

**No. 53149\***

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**Canada  
and  
Ukraine**

**Agreement between the Government of Canada and the Government of Ukraine for co-operation in the peaceful uses of nuclear energy (with annexes). Ottawa, 20 December 1995**

**Entry into force:** *14 January 1999 by notification, in accordance with article XII*

**Authentic texts:** *English, French and Ukrainian*

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**Canada  
et  
Ukraine**

**Accord de coopération entre le Gouvernement du Canada et le Gouvernement de l'Ukraine concernant les utilisations pacifiques de l'énergie nucléaire (avec annexes). Ottawa, 20 décembre 1995**

**Entrée en vigueur :** *14 janvier 1999 par notification, conformément à l'article XII*

**Textes authentiques :** *anglais, français et ukrainien*

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[ ENGLISH TEXT – TEXTE ANGLAIS ]

**AGREEMENT  
BETWEEN  
THE GOVERNMENT OF CANADA  
AND  
THE GOVERNMENT OF UKRAINE  
FOR CO-OPERATION IN THE  
PEACEFUL USES OF NUCLEAR ENERGY**

**THE GOVERNMENT OF CANADA** (hereinafter referred to as "Canada") and **THE GOVERNMENT OF UKRAINE** (hereinafter referred to as "Ukraine"), 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 Ukraine 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 each Party has concluded an agreement with the International Atomic Energy Agency (hereinafter referred to as the "IAEA") 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:

**ARTICLE I**

For the purpose of this Agreement:

- (a) "Appropriate governmental authority" means for Canada, the Atomic Energy Control Board, and for Ukraine, the State Committee on the Use of Nuclear Energy of Ukraine;
- (b) "Equipment" means any of the equipment listed in Annex B to this Agreement;
- (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 IAEA which is attached as Annex D to this Agreement. Any determination by the Board of Governors of the IAEA under Article XX of the IAEA's Statute that 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 determination;
- (e) "Persons" means individuals, firms, corporations, companies, partnerships, associations and other entities, private or governmental whether possessed of legal personality or not and their respective agents;
- (f) "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; but (ii) excludes data available to the public; and
- (g) "The Agency's Safeguards Systems" means the safeguards system set out in the IAEA document INFCIRC/66 Rev 2 as well as any subsequent amendments thereto which are accepted by the Parties.

## ARTICLE II

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 the transfer of patent and other proprietary rights pertaining to that information;
- (b) the supply of nuclear material, material and equipment;
- (c) the implementation of projects for research and development as well as for design and for application of nuclear energy for use in such fields as agriculture, industry, medicine and the generation of electricity;
- (d) industrial co-operation between persons in Canada and in Ukraine;
- (e) technical training and related access to and use of equipment;

- (f) the rendering of technical assistance and services, including exchanges of experts and specialists; and
- (g) the exploration for and development of uranium resources.

### 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, on 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 uses on commercial or other terms as may be agreed by the persons concerned.
- (4) The Parties will make efforts to facilitate exchanges of experts, technicians and specialists related to activities under this Agreement.
- (5) The Parties shall take all precautions necessary to preserve the confidentiality of information including commercial and industrial secrets transferred between persons under their respective jurisdictions.
- (6) The Parties may, subject to terms and conditions to be jointly 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.
- (8) The cooperation contemplated by this Agreement shall be in accordance with the laws, regulations, and policies in force in Canada and Ukraine.

### ARTICLE IV

- (1) Nuclear material, material, equipment and technology identified 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) Prior to the transfer of nuclear material, material, equipment and technology between the Parties, whether directly or through third parties, the appropriate governmental authorities shall agree, through an exchange of written notifications, on nuclear material, material, equipment and technology subject to this Agreement.

### ARTICLE V

Prior to the transfer of any nuclear material, material, equipment or technology subject to this Agreement beyond the jurisdiction of a Party to this Agreement to a third party, the written consent of the other Party shall be obtained.

