



International Atomic Energy Agency

INFCIRC/34

22 March 1962

GENERAL Distr.

Original: ENGLISH

THE TEXTS OF THE INSTRUMENTS CONNECTED WITH THE
AGENCY'S ASSISTANCE TO PAKISTAN IN ESTABLISHING
A RESEARCH REACTOR PROJECT

The texts of the Supply Agreement between the Agency, the Government of Pakistan and the Government of the United States of America, and of the Project Agreement between the Agency and the Government of Pakistan, in connection with the Agency's assistance to the Government of Pakistan in establishing a research reactor project, are reproduced in this document for the information of all Members of the Agency. These Agreements entered into force on 5 March 1962.

I. SUPPLY AGREEMENT

CONTRACT FOR THE TRANSFER OF ENRICHED URANIUM AND PLUTONIUM FOR A RESEARCH REACTOR

WHEREAS the Government of Pakistan (hereinafter called "Pakistan"), desiring to set up a project consisting of a research reactor for peaceful purposes, has requested the assistance of the International Atomic Energy Agency (hereinafter called the "Agency") in securing, among other things, the special fissionable material necessary for this purpose;

WHEREAS the Board of Governors of the Agency has approved the project on 27 February 1962;

WHEREAS the Agency and the Government of the United States of America (hereinafter called the "United States") on 11 May 1959 concluded an Agreement for Co-operation (hereinafter called the "Co-operation Agreement"), under which the United States undertook to make available to the Agency pursuant to the Statute of the Agency certain quantities of special fissionable material;

WHEREAS the Agency and Pakistan are this day concluding an agreement for the provision by the Agency of the assistance requested by Pakistan (hereinafter called the "Project Agreement");

WHEREAS Pakistan has made arrangements with a supplier in the United States of America (hereinafter called the "Supplier") for the supply of fuel elements containing enriched uranium for the reactor and for the provision thereof of a plutonium-beryllium neutron source;

NOW THEREFORE the Agency, Pakistan and the United States Atomic Energy Commission (hereinafter called the "Commission"), acting on behalf of the United States, hereby agree as follows:

ARTICLE I

Transfer of Enriched Uranium and Plutonium

Section 1. Subject to the provisions of the Co-operation Agreement, the Commission shall transfer to the Agency and the Agency shall accept from the Commission:

- (a) Approximately 5775 grammes of uranium enriched to approximately 90% by weight in the isotope U²³⁵ (hereinafter called the "fuel material"), the precise quantities to be determined pursuant to section 3(b), contained in fuel elements for a 5-megawatt AMF pool-type research reactor (hereinafter called the "reactor");

- (b) Approximately 112 grammes of plutonium (hereinafter called the "neutron source material"), the precise quantities to be determined pursuant to section 3(d), contained in a 7 curie plutonium-beryllium neutron source for the reactor.

Section 2. The Agency shall transfer to Pakistan and Pakistan shall accept from the Agency the fuel material and the neutron source material.

Section 3. The conditions of the transfer of the fuel material and the neutron source material shall be as follows:

- (a) The Commission shall make available to the Supplier or to a properly licensed manufacturer, at a facility of the Commission designated by it, enriched uranium, in the form of uranium hexafluoride, for the fuel material, subject to such terms, charges and licences as the Commission may require.
- (b) The precise quantity and enrichment of fuel material in the fuel elements shall be determined by the Supplier or the manufacturer, and Pakistan shall cause the Supplier to submit to the Agency and to the Commission a written certification of the Supplier's or the manufacturer's determination of the enrichment by weight in the isotope U²³⁵ and of the quantity of enriched uranium contained in the fabricated fuel elements. This determination may be checked by the Agency, by Pakistan and by the Commission by means of any review or analysis that any of them may deem appropriate, and shall be approved or revised by unanimous agreement of the parties. The quantity and enrichment shown in the agreed determination shall be considered to be the quantity and enrichment of the fuel material actually transferred under sections 1 and 2 and shall be used for the calculation of the payments to be made pursuant to Article II.
- (c) The Commission shall make available to the Supplier or to a properly licensed fabricator, at a facility of the Commission designated by it, plutonium in metallic form for the neutron source, subject to such terms, charges and licences as the Commission may require.
- (d) The precise quantity of neutron source material in the neutron source shall be determined by the Supplier or the fabricator, and Pakistan shall cause the Supplier to submit to the Agency and to the Commission a written certification of the Supplier's or the fabricator's determination of the quantity of plutonium contained in the neutron source. This determination shall be accepted as conclusive by the parties.
- (e) Upon completion of the fabrication and the preparation for shipment of the fuel material and of the neutron source material, and upon agreement with respect to the determination of the quantity and enrichment of the fuel material and receipt by the parties of the determination concerning the neutron source material, and upon compliance with paragraph 3 of Annex B to the Project Agreement, Pakistan, at the request and on behalf of the Agency, shall arrange for a transporter who, after thirty days' written notice to the Commission and subject to such terms, charges and licences as the Commission may require, shall transport and deliver the fuel material and the neutron source material to the port of export at New York. The Commission, at the request of the Agency, shall thereupon transfer possession to the Agency or, at the Agency's request and on its behalf, to Pakistan at such port of export and authorize the export of such materials. The Agency or, at the Agency's request and on its behalf, Pakistan shall make arrangements for domestic and overseas transportation and delivery

