

No. 16819

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**UNITED STATES OF AMERICA  
and  
CANADA**

**Memorandum of understanding-Arrangement relating to information in the nuclear field (with patent addendum and annexes). Signed at Ottawa on 6 August 1976 and at Washington on 8 September 1976**

*Authentic text: English.*

*Registered by the United States of America on 10 July 1978.*

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**ÉTATS-UNIS D'AMÉRIQUE  
et  
CANADA**

**Mémoire d'accord-Arrangement relatif à l'échange d'informations dans le domaine nucléaire (avec additif relatif aux brevets et annexes). Signé à Ottawa le 6 août 1976 et à Washington le 8 septembre 1976**

*Texte authentique : anglais.*

*Enregistré par les États-Unis d'Amérique le 10 juillet 1978.*

## MEMORANDUM OF UNDERSTANDING-ARRANGEMENT<sup>1</sup> BETWEEN THE U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION AND ATOMIC ENERGY OF CANADA LIMITED RELATING TO INFORMATION IN THE NUCLEAR FIELD

Whereas the U.S. Energy Research and Development Administration (ERDA), the successor to the U.S. Atomic Energy Commission, and Atomic Energy of Canada Limited (AECL) have maintained an extensive and close cooperative association pursuant to the Agreement for cooperation concerning civil uses of atomic energy between the Government of the United States of America and the Government of Canada signed on June 15, 1955,<sup>2</sup> as amended,<sup>3</sup>

Whereas cooperation between ERDA and AECL has also reflected arrangements undertaken pursuant to the 1960 Memorandum of Understanding Regarding the Cooperative Program Between the United States Atomic Energy Commission and Atomic Energy of Canada Limited in the Development of Heavy Water Moderated Power Reactors,

Considering that ERDA and AECL have developed capabilities in the nuclear energy field of mutual interest,

Recognizing from previous and on-going cooperation the advantages of sharing information derived from respective experiences and capabilities,

Noting the respective statutory authority of ERDA and AECL to disseminate non-classified information related to nuclear energy, and

Desiring to engage in specific cooperative arrangements to exchange unclassified information concerning radioactive waste management and systems analysis of heavy water power reactors.

ERDA and AECL, the Parties to this Arrangement, agree as follows:

### TOPICS OF INFORMATION EXCHANGE

#### *Section 1*

Unclassified information in the following civil use areas will be exchanged:

- A. Management of radioactive waste;
- B. Information relevant to systems analysis of heavy water power reactors, including information on reactor fuel cycles and support facilities pertinent to energy systems analysis;
- C. Specific technical scopes on the above are included in the Annexes to this document.

#### *Section 2*

In addition to the areas of information exchange identified in Section 1, other areas concerning civil uses of atomic energy may be considered at any time under this Arrangement by mutual agreement of the Parties.

<sup>1</sup> Came into force on 8 September 1976 by signature, in accordance with section 15.

<sup>2</sup> United Nations, *Treaty Series*, vol. 235, p. 175.

<sup>3</sup> *Ibid.*, vol. 279, p. 318; vol. 377, p. 412, and vol. 453, p. 362.

### *Section 3. IMPLEMENTATION OF INFORMATION EXCHANGE*

A. Cooperation under this Arrangement may include but is not limited to the following forms:

- (1) Exchange of correspondence and provision of reports, documents, abstracts, analyses, and evaluated data shall follow procedures agreed upon by the Parties;
- (2) Exchange of personnel, such as scientists, technicians and engineers, including visits and assignments of personnel to ERDA and AECL facilities and facilities of the Parties' contractors that are involved in the civil uses covered by this Arrangement;
- (3) Organization of joint consultations, seminars, panels and meetings;
- (4) Transfer of appropriate instrumentation, samples and incidental equipment and materials, under agreed terms and conditions.

B. For implementation of this Arrangement:

- (1) Each Party shall designate a principal coordinator for the areas of information exchange set forth in Section 1 and relevant Annexes;
- (2) Specific activities in the principal areas of information exchange shall be carried out in accordance with Subsidiary Arrangements agreed to by the Parties and which shall be annexed to this Arrangement. Such Subsidiary Arrangements shall be consistent with the provisions of this Arrangement and shall address appropriate considerations such as: legal and financial responsibilities of the Parties; frequency of meetings; particular facilities to be involved; and dissemination of information resulting from cooperation. Subsidiary Arrangements as contemplated in this Section may relate to a principal area of information exchange, a subaspect or subaspects of the principal area involved, or both, as the Parties may agree.

