

AUSTRALIA



Treaty Series No. 6 (1980)

# Agreement

between the Government of the  
United Kingdom of Great Britain and Northern Ireland  
and the Government of Australia  
concerning Nuclear Transfers between  
the United Kingdom and Australia  
(with Agreed Minute and Exchange of Letters)

London, 24 July 1979

[The Agreement entered into force on 24 July 1979]

*Presented to Parliament  
by the Secretary of State for Foreign and Commonwealth Affairs  
January 1980*

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**AGREEMENT**  
**BETWEEN THE GOVERNMENT OF THE UNITED KINGDOM**  
**OF GREAT BRITAIN AND NORTHERN IRELAND**  
**AND THE GOVERNMENT OF AUSTRALIA**  
**CONCERNING NUCLEAR TRANSFERS BETWEEN**  
**THE UNITED KINGDOM AND AUSTRALIA**

The Government of the United Kingdom of Great Britain and Northern Ireland and the Government of Australia (hereinafter referred to as "the United Kingdom" and "Australia" respectively);

Mindful that both the United Kingdom and Australia are parties to the Treaty on the Non-Proliferation of Nuclear Weapons, done at London, Moscow and Washington on 1 July 1968<sup>(1)</sup> (hereinafter referred to as "the Treaty");

Mindful also that the United Kingdom is a member of the European Atomic Energy Community<sup>(2)</sup> (hereinafter referred to as "Euratom"), and recognising that any safeguards agreement between Australia and Euratom will, when concluded, supersede the provisions, where appropriate, of any safeguards agreement between the United Kingdom and Australia;

Recognising that Australia, as a non-nuclear weapon state, has, under the Treaty, undertaken not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices and that it has concluded an agreement with the International Atomic Energy Agency (hereinafter referred to as the "Agency") for the application of safeguards in connection with the Treaty;

Recognising that the United Kingdom, as a nuclear weapon state, has voluntarily entered into a safeguards agreement with Euratom and the Agency in connection with the Treaty<sup>(3)</sup>;

Affirming their support for the objectives of the Treaty and their desire to promote universal adherence to that Treaty;

Desiring to establish conditions consistent with their commitment to non-proliferation under which nuclear material, material, equipment and technology can be transferred between their two countries for peaceful purposes;

Have agreed as follows:

**ARTICLE I**

For the purpose of this Agreement:

- (a) "appropriate governmental authority" means, in the case of the United Kingdom, the Safeguards Office, Atomic Energy Division, Department of Energy, and, in the case of Australia, the Australian Safeguards Office;

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<sup>(1)</sup> Treaty Series No. 88 (1970), Cmnd. 4474.

<sup>(2)</sup> Treaty Series No. 17 (1979), Cmnd. 7462.

<sup>(3)</sup> Treaty Series No. 90 (1978), Cmnd. 7388.

- (b) "nuclear material" means any "source material" or "special fissionable material" as those terms are defined in Article XX of the Statute of the International Atomic Energy Agency;
- (c) "material" means the non-nuclear material for reactors specified in Part A of Annex B;
- (d) "equipment" means the items and major components thereof specified in Part B of Annex B;
- (e) "technology" means technical data in physical form, including technical drawings, photographic negatives and prints, recordings, design data and technical and operating manuals, intended for use in the design, production or operation of equipment or in the production of nuclear material or material, but excluding data available to the public, for example in published books and periodicals;
- (f) "military purpose" means direct military applications of nuclear energy such as nuclear weapons, military nuclear propulsion, military nuclear rocket engines or military nuclear reactors but does not include indirect uses such as power for a military base drawn from a civil power network, or production of radioisotopes which might later be used for diagnosis in a military hospital;
- (g) "peaceful purposes" means all uses other than use for a military purpose;
- (h) "recommendations of the Agency" in relation to physical protection means the recommendations of document INFCIRC/225 entitled "The Physical Protection of Nuclear Material" as updated from time to time or any subsequent document replacing INFCIRC/225.