and for storing such materials, as well as for physically handling them, and shall pay all costs in connexion therewith, including cost of containers and packaging. The Agency or, at the Agency's request and on its behalf, Pakistan shall accept possession of such materials at such port of export and shall sign an appropriate written receipt therefor.

- (f) Title to the fuel material and to the neutron source material shall vest in the Agency at the time they leave the jurisdiction of the United States of America and shall thereafter immediately and automatically vest in Pakistan.
- (g) If the parties agree, the transactions relating to the fuel material, as detailed in Articles I and II, may be carried out independently of those relating to the neutron source material.

ARTICLE II

Payment

Section 4. The Agency shall send an invoice to Pakistan at or subsequent to the time the parties have agreed with respect to the determination pursuant to section 3(b) and have received the determination pursuant to section 3(d). Within thirty days from the date of this invoice Pakistan shall pay to the Agency in United States currency a sum equal to that which the Agency will be obliged to pay to the Commission pursuant to section 5. If the Agency does not receive payment within thirty days after the date of invoice, it is entitled to an additional charge at the rate of six per cent per annum on the unpaid amount.

Section 5. The Commission shall send an invoice to the Agency at or subsequent to the time the Commission transfers possession pursuant to section 3(e). Within sixty days from the date of this invoice the Agency shall pay for the fuel material at the following rates:

<u>Percentage Enrichment by Weight in the Isotope U²³⁵ of the Enriched Uranium</u>	<u>Price US\$/g of Enriched Uranium</u>
85	11.575
90	12.285
95	13.015

If the degree of the U²³⁵ isotopic enrichment of the enriched uranium transferred lies between two successive degrees of enrichment for which charges are set forth, the charges shall be computed by linear interpolation. For the neutron source material the Agency shall pay US\$30.00 per gramme of plutonium. Payment shall be made in United States currency to the Commission or its designated agent or contractor. If payment is not received within sixty days after the date of invoice, the Commission shall be entitled to an additional charge at the rate of six per cent per annum on the unpaid amount.

Section 6. In order to assist and encourage research on peaceful uses or for medical therapy, the Commission has offered to distribute to the Agency in each calendar year, free of charge, special fissionable material of a value of up to US\$50 000 at the time of transfer, to be supplied from the amounts specified in Article II. A of the Co-operation Agreement. If the Commission finds the project to which this Contract relates eligible, it shall decide by the end of the calendar year in which this Contract is concluded on the extent, if any, to which the project shall benefit by the gift offer, and shall promptly notify the Agency and Pakistan of that decision. The payments provided in sections 4 and 5 shall be reduced by the value of any free material thus made available.

ARTICLE III

Responsibility

Section 7. Neither the Agency nor any person acting on its behalf shall at any time bear any responsibility towards Pakistan or any person claiming through Pakistan for the safe handling and the use of the fuel material and the neutron source material.

Section 8. After acceptance of possession pursuant to section 3(e), the Agency shall assume full responsibility to the Commission for the fuel material and the neutron source material, and Pakistan shall be equally responsible to the Agency; neither the United States, nor the Commission, nor any person acting on behalf of the Commission shall bear any responsibility for the safe handling and the use of such materials.

ARTICLE IV

Officials not to benefit

Section 9. No Member of the Congress of the United States of America, or Resident Commissioner of the United States of America shall be admitted to or share any part of this Contract or any benefit that may arise therefrom.

