

No. 3299

**UNITED STATES OF AMERICA
and
BELGIUM**

**Agreement for co-operation concerning civil uses of atomic
energy. Signed at Washington, on 15 June 1955**

Official texts: English and French.

Registered by the United States of America on 25 April 1956.

**ÉTATS-UNIS D'AMÉRIQUE
et
BELGIQUE**

**Accord de coopération relatif aux usages civils de l'éner-
gie atomique. Signé à Washington, le 15 juin 1955**

Textes officiels anglais et français

Enregistré par les États-Unis d'Amérique le 25 avril 1956.

No. 3299. AGREEMENT¹ FOR CO-OPERATION BETWEEN THE GOVERNMENT OF THE UNITED STATES OF AMERICA AND THE GOVERNMENT OF BELGIUM CONCERNING THE CIVIL USES OF ATOMIC ENERGY. SIGNED AT WASHINGTON, ON 15 JUNE 1955

Beginning with discussions in 1940 the Government of the United States of America and the Government of Belgium have cooperated with each other in the atomic energy field.

As a result of these discussions, the Belgian Government and the Governments of the United States and the United Kingdom reached a common understanding as to the desirability during World War II, as well as in the future, that all uranium ores wherever located should be subject to effective control for the protection of civilization. To this end, the Government of Belgium undertook to insure effective control of such ores located in all territory subject to its authority.

The Belgian Government has also made available Congo uranium ores to the United States and the United Kingdom through commercial contracts. The Belgian Government further undertook to use its best endeavors to supply such quantities of uranium ores as might be required by the Governments of the United States and the United Kingdom.

The arrangements outlined above were on the understanding that Belgium would reserve for itself such quantities of uranium ores as might be required for its own scientific and industrial purposes. The Belgian Government, however, in deciding to utilize such ores as a source of energy for commercial power would do so in consultation and in agreement with the Governments of the United States and the United Kingdom. The latter on their part, agreed that the Belgian Government should participate on equitable terms in the utilization of these ores as a source of energy for commercial power at such time as the two Governments should decide to employ the ores for this purpose.

Since that time the Government of Belgium has made available to the United States and to the United Kingdom, through commercial contracts, a vitally important quantity of uranium produced in the Belgian Congo and thus has made a unique contribution to the defense of the western world. The United States and the United Kingdom have assisted in the development of the Congo uranium properties and have assisted the Government of Belgium in the establishment of

¹ In accordance with article II, the Agreement came into force on 21 July 1955, the date of receipt by the Government of Belgium of a notification from the Government of the United States of America that the period of thirty days required by the United States Atomic Energy Act of 1954 had elapsed.

a research and development program the principal objective of which is the realization of the peaceful use of atomic energy. Consequently a special relationship exists between the Government of the United States and the Government of Belgium in the field of atomic energy. While the United States must continue to give priority to the defense aspects of atomic energy, an increasing number of opportunities exist for the development of its peaceful applications. In keeping, therefore, with the special relationship, the Government of the United States of America and the Government of Belgium, the Parties to this Agreement, desire to establish an expanded program of cooperation and have agreed as follows :

Article I

It is the intent of this Agreement that the Government of Belgium will receive from the United States Atomic Energy Commission (hereinafter referred to as the "Commission"), in the field of the peaceful uses of atomic energy, information and materials on terms as favorable as any other major uranium supplying country except Canada.

Article II

PERIOD OF AGREEMENT

This Agreement shall enter into force on the date of receipt by the Government of Belgium of a notification from the Government of the United States of America that the period of thirty days required by Section 123c of the United States Atomic Energy Act of 1954 has elapsed, and it shall remain in force through July 31, 1965. The Parties will reexamine the bases of this Agreement if world disarmament is realized or if a threat to world peace so requires.

Article III

EXCHANGE OF INFORMATION

A. With the objective of facilitating the development of peacetime uses of atomic energy, and particularly the development of atomic power, the Government of Belgium and the Commission agree to exchange the following information, subject to the limitations of paragraph C of this Article :

- (1) General information on the over-all progress and economics of power reactor programs ;
- (2) Technological information required for the construction of specific reactors for the Belgian power program in Belgium, the Belgian Congo, and Ruanda-Urundi.

