



International Atomic Energy Agency

INFORMATION CIRCULAR

INFCIRC/94/Add.1

20 May 1971

GENERAL Distr.

Original: ENGLISH

**THE TEXTS OF THE INSTRUMENTS CONNECTED WITH
THE AGENCY'S ASSISTANCE TO INDIA IN FURTHERING
PROJECTS BY THE SUPPLY OF MATERIALS**

Second and Third Supplementary Agreements

As a sequel to the assistance which the Agency has provided to the Government of India in furthering projects by the supply of materials[1], two additional Supplementary Agreements to the Master Agreement concerning the provision of that assistance[2] have been concluded between the Agency and the Government. These Supplementary Agreements entered into force on 2 July 1970 and 16 November 1970 respectively, and the texts[3] are reproduced herein for the information of all Members.

[1] Pursuant to the agreements reproduced in document INFCIRC/94.

[2] INFCIRC/94, part I.

[3] The footnotes to the texts have been added in the present information circular.

I. SUPPLEMENTARY AGREEMENT No. 2 TO THE MASTER AGREEMENT BETWEEN
THE INTERNATIONAL ATOMIC ENERGY AGENCY AND THE GOVERNMENT OF
INDIA FOR ASSISTANCE BY THE AGENCY IN FURTHERING PROJECTS BY THE
SUPPLY OF MATERIALS

WHEREAS the International Atomic Energy Agency (hereinafter the "Agency") and the Government of India (hereinafter the "Government") on 9 December 1966 entered into a Master Agreement for Assistance by the Agency in Furthering Projects by the Supply of Materials (hereinafter the "Master Agreement") [2];

WHEREAS the Government has proposed two projects for research on atomic energy for peaceful purposes and has requested the assistance of the Agency in the supply of certain materials therefor;

WHEREAS the Government of the United States of America has agreed to supply, through its Atomic Energy Commission (hereinafter the "Commission"), the necessary materials;

NOW, THEREFORE, the Agency and the Government hereby agree as follows:

Section 1. The projects to which this Supplementary Agreement relates concern (i) the estimation of plutonium, using isotopic dilution technique at the Bhabha Atomic Research Centre at Bombay, and (ii) research in nuclear physics at the Indian Institute of Technology, Kanpur.

Section 2. The following materials are hereby allocated to the projects:

- (i) Ten milligrams of plutonium-242 in the form of PuO_2 ; and
- (ii) Microgram and gram quantities of uranium-233, uranium-235, plutonium-239 and plutonium-240.

Section 3. The supplied materials are to be provided by the Commission in accordance with the terms of the Master Contract between the Agency and the Commission for Sales of Research Quantities of Special Nuclear Materials [4] and of the Supplemental Contracts No. IAEA/S/33 [5] and IAEA/S/34 [6] thereto, a copy of each of which is attached hereto. Except as specifically provided therein and in this Supplementary Agreement, the provisions of the Master Agreement shall apply.

Section 4. In view of the special hazards connected with the projects, the Agency shall have the right to perform one health and safety inspection, pursuant to paragraphs 31 and 33 through 35 of Agency document INFCIRC/18, as soon as the materials are delivered.

Section 5. This Supplementary Agreement shall enter into force upon signature by or for the Director General of the Agency and by the authorized representative of the Government.

For the INTERNATIONAL ATOMIC
ENERGY AGENCY:

(signed) A. Finkelstein

Vienna, 2 July 1970

For the GOVERNMENT OF INDIA:

(signed) V.C. Trivedi

Vienna, 1 July 1970

[4] INFCIRC/83, part II, Annex A.

[5] Annex I.

[6] Annex II.

A N N E X I

SUPPLEMENTAL CONTRACT OF SALE OF RESEARCH
QUANTITIES OF SPECIAL NUCLEAR MATERIAL

The International Atomic Energy Agency (hereinafter referred to as the "Purchaser") agrees to purchase from the United States Atomic Energy Commission (hereinafter referred to as the "Seller"), acting for and on behalf of the United States of America, and the Seller agrees to sell to the Purchaser the following described items or materials pursuant to the terms of the Master Contract for Sales of Research Quantities of Special Nuclear Materials entered into between the Purchaser and the Seller on 20 August 1962[4].

Item or material:

Approximately ten (10) milligrams of plutonium-242 (99.8% - Batch 207-A) in the form of PuO_2 .

Charges:

\$15.89 per milligram of plutonium-242 plus \$25 handling plus transportation.

Delivery to:

A representative of the Government of India, to be designated by that Government to act on behalf of the Agency in accepting this material.

Through:

Port of New York.