ARTICLE V

Settlement of Disputes

Section 10. If the parties should be unable to reach agreement with respect to the determination provided for in section 3(b) within thirty days of the submission of such determination to them by the Supplier, any party may request that such a determination be made by a laboratory agreed upon by all the parties. The laboratory may perform any tests or analyses that it may deem necessary, and all parties agree to facilitate its work in every way. The results of the determination by the laboratory shall be considered as final and binding on all parties. The costs of the determination by the laboratory shall be borne equally by the parties, provided that if the determination insisted on by any party or parties is confirmed by the laboratory, such party or parties shall not be obliged to bear any share of the costs.

Section 11. Any other dispute arising out of the interpretation or application of this Contract which is not settled by negotiation or as may otherwise be agreed by the parties concerned shall on the request of any party be submitted to an arbitral tribunal composed as follows:

- (a) If the dispute involves only two of the parties to this Contract, all three parties agreeing that the third is not concerned, the two parties involved shall each designate one arbitrator, and the two arbitrators so designated shall appoint a third, who shall be the Chairman. If within thirty days of the request for arbitration either party has not designated an arbitrator, either party to the dispute may request the President of the International Court of Justice to appoint an arbitrator. The same procedure shall apply if within thirty days of the designation or appointment of the second arbitrator the third arbitrator has not been appointed.
- (b) If the dispute involves all three parties to this Contract, each party shall designate one arbitrator, and the three arbitrators so designated shall by unanimous decision appoint a fourth arbitrator, who shall be the Chairman, and a fifth arbitrator. If within thirty days of the request for arbitration any party has not designated an arbitrator, any party may request the President of the International Court of Justice to appoint the necessary number of

arbitrators. The same procedure shall apply if within thirty days of the designation or appointment of the third of the first three arbitrators the Chairman or the fifth arbitrator has not been appointed.

A majority of the members of the arbitral tribunal shall constitute a quorum. Decisions shall be made by majority vote. The procedure of the arbitration shall be fixed by the tribunal. Its decisions, including all rulings concerning procedure, jurisdiction and the division of the expenses of arbitration between the parties, shall be binding on all parties. The remuneration of the arbitrators 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 VI

Entry into Force

Section 12. This Contract shall enter into force upon signature by the Director General of the Agency and the duly authorized representatives of the Commission and Pakistan.

DONE in triplicate in the English language, in Vienna, this 5th day of March 1962.

For the INTERNATIONAL ATOMIC ENERGY AGENCY:

(signed) Sigvard Eklund

For the GOVERNMENT OF PAKISTAN:

(signed) I.H. Usmani

For the UNITED STATES ATOMIC ENERGY COMMISSION on behalf of the GOVERNMENT OF THE UNITED STATES OF AMERICA:

(signed) Henry DeWolf Smyth

II. PROJECT AGREEMENT

AGREEMENT BETWEEN THE INTERNATIONAL ATOMIC ENERGY AGENCY AND THE GOVERNMENT OF PAKISTAN FOR ASSISTANCE BY THE AGENCY TO PAKISTAN IN ESTABLISHING A RESEARCH REACTOR PROJECT

WHEREAS the Government of Pakistan (hereinafter called "Pakistan"), desiring to set up a project for research on, and development and practical application of, atomic energy for peaceful purposes, has requested the assistance of the International Atomic Energy Agency (hereinafter called the "Agency") in securing a research reactor which Pakistan desires to purchase from a particular supplier in the United States of America, and in securing the special fissionable material necessary for that reactor;

WHEREAS the Board of Governors of the Agency has approved the project on 27 February 1962;

WHEREAS the Agency and the Government of the United States of America (hereinafter called the "United States") on 11 May 1959 concluded an Agreement for Co-operation, under which the United States undertook to make available to the Agency pursuant to the Statute of the Agency certain quantities of special fissionable material, and also undertook, subject to various applicable provisions and licence requirements, to permit, upon request of the Agency, persons under the jurisdiction of the United States to make arrangements to transfer and export material, equipment or facilities for a Member of the Agency in connexion with an Agency project;

WHEREAS the Agency, Pakistan and the United States Atomic Energy Commission acting on behalf of the United States are this day concluding a contract for the transfer of enriched uranium and plutonium for the research reactor (hereinafter called the "Supply Agreement");

NOW THEREFORE the Agency and Pakistan hereby agree as follows:

ARTICLE I

Definition of the Project

Section 1. The project to which this Project Agreement relates is the establishment of a 5-megawatt AMF pool-type research reactor and its associated facilities, to be operated by the Pakistan Institute of Nuclear Science and Technology at Rawalpindi, Pakistan.