B. The exchange of information provided for in this Article includes the communication to the Commission of information developed in the Belgian power

program and will be accomplished through the various means available, such as reports, conferences, and visits to facilities, and shall, subject to the limitations of paragraph C, include the following :

1. The Commission will transmit as needed in the Belgian project information relating to reactors which Belgium intends to construct as a part of its current experimental power and power program and which falls within one or the other of the following areas :

- (a) *Specifications for Reactor Materials.* Final form specifications including composition, shape, size and special handling techniques of reactor materials including uranium, heavy water, pile grade graphite, zirconium.
- (b) *Properties of Reactor Materials.* Physical, chemical, metallurgical, nuclear and mechanical properties of reactor materials including fuel, moderator and coolant and the effects of the reactor's operating conditions on the properties of these materials.
- (c) *Reactor Components.* The design and performance specifications of reactor components but not including the methods of production and fabrication.
- (d) *Reactor Physics Technology.* This area includes theory of and pertinent data relating to neutron bombardment reactions, neutron cross sections, criticality calculations, reactor kinetics and shielding.
- (e) *Reactor Engineering Technology.* This area includes considerations pertinent to the over-all design and optimization of the reactor and theory and data relating to such problems as reactor stress and heat transfer analysis.
- (f) *Environmental Safety Considerations.* This area includes considerations relating to normal reactor radiations and possible accidental hazards and the effect of these on equipment and personnel and appropriate methods of waste disposal and decontamination.

2. The Commission will receive selected security-cleared personnel from Belgium to work with and participate in the construction of the PWR reactor at Shippingport, Pennsylvania and such other reactors as may be agreed.

3. The Commission will transmit to the Belgian Government all essential information as indicated in subparagraph B 1 relating to the objective of making it possible for Belgium to design, construct, and operate a thermal, heterogeneous, pressurized light or heavy water (boiling or non-boiling) reactor if the decision is made on the part of the Belgian Government to construct such a reactor.

4. There will be collaboration with respect to unclassified reactor information and technology and with respect to unclassified information relating to the production of reactor materials such as heavy water, zirconium, and hafnium.

C. 1. The Parties will not exchange Restricted Data under this Agreement relating to design or fabrication of atomic weapons or information which, in the opinion of the Commission, is primarily of military significance; and no Restricted Data concerning the production of special nuclear materials will be exchanged except that concerning the incidental production of special nuclear materials in a power reactor. It is recognized that the Commission may come into possession of privately developed and privately owned information and information received from other governments which it is not permitted to exchange. It is also recognized that the Government of Belgium may come into possession of information developed and owned by private persons and industries not having access to information transmitted under this Agreement and information received from other governments which it is not permitted to exchange.

2. *a.* The Commission will communicate classified technical information required for the construction of any specific reactor only when Belgium is seriously considering the construction of the specific type of reactor in Belgium, the Belgian Congo, or Ruanda-Urundi and when private industry in the United States is permitted to undertake the construction and operation of the same type of reactor. In addition, the Commission will communicate classified information on any specific type of reactor other than those types mentioned in subparagraph B 3 only when, except as may otherwise be agreed, the Commission has made a finding that the specific type of reactor has been sufficiently developed to be of practical value for industrial or commercial purposes.

b. Further, the Commission will communicate classified information pertaining exclusively to any reactor-types, such as submarine, ship, aircraft, and certain package power reactors, the development of which is concerned primarily with their military use, only when, in the opinion of the Commission, these types of reactors warrant peacetime application and as exchange of information on these types of reactors may be mutually agreed.

Article IV

RESEARCH MATERIALS

Materials of interest in connection with the subjects of agreed exchange of information as provided in Article III, and under the limitations set forth therein, including source materials, special nuclear materials, byproduct material, other radioisotopes, and stable isotopes will be exchanged for research purposes in such quantities and under such terms and conditions as may be agreed, except as provided

in Article VIII, when such materials are not available commercially. These materials for non-research purposes may be supplied by one Party to this Agreement to the other as provided in Article VII.

Article V

TRANSFER OF EQUIPMENT AND DEVICES

With respect to the subjects of agreed exchange of information as provided in Article III, and under the limitations set forth therein, equipment and devices may be transferred from one party to the other under such terms and conditions as may be agreed, except as provided in Article VIII. It is recognized that such transfers will be subject to limitations which may arise from shortages of supplies or other circumstances existing at the time.