### *Section 4. OTHER FORMS OF COOPERATION*

A. In addition to the exchange of information provided for in Section 3, cooperation under this Arrangement may include joint projects on radioactive waste management, heavy water reactor fuel cycles and support facilities pertinent to energy systems analysis of heavy water power reactors, conduct of irradiation experiments for the ERDA water breeder reactor programs, and such other areas as may be mutually agreed to. Any such joint project shall be the subject of a subsidiary agreement between the Parties. Such subsidiary agreement shall specify details regarding the conduct of the joint project(s) and shall set forth more detailed provision governing such matters as scope of the project(s), materials and equipment to be exchanged, liability (including third party liability) which may result from conduct of the project(s), special patent, copyright and technical data provision (as appropriate), and financing. To the extent that such subsidiary agreements do not contain provisions different from those contained in this Arrangement, the provision of this Arrangement shall govern.

B. The Parties agree to engage in discussions, at an appropriate time, with the common purpose of seeking a multinational approach to the terminal storage of radioactive waste and, if found to be an acceptable further step, to undertake jointly funded projects, including field investigations of terminal storage with locations suitable for multinational use.

## BASIC CONDITIONS

*Section 5*

The application or use of any information exchanged or transferred under this Arrangement shall be the responsibility of the recipient, and the transmitting Party does not warrant the suitability, completeness, or accuracy of such information for any particular use or application.

*Section 6*

Cooperation under this Arrangement will accord with applicable laws, regulations and licence requirements of the Parties, including, as may be applicable, the aforementioned Agreement for Cooperation Concerning Civil Uses of Atomic Energy and the 1960 Memorandum of Understanding.

*Section 7*

Subject to Section 6, the Parties agree to use their best efforts to balance and maximize exchange of information under this Arrangement.

*Section 8*

The Parties will use their good offices to facilitate activities under this Arrangement, particularly those involving exchange, visits or assignments of personnel, recognizing that there are established requirements and procedures governing visits and assignments to facilities of the respective Parties, including contractor facilities, which requirements and procedures are not affected by this Arrangement.

*Section 9*

Each Party shall bear the costs of its own participation under this Arrangement, unless otherwise agreed. Cooperation under this Arrangement shall be subject to the availability of appropriated funds.

*Section 10*

The Parties agree to establish jointly any detailed procedures required to effectuate this Arrangement and that all situations not specifically covered in this Arrangement shall be settled by mutual agreement governed by the basic principle of equivalent benefits to both Parties.

## PATENTS AND DATA

*Section 11*

The Parties agree that the provisions of the Patent Addendum, attached hereto and made a part hereof, are applicable with respect to the disposition of patent rights or any inventions made by the Parties under this Arrangement.

*Section 12*

This Arrangement shall not require the furnishing of information which the possessing Party does not have the right to disclose without limitation.

*Section 13*

Industrial property of a proprietary nature, such as trade secrets, inventions, patent information and know-how acquired by either Party prior to or outside the course of cooperation under this Arrangement, may be exchanged hereunder. Such information, which shall bear a restrictive designation,

(a) May be made available by the recipient Party to its employees, and to its prime and subcontractors, for use only within the framework of such contract(s) as relate to the subject matter of the information so furnished; but

(b) Shall not be further disseminated, used for commercial purposes, or made public without the consent of the transmitting Party, except as may be required by the laws of the recipient Party.

For purposes of this Section, “industrial property of a proprietary nature” shall include information which:

- (1) Is of a type customarily held in confidence by commercial firms;
- (2) Is not generally known or publicly available from other sources;
- (3) Has not already been made available by the originating Party or others without an agreement concerning its confidentiality; and
- (4) Is not already in the possession of the receiving Party or its contractors and does not come into their possession from another source.

#### CONSULTATION AND PERIOD OF COOPERATION

##### *Section 14*

The Parties may consult at any time with respect to modifying the provisions of this Arrangement, including expansion of its scope to include the undertaking of specific cooperative projects and separate but complementary projects relative to the fields of information exchange covered by this Arrangement.

##### *Section 15*

This Arrangement shall enter into force upon the later date of signature by a Party and shall remain in force for a period of four years, unless terminated earlier by mutual agreement of the Parties. The fourth year term may be extended by mutual agreement of the Parties. This Arrangement shall be executed in duplicate.

For the U.S. Energy Research and  
Development Administration:

RICHARD N. ROBERTS

*Date: 9.8.76<sup>1</sup>*

For Atomic Energy of Canada Limited:

J. S. FOSTER

E. DESLAURIERS

*Date: 8/6/76<sup>2</sup>*

#### PATENT ADDENDUM TO MEMORANDUM OF UNDERSTANDING- ARRANGEMENT BETWEEN THE U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION AND ATOMIC ENERGY OF CANADA LIMITED RELATING TO INFORMATION IN THE NUCLEAR ENERGY FIELD

The disposition of right, title and interest in and to any invention or discovery made or conceived in the course of cooperation under the Arrangement established by the Memorandum of Understanding, including any Subsidiary Arrangements concluded, shall accord with the following, unless otherwise agreed by the Parties:

A. If made or conceived by personnel of one Party (the Assigning Party) or its contractors while assigned to the other Party (the Receiving Party) or its contractors:

<sup>1</sup> 8 September 1976.

