No. 4851

INTERNATIONAL ATOMIC ENERGY AGENCY
and
CANADA

Agreement (with annex) for the supply by Canada of uranium to the Agency. Signed at Vienna, on 24 March 1959

Official text: English.

Registered by the International Atomic Energy Agency on 24 August 1959.

AGENCE INTERNATIONALE DE L'ÉNERGIE ATOMIQUE
et
CANADA

Accord (avec annexe) relatif à la fourniture d'uranium par le Canada à l'Agence. Signé à Vienne, le 24 mars 1959

Texte officiel anglais.

Enregistré par l'Agence internationale de l'énergie atomique le 24 août 1959.

No. 4851. AGREEMENT[1] BETWEEN THE INTERNATIONAL ATOMIC ENERGY AGENCY AND THE GOVERNMENT OF CANADA FOR THE SUPPLY BY CANADA OF URANIUM TO THE AGENCY. SIGNED AT VIENNA, ON 24 MARCH 1959

PREAMBLE

Whereas the International Atomic Energy Agency has been requested by a Member to provide source material for a project for research on atomic energy for peaceful purposes, and to establish an Agency project for that purpose;

Whereas the Board of Governors of the International Atomic Energy Agency has approved the project; and

Whereas the Government of Canada has generously offered to supply the necessary source material to the Agency without charge;

The International Atomic Energy Agency (hereinafter called " the Agency ") and the Government of Canada (hereinafter called " the Government ") hereby agree as follows :

Article I

FURNISHING OF SOURCE MATERIAL

The Government shall furnish to the Agency natural uranium (hereinafter called " the source material "), the detailed specifications of which are stated in the Annex[2] to this Agreement, in a quantity between three thousand and three thousand two hundred kilogrammes. The Government shall make no charge for materials furnished or for assistance and services rendered in accordance with Articles II and III below.

Article II

SAMPLES AND TESTING

1. The Government shall take representative samples subsequent to forging from each ingot from which billets are forged and shall transmit them to such addresses inside or outside of Canada as shall be designated by the Agency for

[1] Came into force on 24 March 1959, upon signature, in accordance with article V.
[2] See p. 322 of this volume.

the purpose of chemical analysis at the Agency's expense. The Government shall simultaneously take such samples as may be required for the purposes of paragraphs 2 and 4 of this Article. Forthwith after the entry into force of this Agreement the Government shall notify the Agency of the date, not earlier than eighteen days after the date of such entry into force, on which, and the location at which, such samples will be taken. The Agency shall have the right to send representatives and/or designates to be present at the taking of samples, and shall, promptly after receipt of the notification mentioned in the preceding sentence, inform the Government whether it intends to do so.

2. The Government shall arrange for the measurement of the overall danger coefficient of each ingot and shall promptly inform the Agency of the results. It is anticipated that the measurement of danger coefficients will commence approximately two weeks after the taking of samples referred to in paragraph 1 of this Article. The Agency shall have the right to send representatives and/or designates to observe such measurements and shall inform the Government forthwith after the entry into force of this Agreement whether it intends to do so, in which event the Government and the Agency will facilitate the making of the necessary arrangements. Provided that the Government shall have been asked by the Agency to do so by the time determined for the taking of samples, the Government shall take a sample from each ingot of such reasonable dimensions as the Agency shall specify in order that the Agency may carry out further measurements of the danger coefficients at some facility outside Canada.

3. If the source material is not in conformity with the specifications in the Annex to this Agreement, the Government shall as soon as possible take all necessary steps to bring about such conformity, and shall arrange with the Agency for appropriate retesting under the conditions specified above.

4. If the chemical analysis or the measurement of the overall danger coefficients made by the Agency indicates any impurity or danger coefficient in excess of the maximum allowable, the Government may request analysis for such alleged impurity or impurities by the United Kingdom National Chemical Laboratory, Teddington, Middlesex, England, acting as umpire, or by any other laboratory agreed upon as umpire for such analysis, and may similarly request measurement of the danger coefficient by the United Kingdom Atomic Energy Research Establishment, Harwell, Berkshire, England, acting as umpire, or by any other laboratory agreed upon as umpire for such measurement. The results of such analysis and/or measurement shall be final and binding. The cost of such analysis and/or measurement by an umpire shall be borne by the Government if any impurity content or danger coefficient as determined by the umpire exceeds the maximum allowable; otherwise the cost of such analysis and/or measurement shall be borne by the Agency.