**ARTICLE VI**

Prior to the enrichment of any nuclear material subject to this Agreement to twenty (20) percent or more in the isotope U 235 or to the reprocessing of any nuclear material subject to this Agreement, written consent of both Parties shall be obtained. Such consent shall describe the conditions under which the resultant plutonium or uranium enriched to twenty (20) percent or more may be stored and used. An agreement 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.
- (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 IAEA, in connection with the NPT. However, if for any reason or at any time the IAEA 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 IAEA 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 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 IAEA in accordance with the provisions for the termination of safeguards of the relevant safeguards agreement to which the IAEA is a party;
  - (b) it has been transferred to a third party in accordance with the provisions of Article V of this Agreement; or
  - (c) otherwise agreed between the Parties.
- (2) Material and equipment shall remain subject to this Agreement until:
  - (a) transferred to a third party in accordance with the provisions of Article V of this Agreement; or
  - (b) otherwise agreed between the Parties.
- (3) Technology shall remain subject to this Agreement until otherwise agreed 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 the 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 fulfilment of the obligations of this Agreement. The IAEA 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 authority. Such consultations may take the form of an exchange of correspondence.
- (3) Each Party shall, upon the other Party's request, inform the other Party of the conclusions of the most recent report by the IAEA on the IAEA's verification activities in its territory, relevant to the nuclear material subject to this Agreement.

**ARTICLE XI**

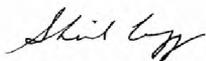
Any dispute arising out of the interpretation or application of this Agreement which is not settled by negotiation or as may otherwise be agreed between the Parties shall, on the request of either Party, be submitted to an arbitral tribunal which shall be composed of three arbitrators. Each Party shall designate one arbitrator and the two arbitrators so designated shall elect a third, not a national of either Party, 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. A majority of the members of the arbitral tribunal shall constitute a quorum, and 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 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 ten (10) 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 in duplicate, at Ottawa, this 20<sup>th</sup> day of December 1995, in the English, French and Ukrainian languages, each version being equally authentic.



**FOR THE GOVERNMENT  
OF CANADA**



**FOR THE GOVERNMENT  
OF UKRAINE**

ANNEX A

**Nuclear Material, Material, Equipment and  
Technology Subject to the Agreement**

- (i) Nuclear material, material, equipment and technology transferred between the territories of the Parties, directly or through third parties;
- (ii) Material and nuclear material that is produced or processed on the basis, or by the use, of equipment subject to this Agreement;
- (iii) Nuclear material that is produced or processed on the basis, or by the use, of 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 of 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 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: 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. Items of equipment that are considered to fall within the meaning of the phrase "and equipment especially designed or prepared therefor" include:

- (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 into 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 UF<sub>6</sub> 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 or prepared 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 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 IAEA**

**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 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.

Material	Form	Category I	Category II	Category III <sup>c</sup>
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 but more than 15 g
2. Uranium - 235	Unirradiated <sup>b</sup> - uranium enriched to 20% <sup>235</sup> U or more - uranium enriched to 10% <sup>235</sup> U but less than 20% <sup>235</sup> U - uranium enriched above natural, but less than 10% <sup>235</sup> U	5 kg or more - -	Less than 5 kg but more than 1 kg  10 kg or more  -	1 kg or less but more than 15 g  Less than 10 kg but more than 1 kg  10 kg or more
3. Uranium - 233	Unirradiated <sup>b</sup>	2 kg or more	Less than 2 kg but more than 500 g	500 g or less but more than 15 g
4. Irradiated Fuel			Depleted or natural uranium, thorium or low enriched fuel (less than 10% fissile content) <sup>d,e</sup>	

- 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 rad/hour at one metre unshielded.
- c. Quantities not falling in Category III and natural uranium, depleted uranium and thorium should be protected at least in accordance with prudent management practice.
- d. Although this level of protection is recommended, it would be open to States, upon evaluation of the specific circumstances, to assign a different category of physical protection.
- 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 while the radiation level from the fuel exceeds 100 rad/hour at one metre unshielded.