Bill to:

International Atomic Energy Agency

Delivery date:

As soon as possible and to be indicated by the Seller to the Government of India as well as to the Purchaser.

Delivery instructions:

To be provided by the Government of India.

For the INTERNATIONAL ATOMIC
ENERGY AGENCY:

(signed) B.I. Spinrad

3 June 1969

For the UNITED STATES ATOMIC ENERGY
COMMISSION, ACTING FOR AND ON
BEHALF OF THE GOVERNMENT OF
THE UNITED STATES OF AMERICA:

(signed) A.S. Friedman

22 May 1969

A N N E X II

SUPPLEMENTAL CONTRACT OF SALE OF RESEARCH
QUANTITIES OF SPECIAL NUCLEAR MATERIAL

The International Atomic Energy Agency (hereinafter referred to as the "Purchaser") agrees to purchase from the United States Atomic Energy Commission (hereinafter referred to as the "Seller"), acting for and on behalf of the United States of America, and the Seller agrees to sell to the Purchaser the following described material pursuant to the terms of the Master Contract for Sales of Research Quantities of Special Nuclear Materials entered into between the Purchaser and the Seller on 20 August 1962[4].

Item or material:

(For the Indian Institute of
Technology, Kanpur)

Charges:1. Uranium-233 (Highest possible purity)

- | | |
|---|---|
| (a) 50 micrograms/cm ² deposit on
70 micrograms/cm ² nickel backing.
(The active deposit area to be
approximately 1 cm in diameter.) | a. \$2.58 per mg of ²³³ U contained in
deposit, losses and scrap; plus \$350
fabrication charge; plus \$25 handling;
plus transportation. |
| (b) 500 micrograms/cm ² deposit on
nickel or platinum backing of any
suitable thickness. (The active
area to be approximately 2 cm in
diameter.) The source to be
covered with 8 mg/cm ² thick
aluminium. | b. \$2.58 per mg of ²³³ U contained in
deposit, losses and scrap; plus \$400
fabrication charge; plus \$100 for Al
can; plus \$25 handling; plus
transportation. |

2. Uranium-235

- | | |
|--|---|
| (a) 5 grams ²³⁵ U in the form of
uranium tetrafluoride (99.44%
²³⁵ U). | a. \$0.13 per mg of ²³⁵ U contained in UF ₄
product and losses; plus actual
conversion costs (estimated at \$1000
to \$1500); plus \$25 handling; plus
transportation. |
| (b) 1 mg/cm ² deposit - details of the
source to be the same as 1(b)
above (99.77% ²³⁵ U). | b. \$0.14 per mg of ²³⁵ U contained in
deposit, losses and scrap; plus \$400
fabrication charge; plus \$100 for Al can;
plus \$25 handling; plus transportation. |
| (c) A 2-inch by 2-inch square of
²³⁵ U foil 0.005 inch in
thickness (99.44% ²³⁵ U). | c. \$0.13 per mg of ²³⁵ U contained in foil,
losses and scrap, plus actual conversion
costs (estimated at \$2000); plus \$400
fabrication charge; plus \$25 handling;
plus transportation. |

3. Plutonium-239

(a) 50 micrograms/cm² deposit - details of the source to be the same as in 1(a) (99.969%).

a. \$2.37 per mg ²³⁹Pu contained in deposit, losses and scrap; plus \$400 fabrication charge; plus \$25 handling; plus transportation.

(b) 1 mg/cm² deposit - details the same as in 1(b) (99.97% ²³⁹Pu).

b. \$2.37 per mg ²³⁹Pu contained in deposit, losses and scrap; plus \$400 fabrication; plus \$100 for Al can; plus \$25 handling; plus transportation.

4. Plutonium-240 (Highest possible purity)

50 micrograms/cm² deposit - details the same as in 1(a).

\$2.99 per mg of ²⁴⁰Pu contained in deposit, losses and scrap; plus \$400 fabrication charge; plus \$25 handling; plus transportation.

Delivery instructions:

To be provided by the Government of India.

Bill to:

International Atomic Energy Agency.

Delivery to:

A representative of the Government of India to be designated by the Government to act on behalf of the Agency in accepting this material.

Delivery date:

As soon as possible and to be indicated by the Seller to the Government of India as well as to the Purchaser.

Through:

Port of New York.