5. The Government shall complete the preparation of the source material within three months following the entry into force of this Agreement, shall give the Director General of the Agency three weeks' advance notice of the expected date of completion, and shall certify to the Agency the total weight of the finished billets and separately of any samples supplied. The Agency shall have the right to send representatives and/or designates to verify the conformity of the weight of the billets to the above-mentioned certification, and the conformity of their dimensions and surface condition with the specifications in the Annex to this Agreement.

Article III

ACCEPTANCE, DELIVERY, AND TRANSFER OF TITLE

If the analyses, measurements, and verifications referred to in the previous Article show to the satisfaction of the Agency that the source material is in conformity with the specifications in the Annex to this Agreement, the Agency shall inform the Government that it is satisfactory and shall specify to the Government at least five weeks in advance the date and place, within Canada, at which it is to be delivered to a person designated by the Agency. The Government shall thereupon suitably pack the source material and shall arrange for its delivery as specified by the Agency above. The Government shall pass title to the source material to the Agency at the time specified by the Agency, at a place and by means of such appropriate documents as may be designated by the Agency after consultation with the Government; the Agency shall arrange for the transfer of possession from the Government of the source material within four days of the date on which the documents of title are delivered.

Article IV

SETTLEMENT OF DISPUTES

Any question or dispute concerning the interpretation or application of this Agreement which is not settled by negotiation, except one for which a mode of settlement is provided in paragraph 4 of Article II of this Agreement, shall, on the application of either the Agency or the Government, be submitted to an arbitral tribunal composed of three members, one designated by the Director General of the Agency, one designated by the Government, and the third, who shall preside, jointly designated by the first two. If the first two members should not agree on the designation of the third member within three months after the making of the application, he shall be designated by the President of the International Court of Justice. The decisions of the majority of the tribunal, including all rulings concerning procedure, jurisdiction, and the division of the expenses

of arbitration between the Parties, shall be binding on both Parties. Such decisions shall be implemented by them in accordance with their respective constitutional procedures. The remuneration of the members of the tribunal shall be determined on the same basis as that of *ad hoc* judges of the International Court of Justice under Article 32, paragraph 4, of the Statute of the Court.

Article V

ENTRY INTO FORCE

This Agreement shall come into force upon signature by the Director General of the Agency and the duly authorized representative of the Government.

DONE in duplicate in the English language this 24th day of March, 1959, in Vienna.

For the International Atomic Energy Agency:
(*Signed*) Sterling COLE
Director General

For the Government of Canada:
(*Signed*) W. H. BARTON
Alternate Governor from Canada

ANNEX

SPECIFICATIONS OF THE SOURCE MATERIAL

1. *Material.* Uranium metal, natural isotopic composition.

2. *Size.* The uranium metal will be supplied in forged billet form;
Length: 50 cms;
Cross-section: 15 cms × 15 cms with bevelled edges.

3. *Density.* Average: 18.95 gm/cc;
Minimum: 18.9 gm/cc.

4. *Grain size.* Maximum: less than 200 microns diameter;
Minimum: 50 microns diameter.

5. *Crystal orientation.* At random.

6. *Surface conditions.* The forged billets as supplied will be cleaned and pickled in 50% nitric acid to remove surface scale and oxide. Seams, slivers, and laps will be removed by surface conditioning. Inspection will be carried out prior to shipment to ensure that there will be no excessive flow lines, transverse cracks, side crevices, or split ends having a visible depth of greater than 0.5 cm. The metal as supplied will be suitable for rolling or other fabrication.

7. *Overall danger coefficient*[1]. For any billet: will not exceed 0.25%; average of all billets: will not exceed 0.20%.

8. *Chemical analysis* (impurities in ppm.)

	Maximum guaranteed for any ingot or billet		*Minimum guaranteed for any ingot or billet*	*Average of all ingots or billets*
Aluminium	20		10	15
Boron	0.2		0.1	0.15
Cadmium	0.1	less than	0.1	less than 0.1
Carbon	400		100	according to specific requirements
Chromium	20		10	12
Cobalt	1.0	less than	1.0	less than 1.0
Iron	100		65	80
Nickel	50		25	35
Nitrogen	40		20	30
Silicon SiO_2 Total	50		30	40
Hydrogen	10		5.0	8.0
Magnesium	30		15	20
Manganese	5.0		2.0	3.0

[1] The overall danger coefficient is expressed as a percentage and defined as the sum for all impurities of:

$$\frac{\dfrac{\text{Absorption cross section per atom of impurity}}{\text{Atomic weight of impurity}}}{\dfrac{\text{Absorption cross section per atom of uranium}}{\text{Atomic weight of uranium}}} \times 10^{-4} \times X \text{ ppm}$$

where X represents the parts per million (ppm) of the impurity.