ARTICLE II

Supply of a Reactor and Special Fissionable Material

Section 2. The Agency, pursuant to Article IV of the Agreement for Co-operation of 11 May 1959, shall request the United States to permit the transfer and export to Pakistan

of a 5-megawatt AMF pool-type reactor together with components and spare parts (hereinafter called the "reactor") manufactured in accordance with a contract between Pakistan and the supplier in the United States.

Section 3. The Agency hereby allocates to the project described in Article I, and provides to Pakistan enriched uranium and plutonium (hereinafter called the "supplied material") pursuant to the terms of the Supply Agreement, which constitutes an integral part of this Agreement to the extent that it creates rights and obligations between the Agency and Pakistan.

ARTICLE III

Shipment of the Supplied Material

Section 4. Any shipment of the supplied material arranged for by Pakistan while the supplied material is in its possession shall be carried out in the custody of a licensed public carrier selected for that purpose by Pakistan or shall be accompanied by a responsible person designated by Pakistan.

ARTICLE IV

Agency Safeguards against Diversion

Section 5. Pakistan agrees that the reactor and the supplied material, and any special fissionable material produced by their use, shall not be used in such a way as to further any military purpose.

Section 6. It is hereby agreed and specified that the rights and responsibilities provided for in Article XII.A of the Statute of the Agency are relevant to the project, provided that paragraphs 1, 3, 4 and 6 of that Article shall be implemented in accordance with Annex A.

ARTICLE V

Health and Safety Measures

Section 7. The health and safety measures specified in Annex B will be applied to the reactor and the supplied material.

ARTICLE VI

Changes in Project

Section 8. If Pakistan desires to use or store the supplied material outside the reactor and its associated facilities, or if it desires to use in the reactor significant amounts of other source or special fissionable material, or if it desires to process or to arrange for the processing of any such material used or produced in the reactor, or to send any such material or any part of the reactor out of Pakistan, or to change the design of the reactor or its associated facilities; Pakistan shall inform the Agency sufficiently in advance to permit the Agency to prepare any appropriate safeguards provisions and health and safety measures before the operation in question is performed. Subject to Article XII.A of the Statute and to any relevant principles that have been or may be established thereunder, such provisions and measures shall be determined by the Board of Governors of the Agency after consultation by the Director General with Pakistan. Pakistan hereby agrees to comply with any provisions and measures thus established and to co-operate with the Agency in their application.

ARTICLE VII

Agency Inspectors

Section 9. The provisions concerning Agency inspectors will be those set out in Agency document GC(V)/INF/39, Annex. Pakistan shall apply the relevant provisions of the Agreement on the Privileges and Immunities of the International Atomic Energy Agency to the Agency inspectors and to any property of the Agency used by them in performing their functions.

ARTICLE VIII

Information and Rights to Inventions and Discoveries

Section 10. Pursuant to Article VIII.B of the Statute of the Agency, Pakistan shall make available to the Agency without charge all scientific information developed as a result of the assistance extended by the Agency.

Section 11. The Agency, in view of the degree of its participation in the present project, does not claim any right in any inventions or discoveries arising from the project. The Agency may, however, be granted licences under any patents upon terms to be agreed.

ARTICLE IX

Languages

Section 12. Reports and other information should be submitted to the Agency in one of the working languages of the Board of Governors.

ARTICLE X

Settlement of Disputes

Section 13. Any dispute concerning the interpretation or application of this Agreement which is not settled by negotiation or as may otherwise be agreed, shall be settled in accordance with Article V of the Supply Agreement.

Section 14. In case of any dispute involving the application of Articles IV, V, VI or VII, decisions of the Board of Governors of the Agency shall, if they so provide, immediately be given effect by Pakistan, pending the conclusion of any consultation, negotiation or arbitration that may be or may have been invoked with regard to the dispute.

ARTICLE XI

Entry into Force

Section 15. This agreement shall enter into force upon signature by the Director General of the Agency and the duly authorized representative of Pakistan.

DONE in duplicate in the English language, in Vienna, this 5th day of March 1962.