<sup>2</sup> 6 August 1976.

- (1) The Receiving Party shall acquire all right, title and interest in and to any such invention, discovery, patent application or patent in its own country and in third countries, subject to a non-exclusive, irrevocable, royalty-free license to the Assigning Party, with the right to grant sublicenses, under any such invention, discovery, patent application or patent for use in the production or utilization of special nuclear material or atomic energy;
- (2) The Assigning Party shall acquire all right, title and interest in and to any such invention, discovery, patent application or patent in its own country, subject to a non-exclusive, irrevocable royalty-free license to the Receiving Party, with the right to grant sublicenses, for use in the production or utilization of special nuclear material or atomic energy.

B. If made other than in paragraph A above, and by personnel while in attendance at meetings or when employing information which has been communicated under the Arrangement by one Party or its contractors to the other Party or its contractors, the Party making the invention shall acquire all right, title and interest in and to any such invention, discovery, patent application or patent in all countries, subject to a grant to the other Party of a non-exclusive, irrevocable royalty-free license, with the right to grant sublicenses, in all countries for use in the production or utilization of special nuclear material or atomic energy.

C. With regard to any other specific forms of cooperation, including provision of materials, samples, instruments and equipment, it is agreed that additional, mutual specific patent arrangements shall be made.

D. Neither Party shall discriminate against citizens of the country of the other Party with respect to granting any licenses or sublicenses under any invention, discovery, patent application or patent pursuant to sub-paragraphs A(1) and (2) above.

E. Each Party waives any and all claims against the other Party for compensation, royalty or awards as regards any such invention or discovery, patent application or patent and releases the other Party with respect to any and all such claims.

## ANNEX 1

### MEMORANDUM OF UNDERSTANDING-ARRANGEMENT BETWEEN THE U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION AND ATOMIC ENERGY OF CANADA LIMITED RELATING TO INFORMATION IN WASTE MANAGEMENT

The technical scope of this activity will include exchanging information in the following areas:

- (1) Terminal Storage in Geologic Formations
  - a. Characterization of Geologic Formations
  - b. Development and Testing of Facilities
  - c. Safety Assessment and Public Acceptance Matters
- (2) Technology of Retrievable Storage
  - a. Design Verification of Canister Storage
  - b. Retrieval Design in Geologic Repositories
- (3) Waste Processing Technology
  - a. High Level Waste Solidification
  - b. Fuel Hardware and Hulls
  - c. Intermediate and Low Level Liquid Waste

- d.* Contaminated Solid Waste
    - i. Combustibles
    - ii. Non-combustibles
  - e.* Airborne Waste
    - i. Particulates and Iodine
    - ii. Noble Gases
    - iii. Tritium, including its separation from water
    - iv. Carbon-14
- (4) Environmental Effects
    - a.* Assessment Methodology
    - b.* Burial Ground Waste Migration Models
  - (5) Other aspects as may be mutually agreed upon.

## ANNEX 2

### MEMORANDUM OF UNDERSTANDING-ARRANGEMENT BETWEEN THE U.S. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION AND ATOMIC ENERGY OF CANADA LIMITED RELATING TO INFORMATION IN SYSTEM ANALYSIS OF HEAVY WATER POWER REACTORS AND RELATED REACTOR FUELS CYCLES, AND SUPPORT FACILITIES

The technical scope of this activity will include exchanging information in the following areas:

- (1) Economic data, including detailed information on capital costs, fuel cycle costs and operating and maintenance costs of the power plants and associated fuel cycles and support facilities;
  - (2) Reactor system, power plant and associated fuel cycle characteristics necessary for comparative systems studies, including information on physics, fuel management, fuel resource requirements, and reactor system and plant operating characteristics;
  - (3) Information on the plant design and regulatory criteria and standards to which plants, fuel cycle plants and radioactive waste management facilities are designed, built, operated and maintained;
  - (4) Information on present and projected research, development and demonstration activities related to nuclear fuel cycles (including thorium) and support facilities (such as fuel cycle plants), pertinent to systems analysis;
  - (5) Review of systems analysis plans, input, analytical methods and codes, procedures, results and assessments, to assure consistency of their technical and economic basis; and
  - (6) Other aspects as may be mutually agreed upon.
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