Article VI

OTHER ARRANGEMENTS FOR MATERIALS, INCLUDING EQUIPMENT AND DEVICES, AND SERVICES

It is contemplated that, as provided in this Article, private individuals and private organizations in either the United States or Belgium may deal directly with private individuals and private organizations in the other country. Accordingly, with respect to the subjects of agreed exchange of information as provided in Article III, and under the limitations set forth therein, persons under the jurisdiction of either the Government of the United States or the Government of Belgium will be permitted to make arrangements to transfer and export materials, including equipment and devices, to and perform services for the other Government and such persons under its jurisdiction as are authorized by the other Government to receive and possess such materials and utilize such services, subject to :

- (a) The limitation in Article VIII ;
- (b) Applicable laws, regulations and license requirements of the Government of the United States and of the Government of Belgium ;
- (c) The approval of the Government to which the person is subject when the materials or services are classified or when the furnishing of such materials and services require the communication of classified information.

Article VII

NON-RESEARCH QUANTITIES OF MATERIALS

A. 1. The Commission will sell to the Government of Belgium under such terms and conditions as may be agreed such quantities of uranium enriched in the

isotope U-235 as Belgium may require during the period of this Agreement for use in research and power reactors located in Belgium, the Belgian Congo, and Ruanda-Urundi, subject to any limitations in connection with quantities of such material available for such distribution by the Commission during any year, and subject to the limitation that the quantity of uranium enriched in the isotope U-235 of weapon quality in the possession of Belgium by reason of transfer under this Agreement shall not, in the opinion of the Commission, be of military significance. It is agreed that the uranium enriched in the isotope U-235 which the Commission will sell to Belgium under this Article will be limited to uranium enriched in the isotope U-235 up to a maximum of 20 percent U-235. It is understood and agreed that although Belgium will distribute uranium enriched in the isotope U-235 to authorized users in Belgium, the Belgian Congo, and Ruanda-Urundi, the Government of Belgium will retain title to any uranium enriched in the isotope U-235 which is purchased from the Commission until such time as private users in the United States are permitted to acquire title to uranium enriched in the isotope U-235.

2. It is agreed that when any fuel elements received from the United States or any fuel elements fabricated from uranium of normal isotopic composition or uranium enriched in the isotope U-235 received from the United States require reprocessing, such reprocessing shall be performed by the Commission on terms and conditions to be later agreed; and it is understood, except as may be agreed, the form and content of the irradiated fuel elements shall not be altered after their removal from the reactor and prior to delivery to the Commission for reprocessing.

B. The Commission will sell to Belgium under such terms and conditions as may be agreed such quantities of uranium of normal isotopic composition as Belgium may require, and to the extent practical in such form as Belgium may request, during the period of this Agreement for use in research and power reactors located in Belgium, the Belgian Congo, and Ruanda-Urundi, subject to the availability of supply and the needs of the United States program.

C. The Commission shall have an option to purchase any special nuclear materials produced in Belgium, the Belgian Congo, or Ruanda-Urundi, from materials sold in accordance with A and B of this Article and which are in excess of Belgium's need for such materials in its program for the peacetime use of atomic energy. Belgium agrees not to transfer to any country other than the United States or the United Kingdom any special nuclear materials produced in Belgium, the Belgian Congo, or Ruanda-Urundi unless the Government of Belgium is given assurance that the material will not be used for military purposes, and the Government of Belgium agrees to consult with the United States on the international

significance of any proposed transfer of any uranium and thorium ores or special nuclear materials to any country other than the United Kingdom.

D. The Commission will sell to Belgium, under such terms and conditions as may be agreed, such quantities of heavy water as Belgium may require, during the period of this Agreement, for use in research and power reactors located in Belgium, the Belgian Congo, and Ruanda-Urundi, subject to the availability of supply and the needs of the United States program.

E. 1. It is agreed that existing commercial contracts between the Combined Development Agency and the African Metals Corporation, acting for the producing company (Union Minière du Haut Katanga), for the sale of uranium ores and concentrates to said Agency shall continue in effect until their expiration as provided in these contracts.

2. The Government of Belgium will use its best endeavors to see that the Combined Development Agency will have a first option to purchase :

- (a) 90 percent of the uranium and thorium ores and concentrates produced in Belgium and the Belgian Congo during calendar years 1956 and 1957.
- (b) 75 percent of the uranium and thorium ores and concentrates produced in Belgium and the Belgian Congo during calendar years 1958, 1959, and 1960.