For the INTERNATIONAL ATOMIC ENERGY AGENCY:

(signed) Sigvard Eklund

For the GOVERNMENT OF PAKISTAN:

(signed) I.H. Usmani

A N N E X A

AGENCY SAFEGUARDS AGAINST DIVERSION

A. General

1. The project will be subject to Agency safeguards in accordance with Article XII of the Statute of the Agency, with the appropriate provisions of Agency document INFCIRC/26 (hereinafter called the "safeguards document") and with Article IV of this Agreement.
2. The reactor facility consists of the reactor and of storing and cooling facilities for the supplied and produced material and of ancillary laboratory facilities in which such material is used.
3. The definitions of terms used in this Annex are those given in part II of the safeguards document.

B. Attachment, termination and suspension of Agency safeguards

4. Agency safeguards will be attached to:
 - (a) That portion of the supplied material which is in excess of the lower limit stated in paragraph 32(b) of the safeguards document.
 - (b) The reactor facility.
 - (c) Any special fissionable material produced in the reactor.
5. The attachment of Agency safeguards will be terminated or suspended in accordance with paragraphs 38 and 39 of the safeguards document.

C. Application of Agency safeguards

6. Agency safeguards will be applied to materials and facilities in accordance with paragraphs 29 - 30 of the safeguards document.
7. Pakistan shall arrange for the submission to the Agency of the initial design and other information on the reactor facility necessary in order to enable the Agency to perform its task in accordance with paragraph 42 of the safeguards document, to the extent that this information is not yet available to the Agency.
8. Pakistan shall arrange for the keeping of records in accordance with paragraphs 45 and 46 of the safeguards document and with a system established in accordance with paragraph 44 of the safeguards document.
9. Pakistan shall arrange for the submission of routine and special reports in accordance with paragraphs 48 - 53 of the safeguards document and with a system established in accordance with paragraph 47 of the safeguards document. The routine operating and accounting reports shall be submitted every six months; the first report shall be submitted at the time any of the supplied material is first received at the reactor facility.
10. Two routine inspections in accordance with paragraphs 54 - 57 of the safeguards document may be made annually, from the time any of the supplied material is first received at the reactor facility. Special inspections may be made as necessary in accordance with paragraphs 58 and 59 of the safeguards document.

A N N E X B

HEALTH AND SAFETY MEASURES

1. The health and safety measures applicable to the project shall be those set forth in Agency document INFCIRC/18 (hereinafter called the "health and safety document"), as specified below.
2. Pakistan shall (a) comply (i) with the Agency's Basic Safety Standards from the time they are approved by the Board of Governors, and until then with the recommendations of the International Commission on Radiological Protection; and (ii) with the Agency's specialized Regulations for the Safe Transport of Radioactive Materials, as far as possible also in arranging for shipment of the supplied material while it is outside Pakistan; and (b) endeavour to ensure safety conditions as recommended in the relevant parts of the Agency's codes of practice.
3. Pakistan shall, prior to the transport of the supplied material to the port of export, submit to the Agency a detailed hazards report containing the information specified in paragraph 29 of the health and safety document, with particular reference to the following types of operations:
 - (a) Receipt and handling of the supplied fuel.
 - (b) Loading of fuel into the reactor.
 - (c) Start-up and pre-operational testing of the reactor.
 - (d) Experimental programme and procedures involving the reactor.
 - (e) Discharge of fuel from the reactor.
 - (f) Handling and storage of the discharged core.The transport shall not take place until 60 days after the report is submitted, and until the Agency has determined that the safety measures, as described in the report, are acceptable. The Agency may require further safety measures in accordance with paragraph 30 of the health and safety document.
4. If Pakistan desires to make substantial modifications or additions to the procedures or the operations described in the detailed hazards report, or to proceed to the final closing down of the reactor, Pakistan shall arrange for the submission to the Agency of the relevant information as specified in paragraph 29 of the health and safety document in sufficient time to enable the Agency to perform its task in accordance with paragraph 30 of the health and safety document before such modifications or additions are carried out.
5. Pakistan shall arrange for the submission of the reports specified in paragraph 25 of the health and safety document, the first report to be submitted not later than twelve months after the coming into force of this Agreement. In addition, the reports specified in paragraphs 26 and 27 of the health and safety document shall be submitted.
6. The Agency may inspect the reactor at the time of initial start-up, once during the first year of operation, and thereafter not more than twice a year in accordance with paragraphs 31 and 33 - 35 of the health and safety document. Special inspections may be carried out in the circumstances specified in paragraph 32 of the health and safety document.
7. Changes may be made in the safety standards and measures specified in this Annex in accordance with the provisions of paragraphs 38 and 39 of the health and safety document.