ARTICLE III

1. The Parties shall encourage and facilitate co-operation between persons under their respective jurisdictions on matters within the scope of this Agreement.
2. Subject to the terms of this Agreement, persons under the jurisdiction of either Party may supply to or receive from persons under the jurisdiction of the other Party nuclear material, material, equipment and technology, commercial or other terms as may be agreed by the persons concerned.
3. Subject to the terms of this Agreement, persons under the jurisdiction of either Party may provide persons under the jurisdiction of the other Party with technical training in the application of nuclear energy for peaceful on commercial or other terms as may be agreed by the persons concerned.
4. The Parties, in accordance with their respective laws and regulations will make efforts to facilitate exchanges of experts, technicians and specialists related to activities under this Agreement.
5. The Parties shall take all appropriate precautions in accordance their respective laws and regulations to preserve the confidentiality of information including commercial and industrial secrets transferred between persons under the jurisdiction of either Party.

6. The Parties may, if appropriate and subject to terms and conditions to be mutually determined, collaborate on safety and regulatory aspects of the production of nuclear energy including a) exchange of information and b) technical co-operation and training.

7. A Party shall not use the provisions of this Agreement for the purpose of securing commercial advantage or for the purpose of interfering with the commercial relations of the other Party.

#### ARTICLE IV

1. Nuclear material, material, equipment and technology contained in Annex A shall be subject to this Agreement unless otherwise agreed by the Parties.

2. Items other than those covered by paragraph 1 of this Article shall be subject to this Agreement when the Parties have so agreed in writing.

3. The appropriate governmental authorities of both Parties shall establish notification and other administrative procedures in order to implement the provisions of this Article.

#### ARTICLE V

Nuclear material, material, equipment and technology subject to this Agreement shall not be transferred beyond the jurisdiction of a Party to this Agreement to a third party without the prior written consent of the other Party. An arrangement to facilitate the implementation of this provision may be established by the Parties.

#### ARTICLE VI

Nuclear material subject to this Agreement shall not be enriched to twenty (20) per cent or more in the isotope U-235 or reprocessed without the prior written consent of both Parties. Such consent shall include the conditions under which the resultant plutonium or uranium enriched to twenty (20) per cent or more may be stored and used. An arrangement to facilitate the implementation of this provision may be established by the Parties.

## ARTICLE VII

1. Nuclear material, material, equipment and technology subject to this Agreement shall not be used to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices. The use, development or application of nuclear energy for peaceful purposes shall not include the development, manufacture, acquisition or detonation of nuclear devices.

2. With respect to nuclear material, the commitment contained in paragraph 1 of this Article shall be verified pursuant to the safeguards agreement between each Party and the International Atomic Energy Agency, in connection with the NPT. 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 such safeguards or of a safeguards system that conforms to 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 VIII

1. Nuclear material shall remain subject to this Agreement until:
  - a) It is determined that it is no longer either 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 VII 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 jurisdiction of the recipient Party in accordance with the provisions of Article V of this Agreement; or
  - c) Otherwise decided between the Parties.
2. Material and equipment shall remain subject to this Agreement until:
  - a) Transferred from the jurisdiction of the recipient Party in accordance with the provisions of Article V of this Agreement; or
  - b) Otherwise decided between the Parties.
3. Technology shall remain subject to this Agreement until otherwise decided between the Parties.

## ARTICLE IX

1. Each Party shall take all measures necessary, commensurate with the assessed threat prevailing from time to time, to ensure the physical protection 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 consult at the request of either Party concerning matters related to physical protection of nuclear material, material, equipment and technology subject to this Agreement including those concerning physical protection during international transportation.

## ARTICLE X

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 arrangements to facilitate the effective implementation of this Agreement and shall consult annually or at any other time at the request of either. Such consultations may take the form of an exchange of correspondence.
3. Each Party shall, upon request, inform the other Party of the 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 this Agreement.

## ARTICLE XI

1. Any dispute between the Parties concerning the interpretation or application of this Agreement shall as far as possible be settled through negotiations.
2. If the dispute cannot thus be settled, it shall upon the request of either Party be submitted to an arbitral tribunal.
3. The arbitral tribunal shall be constituted as follows: the Parties shall each designate one arbitrator and these two arbitrators shall elect a national of a third state as chairman. The arbitrators for both Parties shall be designated within sixty (60) days of the request for arbitration, and the chairman shall be elected within sixty (60) days of the designation of the second arbitrator.

4. If one of the Parties fails to designate its arbitrator and has not proceeded to do so within the specified period, the other Party may invite the Secretary General of the United Nations to appoint an arbitrator. If the two arbitrators are unable to elect a third arbitrator within the specified period, either Party may invite the Secretary General of the United Nations to make the necessary appointment.

5. In reaching its decision, the arbitral tribunal shall be guided by Articles 31 and 32 of the Vienna Convention on the Law of Treaties of May 23, 1969.

6. Unless otherwise agreed, the arbitral tribunal shall determine its own procedure.

7. A majority of the members of the arbitral tribunal shall constitute a quorum and all decisions shall require a majority of votes. Such decisions shall be final and binding on the Parties.

8. Each Party shall bear the cost of the arbitrator appointed by itself and of its representation. The cost of the chairman as well as the other costs will be borne in equal parts by the Parties.

## ARTICLE XII

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 last note.

2. This Agreement may be amended at any time with the written consent of the Parties. Any amendments to this Agreement shall enter into force in accordance with the provisions of 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 ten (10) 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.

4. Notwithstanding termination of this Agreement, the obligations contained in Article III, paragraph 5 and in Articles IV, V, VI, VII, VIII, IX, X and XI of this Agreement shall remain in force until otherwise agreed by the Parties.

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

DONE AT Budapest, this 27th day of November 1987,

in duplicate in the English, French and Hungarian languages, each version being equally authentic.

#### Annex A

#### NUCLEAR MATERIAL, MATERIAL, EQUIPMENT AND TECHNOLOGY SUBJECT TO THE AGREEMENT

i) Nuclear material, material, equipment and technology transferred between the Parties, directly or through third countries;

ii) Material and nuclear material that is produced or processed on the basis, or by the use, of any equipment subject to this Agreement;

iii) Nuclear material that is produced or processed on the basis, or by the use, of any nuclear material or material subject to this Agreement;

iv) Equipment which the recipient Party, or the supplying Party after consultations with the recipient Party, has designated as being designed, constructed or operated on the basis, or by the use, of the technology referred to above, or technical data derived from equipment referred to above.

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

- a) That is of the same type as equipment referred to in i) [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 of the equipment referred to in i)];
- 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 at 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).



## Annex B

### EQUIPMENT

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 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 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 - Support columns and plates for the core and other vessel internals, control rod guide tubes, thermal shields, baffles, core support 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 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 designed especially 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, and
- c) 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<sub>6</sub>
- 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 or components of items 1 to 12 above.

#### Annex C

#### MATERIAL

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 gram 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 term "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 as 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 assure close communication with appropriate response forces.

Table: CATEGORIZATION OF NUCLEAR MATERIAL

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

- 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 which 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.