For the INTERNATIONAL ATOMIC ENERGY AGENCY:

For the UNITED STATES ATOMIC ENERGY COMMISSION, ACTING FOR AND ON BEHALF OF THE GOVERNMENT OF THE UNITED STATES OF AMERICA:

(signed) B.I. Spinrad

(signed) A.S. Friedman

29 December 1969

1 October 1969

II. SUPPLEMENTARY AGREEMENT No. 3 TO THE MASTER AGREEMENT BETWEEN
THE INTERNATIONAL ATOMIC ENERGY AGENCY AND THE GOVERNMENT OF
INDIA FOR ASSISTANCE BY THE AGENCY IN FURTHERING PROJECTS BY THE
SUPPLY OF MATERIALS

WHEREAS the International Atomic Energy Agency (hereinafter the "Agency") and the Government of India (hereinafter the "Government") on 9 December 1966 entered into a Master Agreement for Assistance by the Agency in furthering Projects by the Supply of Materials (hereinafter the "Master Agreement") [2];

WHEREAS the Government has proposed two projects for research on atomic energy for peaceful purposes and has requested the assistance of the Agency in the supply of certain materials therefor;

WHEREAS the Government of the United States of America has agreed to supply, through its Atomic Energy Commission (hereinafter the "Commission"), the necessary materials;

NOW, THEREFORE, the Agency and the Government hereby agree as follows:

ARTICLE I

The projects to which this Supplementary Agreement relates are (i) the conduct of research and development work at the Bhabha Atomic Research Centre at Bombay, and (ii) the development of fission detectors for start-up and neutron flux mapping in research-type reactors at the Electronics Corporation of India, Limited, at Cherlapalli, Hyderabad.

ARTICLE II

The following materials are hereby allocated to the projects:

- (i) 20 milligrams of plutonium-241 in the form of PuO_2 ; and
- (ii) One square metre of uranium-aluminium foil, containing 5 to 15% uranium enriched to approximately 90% in the isotope uranium-235 and 85 to 95% aluminium by volume, having a thickness in the range of 0.076 to 0.127 millimetres.

ARTICLE III

The supplied materials are to be provided by the Commission in accordance with the terms of the Master Contract between the Agency and the Commission for Sales of Research Quantities of Special Nuclear Materials [4] and of the Supplemental Contract No. IAEA/S/35 thereto [7], a copy of which is attached hereto. Except as specifically provided therein and in this Supplementary Agreement, the provisions of the Master Agreement shall apply.

[7] Annex.

ARTICLE IV

This Supplementary Agreement shall enter into force upon signature by or for the Director General of the Agency and by the authorized representative of the Government.

For the INTERNATIONAL ATOMIC
ENERGY AGENCY:

(signed) Sigvard Eklund

Vienna, 16 November 1970

For the GOVERNMENT OF INDIA:

(signed) V.C. Trivedi

Vienna, 13 November 1970

A N N E X

SUPPLEMENTAL CONTRACT OF SALE OF RESEARCH
QUANTITIES OF SPECIAL NUCLEAR MATERIAL

The International Atomic Energy Agency (hereinafter referred to as the "Purchaser") agrees to purchase from the United States Atomic Energy Commission (hereinafter referred to as the "Seller"), acting for and on behalf of the United States of America, and the Seller agrees to sell to the Purchaser the following described items or materials pursuant to the terms of the Master Contract for Sales of Research Quantities of Special Nuclear Materials entered into between the Purchaser and the Seller on 20 August 1962[4].

Item or material:

1. Approximately 20 milligrams of plutonium-241 (83.74% - Batch FP1OR-2) in the form of PuO_2 .
2. Approximately one square metre of uranium-aluminium foil (to be supplied in random size pieces no smaller than one inch by one inch), containing 5-15% U (about 90% ^{235}U) and 85-95% Al by volume, having a thickness in the range of 0.003 to 0.005 inches.

Charges:

\$6.30 per milligram of plutonium-241 plus \$250 encapsulation charge, plus \$25 handling, plus transportation costs.

\$6750 preparation charge, plus \$12.50 per gram of uranium contained in the foil and/or lost during preparation processes (total U requirements estimated to be 50 grams), plus \$25 handling, plus transportation costs.

Delivery to:

A representative of the Government of India, to be designated by that Government to act on behalf of the Agency in accepting this material.

Bill to:

International Atomic Energy Agency.

Through:

Port of New York.

Delivery date:

As soon as possible (expected to be four-five months after execution of this contract for item 2 above) and to be indicated by the Seller to the Government of India as well as to the Purchaser.

Delivery instructions:

To be provided by the Government of India.

For the INTERNATIONAL ATOMIC
ENERGY AGENCY:

For the UNITED STATES ATOMIC ENERGY
COMMISSION, ACTING FOR AND ON
BEHALF OF THE GOVERNMENT OF
THE UNITED STATES OF AMERICA:

(signed) B.I. Spinrad

(signed) A.S. Friedman

2 October 1969

12 September 1969