## ARTICLE II

This Agreement shall apply to:

- (a) nuclear material, material, equipment or technology transferred between the United Kingdom and Australia for peaceful purposes whether directly or through a third country;
- (b) all forms of nuclear material prepared by chemical or isotopic separation provided that the quantity of nuclear material so prepared shall only be regarded as falling within the scope of this Agreement in the same proportion as the quantity of nuclear material used in its preparation, and which is subject to this Agreement, bears to the total quantity of nuclear material so used;
- (c) all generations of nuclear material produced by neutron irradiation provided that the quantity of nuclear material so produced shall only be regarded as falling within the scope of this Agreement in the same proportion as the quantity of nuclear material used in its production, and which is subject to this Agreement, bears to the total quantity of nuclear material so used;

- (d) nuclear material produced, processed or used in, or in connection with, equipment so transferred, or in connection with equipment designed or produced by the application of technology so transferred;
- (e) equipment produced by the use of equipment so transferred, or by the application of technology so transferred.

### ARTICLE III

(1) Nuclear material, material and equipment referred to in Article II of this Agreement shall remain subject to the provisions of this Agreement so long as they are usable for any nuclear activity relevant from the point of view of safeguards or until they have been transferred beyond the jurisdiction of the recipient Party in accordance with the provisions of Article VIII of this Agreement.

(2) For the purpose of determining when nuclear material subject to this Agreement is no longer usable for any nuclear activity relevant from the point of view of safeguards, both Parties shall accept a determination made by the Agency in accordance with the provisions for the termination of safeguards of the relevant safeguards agreement between the Party concerned and the Agency.

### ARTICLE IV

Nuclear material, material, equipment and technology subject to this Agreement shall not be diverted to nuclear weapons or other nuclear explosive devices, to research on or development of nuclear weapons or other nuclear explosive devices, or be used for any military purpose.

### ARTICLE V

(1) Where Australia is the recipient country compliance with Article IV of this Agreement shall be ensured by a system of safeguards applied by the Agency in accordance with the Safeguards Agreement concluded on 10 July 1974 between Australia and the Agency, in connection with the Treaty.

(2) Where the United Kingdom is the recipient country compliance with Article IV of this Agreement shall be ensured by a system of safeguards applied by Euratom and the Agency in accordance with the Safeguards Agreement concluded on 6 September 1976(?) between the United Kingdom, Euratom and the Agency, in connection with the Treaty.

### ARTICLE VI

If nuclear material subject to this Agreement is present in the territory of a Party and the Agency is not administering safeguards in the territory of that

Party under the applicable Agreement referred to in paragraph (1) or paragraph (2) of Article V of this Agreement, the Parties shall forthwith arrange for the application of safeguards satisfactory to both Parties which conform with Agency safeguards principles and procedures and which provide reassurance equivalent to that intended to be secured by the safeguards system they replace. The Parties shall consult and assist each other in the application of such a safeguards system.

#### ARTICLE VII

(1) The Parties shall take such measures as are necessary to ensure adequate physical protection of nuclear material, material, equipment and technology within their jurisdiction. In regard to nuclear material the Parties shall apply, as a *minimum*, measures of physical protection which satisfy the requirements of the recommendations of the Agency.

(2) The Parties shall consult at the request of either Party concerning matters relating to physical protection, including the application for the purposes of this Article of recommendations which may be made from time to time by expert groups.

#### ARTICLE VIII

(1) Nuclear material, material, equipment and technology subject to this Agreement transferred by Australia to the United Kingdom shall not be transferred beyond the jurisdiction of the United Kingdom to any country, other than to a country which is a member state of Euratom, without the prior written consent of Australia. As regards any such transfers by the United Kingdom to member states of Euratom, nuclear material, material, equipment and technology so transferred shall be subject to agreements then in force between Australia and Euratom and agreements in force between Australia and relevant member states of Euratom.

(2) It is envisaged by the Parties that such agreements will have entered into force by the time that deliveries to the United Kingdom of nuclear material of Australian origin take place.