3. In addition to the percentage stated in the foregoing schedule with respect to any calendar year, this option shall also extend to such additional quantities of uranium ores and concentrates to provide for the production of the materials sold to Belgium by the Commission in accordance with paragraphs A and B of this Article during any such year. The formulae for the purpose of making computations required to give effect to this provision are :

- (a) 102 kilograms of contained elemental uranium in the form of ore or ore concentrates will provide for 100 kilograms of elemental uranium of natural isotopic composition in the form of purified metal or compounds.
- (b) The preparation of uranium enriched in U-235 content will be assumed to be accomplished by the isotopic separation of uranium of natural isotopic composition into enriched material having the required U-235 content and depleted material having a U-235 content of 0.4 percent.

4. If the Belgian Government does not require for its own use all or part of the uranium and thorium ores produced in Belgium and the Belgian Congo during the foregoing period and which are not covered by the options in subparagraphs E 2 and E 3, it will consult with the Commission concerning the sale of such uranium and thorium ores to the Combined Development Agency.

5. Belgium will in due course evaluate its requirements of uranium and thorium ores and concentrates for the period of this Agreement remaining after calen-

dar year 1960, and the Parties hereto will consult with each other for the purpose of establishing an agreed percentage of such materials which the Combined Development Agency shall have the first option to purchase.

6. It is agreed that the Government of Belgium shall be kept informed of the division, between the United States and the United Kingdom, of uranium and thorium ores and concentrates sold to the Combined Development Agency in accordance with this Agreement. Belgium agrees that if so requested by the Commission and the United Kingdom Atomic Energy Authority, the options to the Combined Development Agency in subparagraphs 2, 3, 4 and 5 of this paragraph may be exercised as follows :

- (1) Through a contract or contracts with either the Commission or the United Kingdom Atomic Energy Authority ; or
- (2) Through a contract or contracts with the Commission and a contract or contracts with the United Kingdom Atomic Energy Authority.

7. (a) If before the termination of this Agreement (1) the diminution of available ore supply results in a decline in the rate of production of uranium ores and concentrates in Belgium and the Belgian Congo by as much as 80 (eighty) percent of the rate of production in 1955 and (2) if the strategic stockpiles of special nuclear material in the United States and the United Kingdom have been demilitarized or if the civilian needs in the United States and the United Kingdom are covered without limitation by means of production and current imports of uranium ores and uranium concentrates, the Government of Belgium shall have the right to purchase from the Commission on such terms as are agreed a total quantity of material, in the form and manner described in (b) of this subparagraph, as is equivalent to the total quantity of uranium ores and concentrates sold under and during the period of this Agreement (1) to the Combined Development Agency, and acquired by the Commission, and (2) directly to the Commission if uranium ores and concentrates are sold to the Commission in accordance with paragraph 6 of this Article.

- (b) (1) At the election of the Combined Development Agency or the Commission, whichever is appropriate, the material so sold to the Government of Belgium may be in the form of ores and concentrates or uranium of normal isotopic composition in the form of purified metals or compounds or any combination of these.
- (2) In determining that quantity of one of these materials which is equivalent to a given quantity of another, the formulae in paragraph E 3 (a) shall be used.
- (3) The material shall be delivered within five years after this provision comes into effect in accordance with an agreed schedule of deliveries.

F. As may be necessary and as mutually agreed in connection with the subjects of agreed exchange of information as provided in Article III, and under the

limitations set forth therein, specific arrangements may be made from time to time between the Parties for lease, or sale and purchase, of quantities of materials, other than special nuclear materials, greater than those required for research, under such terms and conditions as may be mutually agreed, except as provided in Article VIII.

Article VIII

MATERIALS AND FACILITIES PRIMARILY OF MILITARY SIGNIFICANCE

It is agreed that the Commission will not transfer any materials under Article IV or Article VII F and will not transfer or permit the export of any materials or equipment and devices under Articles V and VI if such materials or equipment and devices are in the opinion of the Commission primarily of military significance.

Article IX

PATENTS

The United States shall have rights, title, and interest within its jurisdiction as to any inventions or discoveries made by any person under the jurisdiction of the Belgian Government as a result of such person's access to Restricted Data communicated to Belgium under this Agreement, provided such invention or discovery is made during the period of this Agreement or within three years thereafter.

Article X

SECURITY

A. The criteria of security classification established by the Commission shall be applicable to all information and material, including equipment and devices, exchanged under this Agreement. The Commission will keep the Government of Belgium informed concerning these criteria and any modifications thereof, and the Parties will consult with each other from time to time concerning the practical application of these criteria.

B. It is agreed that all information and material, including equipment and devices, which warrant a classification in accordance with paragraph A of this Article shall be safeguarded in accordance with the security safeguards and standards prescribed by the security arrangements between the Government of the United States, represented by the Commission, and the Government of Belgium in effect on June 15, 1955.

C. It is agreed that the recipient Party of any material, including equipment and devices, and of any classified information under this Agreement shall not further

disseminate such information or transfer such material, including equipment and devices, to any other country without the written consent of the originating country. It is further agreed that neither Party to this Agreement will transfer to any other country any equipment or device, the transfer of which would involve the disclosure of any classified information received from the other Party, without the written consent of such other Party.

Article XI

GUARANTIES PRESCRIBED BY THE UNITED STATES ATOMIC ENERGY ACT OF 1954

The Government of Belgium guarantees that :

A. The security safeguards and standards prescribed by the security arrangements between the Government of the United States, represented by the Commission, and the Government of Belgium in effect on June 15, 1955, will be maintained with respect to all classified information and materials, including equipment and devices, exchanged under this Agreement.

B. No material, including equipment and devices, transferred to Belgium by purchase or otherwise pursuant to this Agreement will be used for atomic weapons, or for research on or development of atomic weapons, or for any other military purpose.

C. No material, including equipment and devices, or any Restricted Data transferred to Belgium pursuant to this Agreement will be transferred to unauthorized persons or beyond the jurisdiction of the Government of Belgium except as the Commission may agree to such a transfer to another nation, and then only if the transfer of the material or Restricted Data is within the scope of an agreement for cooperation between the United States and the other nation.

Article XII

DEFINITIONS

For purposes of this Agreement :

A. "Atomic weapon" means any device utilizing atomic energy, exclusive of the means for transporting or propelling the device (where such means is a separable and divisible part of the device), the principal purpose of which is for use as, or for development of, a weapon, a weapon prototype, or a weapon test device.

B. "Byproduct material" means any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material.

C. "Classified" means a security designation of "Confidential" or higher applied, under the laws and regulations of either the Government of Belgium or the Government of the United States, to any data, information, materials, services or any other matter, and includes "Restricted Data".

D. "Combined Development Agency" means the contracting Agency which acts on behalf of the United States and the United Kingdom with respect to the purchase of uranium and thorium ores and concentrates.

E. "Equipment and devices" and "equipment or device" means any instrument, apparatus, or facility and includes any facility, except an atomic weapon, capable of making use of or producing special nuclear material, and component parts thereof.

F. "Person" means any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, government agency or government corporation but does not include the Parties to this Agreement.

G. "Reactor" means an apparatus, other than an atomic weapon, in which a self-supporting fission chain reaction is maintained by utilizing uranium, plutonium, or thorium, or any combination of uranium, plutonium, or thorium.

H. "Restricted Data" means all data concerning (1) design, manufacture, or utilization of atomic weapons; (2) the production of special nuclear material; or (3) the use of special nuclear material in the production of energy, but shall not include data declassified or removed from the category of Restricted Data by the appropriate authority.

I. "Special nuclear material" means (1) plutonium, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Government of Belgium or the Commission determines to be special nuclear material; or (2) any material artificially enriched by any of the foregoing.

Article XIII

EXISTING ARRANGEMENTS

This Agreement shall supersede all existing arrangements between the Parties concerning atomic energy matters (1) except insofar as these arrangements are reflected in commercial contracts, the continuation of which is provided for in Article VII E 1, (2) except any contracts between the Commission and the Government of Belgium which by their terms provide otherwise, and (3) except any arrangements with regional defense organizations of which the Government of Belgium is a member.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed pursuant to duly constituted authority.

DONE at Washington in duplicate this 15th day of June 1955, in the English and French languages, but in any case in which divergence between the two versions results in different interpretations the English version shall be given preference.

For the Government of the United States of America :

Robert MURPHY

Lewis L. STRAUSS

For the Government of Belgium :

SILVERCRUYS