(3) Nuclear material, material, equipment and technology transferred by the United Kingdom to Australia shall not be transferred beyond the jurisdiction of Australia without the prior written consent of the United Kingdom.

#### ARTICLE IX

Nuclear material subject to this Agreement shall only be enriched to 20% or greater in the isotope 235, or reprocessed, according to conditions agreed upon in writing between the Parties in accordance with Annex A to this Agreement.

## ARTICLE X

(1) In applying Articles VIII and IX of this Agreement, the supplier Party will take into account non-proliferation considerations and energy requirements of the recipient Party. The supplier Party shall not withhold its agreement for the purpose of securing commercial advantage.

(2) If a Party considers that it is unable to grant consent to a matter referred to in Article VIII of this Agreement, that Party shall provide the other Party with an immediate opportunity for full consultation on that issue.

## ARTICLE XI

(1) The appropriate governmental authorities of both Parties shall consult annually, or at any other time at the request of either Party, to ensure the effective implementation of this Agreement. Either Party may invite the Agency to participate in such consultations.

(2) If nuclear material subject to this Agreement is present in the territory of a Party, that Party shall, upon request, inform the other Party in writing of the overall conclusions of the most recent report by the Agency on its verification activities in the territory of the requested Party.

(3) The appropriate governmental authorities of both Parties shall establish an administrative arrangement to ensure the effective fulfilment of the obligations of this Agreement. An administrative arrangement established pursuant to this paragraph may be changed with the agreement of the appropriate governmental authorities of both Parties.

(4) The cost of reports and records which either Party is required to provide pursuant to the administrative arrangement referred to in paragraph (3) of this Article shall be borne by the Party which is required to provide that report or record.

(5) The Parties shall take all appropriate precautions to preserve the confidentiality of commercial and industrial secrets and other confidential information received as a result of the operation of this Agreement.

## ARTICLE XII

A supplier Party shall have the right in the event of non-compliance with the provisions of Articles IV to X of this Agreement or non-compliance with, or repudiation of, Agency safeguards arrangements by the recipient Party, to suspend or cancel further transfers of nuclear material and to require the return of nuclear material subject to this Agreement.

## ARTICLE XIII

The provisions of this Agreement shall, where appropriate, be superseded by the provisions of any safeguards agreement concluded between Australia and Euratom.

ARTICLE XIV

This Agreement shall enter into force on the date of signature and shall remain in force indefinitely unless it is otherwise agreed between the Parties.

In witness whereof the undersigned, being duly authorised thereto by their respective Governments, have signed this Agreement.

Done in duplicate at London this twenty-fourth day of July 1979.

For the Government of the United Kingdom of Great Britain and Northern Ireland :

CARRINGTON

For the Government of Australia :

ANDREW PEACOCK

## ANNEX A

Both Parties recognise that while increasing reliance is placed on nuclear energy for peaceful purposes to satisfy world energy requirements, its use requires that every precaution should be taken with respect to the generation and dissemination of material which can be used for nuclear weapons. The Parties agree to co-operate both bilaterally and internationally to identify arrangements which will advance this objective.

Both Parties are in agreement that their objective is to meet their energy needs while avoiding the danger of the spread of such material and respecting the choices and decisions of each Party in the peaceful nuclear field.

The Parties note with satisfaction that the organising Conference on International Nuclear Fuel Cycle Evaluation (INFCE), in which both Parties are participating, agreed to carry out a study which is expected to extend over two years. INFCE will explore the best means of advancing the objectives of making nuclear energy for peaceful purposes widely available to meet the world's energy requirements and at the same time minimising the danger of the proliferation of nuclear weapons.

The participants in the study are pledged to co-operate constructively in the study which will examine all aspects of the nuclear cycle.

Among the matters to be examined by working groups of INFCE are reprocessing and the enrichment of uranium to 20% or greater in the isotope 235.

Against this background, the Parties agree that, in so far as reprocessing and the enrichment of uranium to 20% or greater in the isotope 235 are concerned, as soon as possible after December 31, 1979 or the termination of the INFCE study, whichever is earlier, the Parties will commence negotiations with a view to agreeing conditions which will take into account, *inter alia*, any results of the INFCE studies in relation to the operations in question.



## ANNEX B

### PART A: MATERIAL

#### 1. Deuterium and heavy water :

Deuterium and any deuterium compound in which the ratio of deuterium to hydrogen exceeds 1 : 5000 for the use in a nuclear reactor as defined in paragraph 1 of Part B below.

#### 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 tonnes in any year.

### PART 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** : (e.g. 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 nuclear reactors 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. **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. 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 to 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.

9. **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.

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 solid fuel.

**10. 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>
- large UF<sub>6</sub> corrosion resistant axial or centrifugal compressors
- special compressor seals for such compressors.

**11. Plants for the production of heavy water :**

A “Plant for the production of heavy water” includes the plant and equipment specially designed for enrichment of deuterium or its compounds, as well as any significant fraction of the items essential to the operation of the plant.

**12. Primary coolant pumps :**

Pumps especially designed or prepared for circulating liquid metal as primary coolant for nuclear reactors as defined in paragraph 1 of Part B of this Annex.

**13. Major components of Items 1 to 12 above.**

## AGREED MINUTE

1. In the course of negotiation of the Agreement between the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of Australia concerning nuclear transfers between the United Kingdom and Australia signed today (the Agreement), the United Kingdom's obligations under the Treaty establishing the European Atomic Energy Community (Euratom)<sup>(2)</sup> were raised. The following understandings and intentions affecting the interpretation and implementation of the Agreement were recorded :

- (a) Article VIII puts no restrictions on retransfers within Euratom, even if, contrary to the situation envisaged by the two Parties in that Article, there were no Australia/Euratom agreement in force by the time shipments were scheduled to take place.
- (b) The Supply Agency's rights in relation to the authorisation of exports will not in practice be affected by, and will not themselves constitute any qualification on, the undertaking of the United Kingdom under Article XII.

2. It is the shared objective of the Parties that there should be an agreement providing safeguards for the transfer of nuclear material between Australia and Euratom, and it is envisaged that this will be in force before any transfers of nuclear material from Australia to the United Kingdom take place to which the Agreement will apply.

3. The Parties will work for early conclusion of such an agreement. As recognised in the Agreement, a safeguards agreement between Australia and Euratom will, when concluded, supersede the provisions, where appropriate, of the Agreement.

4. In the event that no agreement between Australia and Euratom has come into effect when deliveries are due both Parties acknowledge the need for consultations at the time.

Signed in duplicate at London this 24th day of July 1979.

For the Government of the United Kingdom of Great Britain and Northern Ireland :

CARRINGTON

For the Government of Australia :

ANDREW PEACOCK

## EXCHANGE OF LETTERS

No. 1

*The Secretary of State for Foreign and Commonwealth Affairs to the  
Minister for Foreign Affairs of Australia*

*Foreign and Commonwealth Office  
London*

*24 July 1979*

Sir,

I have the honour to refer to discussions which have been held during the course of the negotiation of the Agreement between our two Governments concerning nuclear transfers between the United Kingdom and Australia signed today. The purpose of this letter is to record that this Agreement would need to be reconsidered before the end of 1982 if no Euratom/Australia agreement had been concluded in the meantime.

I have the honour to convey to you  
Sir the assurance of my highest  
consideration.

CARRINGTON

No. 2

*The Minister for Foreign Affairs of Australia to the Secretary of State  
for Foreign and Commonwealth Affairs*

*24 July 1979*

My Lord,

I have the honour to acknowledge receipt of your letter of today's date. I confirm that in the light of our discussions the Agreement would need to be reconsidered before the end of 1982 if no Euratom-Australia Agreement had been concluded in the meantime.

Accept, My Lord, the assurance of my highest consideration.

ANDREW PEACOCK

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