



DEPARTMENT OF STATE

Washington, D.C. 20520

INDONESIA
XSNM01666
BANDUNG TRIGA II

BUREAU OF OCEANS AND INTERNATIONAL
ENVIRONMENTAL AND SCIENTIFIC AFFAIRS

SEP 03 1980

XSNM01666

Bandung II

Indonesia

MEMORANDUM FOR JAMES R. SHEA
NUCLEAR REGULATORY COMMISSION

Enclosed is an Executive Branch analysis covering a license application for the export of low-enriched uranium fuel to Indonesia. In accordance with P.L. 95-242, the analysis explicitly addresses how the requirements of Section 126 a.(1) of the Atomic Energy Act are met, including the specific criteria of Sections 127 and 128, as well as certain additional factors, envisaged by Section 126 a.(1).

The Executive Branch, on the basis of its review of this application has concluded that the requirements of the Atomic Energy Act, as amended, and P.L. 95-242 have been met and that the proposed export would not be inimical to the common defense and security of the United States. Moreover, the IAEA has adhered to the terms of the US-IAEA Agreement for Cooperation and Indonesia has adhered to the provisions of its Supply Agreements with the International Atomic Energy Agency and the United States and its Project Agreement with the Agency.

Therefore, the Executive Branch recommends issuance of the requested export license.

Louis V. Mosenzo

Louis V. Mosenzo
Deputy Assistant Secretary

Enclosure:
As stated

1980 SEP 4 PM 2 25

EXPORT
INTERNATIONAL SERVICES

8009180296

XSNM01666

Country: Indonesia

Transaction: The export of 902 grams of U-235 contained in 4.535 grams of uranium enriched to a maximum of 19.9 percent in the form of 14 fuel elements; 3.4 grams of 93.2 percent enriched uranium sealed in 2 fission chambers for TRIGA Mark II Research Reactor at the Bandung Research Center

Applicant: General Atomic Co.

Date of Application: March 14, 1980

Purpose of Export

This enriched uranium has been provided by the Department of Energy and fabricated by General Atomic into 14 TRIGA fuel elements and 2 fission chambers for the partial refueling of the Bandung Triga Mark II.

The initial fuel for the Bandung Research Reactor was supplied to Indonesia by the U.S. through the IAEA under Supply and Project Agreements signed December 19, 1969. Further supplies of enriched uranium were provided by the U.S. under a Second Supply Agreement concluded in 1972.

UNCLASSIFIED
Department of State

INCOMING
TELEGRAM

PAGE 01 VIENNA 11893 290933Z
ACTION OES-09

1558

INFO OCT-01 EUR-12 EA-12 ADS-00 ACDA-12 CIAE-00 INR-10
IO-15 L-03 NSAE-00 NSC-05 EB-08 NRC-02 CODE-00
H-02 SS-15 SP-02 CE7-01 PM-07 SAS-02 /118 W
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R 280853Z AUG 80
FM AMEMBASSY VIENNA
TO SECSTATE WASHDC 0259
INFO USDOEHQ FORRESTAL WASHDC
AMEMBASSY JAKARTA

UNCLAS VIENNA 11893

USIAEA

DEPT FOR IO/SCT: F CUNNINGHAM, OES/N: L NOSENZO;
ALSO PASS J LAFLEUR
FORRESTAL FOR IA/NA: T GABBERT

E. O. 12065: N/A
TAGS: ENRG, PARM, IAEA, NRC, ID
SUBJECT: IAEA REQUEST FOR EXPORT OF NUCLEAR FUEL FOR
INDONESIA

REF: (A) NEW DELHI 22538, (B) STATE 312769

1. MISSION HAS RECEIVED THE FOLLOWING AUGUST 21, 1980
LETTER FROM ACTING DIRECTOR GENERAL CARLOS VELEZ OCON:

BEGIN TEXT:

SIR:
I HAVE THE HONOR, IN ACCORDANCE WITH ARTICLE I OF THE
AGREEMENT BETWEEN THE INTERNATIONAL ATOMIC ENERGY AND THE
GOVERNMENTS OF INDONESIA AND THE UNITED STATES OF AMERICA
FOR THE TRANSFER OF ENRICHED URANIUM FOR A RESEARCH
REACTOR IN INDONESIA, CONCLUDED 7 DECEMBER 1979, (HEREIN-
AFTER REFERRED TO AS THE "SUPPLY AGREEMENT") AND ARTICLE
IV OF THE AGREEMENT FOR COOPERATION BETWEEN THE AGENCY
AND THE UNITED STATES, CONCLUDED 11 MAY 1959, AS AMENDED
(HEREINAFTER REFERRED TO AS THE "COOPERATION AGREEMENT"),
TO REQUEST THE UNITED STATES AUTHORITIES TO AUTHORIZE THE
TRANSFER AND EXPORT TO INDONESIA OF UP TO A TOTAL NET
AMOUNT OF 3647.67 GRAMS OF URANIUM-235 CONTAINED IN 18330
GRAMS OF URANIUM ENRICHED TO APPROXIMATELY 19.90 PERCENT,
CONTAINED IN FUEL ELEMENTS FOR USE IN THE TRIGA MARK II
RESEARCH REACTOR AT THE BANDUNG REACTOR CENTRE IN
BANDUNG, REPUBLIC OF INDONESIA.
IN MAKING THE ABOVE REQUEST, I HAVE FURTHER THE HONOR TO
STATE THAT PURSUANT TO THE SUPPLY AGREEMENT THE TRANSFERS
AND EXPORTS OF ENRICHED URANIUM TO BE EFFECTED THEREUNDER
WILL BE SUBJECT TO ALL THE APPLICABLE PROVISIONS OF THE
COOPERATION AGREEMENT.

ACCEPT SIR, THE ASSURANCES OF MY HIGHEST CONSIDERATION.

END TEXT.

2. CARLOS VELEZ OCON LETTER POUCHED GABBERT, DOE.
PLEASE ADVISE.

KIRK

POOR ORIGINAL

cc OIA

UNCLASSIFIED

1. Applicable Agreement for Cooperation

Although there is a bilateral Agreement for Cooperation between the Government of the United States and the Government of Indonesia, this export of fuel is to take place pursuant to the US-IAEA Agreement for Cooperation, the Project Agreement, as amended, between the Agency and Indonesia, the Third IAEA-Indonesia US Supply Agreement, and an exchange of notes between Indonesia and the United States (copies enclosed). The applicability of the US-IAEA Agreement was confirmed by the IAEA Secretariat.

The IAEA and Government of Indonesia have adhered to all provisions of their Agreements with the U.S.

There is no provision for the supply of small amounts of highly enriched uranium contained in fission chambers in the above-referenced agreements. However, the quantity of HEU proposed for export in this application, 3.4 grams, may be exported under general license (up to 3 grams SNM per instrument) after April 21, 1980 under the amended licensing requirements under 10 CFR 110 published in the Federal Register, Vol. 45, No. 57, March 21, 1980.

2. Extent to Which Export Criteria Are Met

A. Section 127 Criteria

As provided in Section 127 of the Atomic Energy Act, the following criteria govern exports for peaceful nuclear uses from the United States of source material, special nuclear material, production or utilization facilities, and any sensitive nuclear technology:

Criterion (1)

"IAEA safeguards as required by Article III(2) of the Treaty will be applied with respect to any such material or facilities proposed to be exported, to any such material or facilities previously exported and subject to the applicable Agreement for Cooperation, and to any special nuclear material used in or produced through the use thereof."

Indonesia became a party to the Non-Proliferation Treaty (NPT) on July 12, 1979. A safeguard agreement between Indonesia and the IAEA pursuant to Article III(4) of the NPT was completed and entered into force July 14, 1980.

Therefore, it is the Executive Branch view that criterion (1) is met.

Criterion (2)

"No such material, facilities, or sensitive nuclear technology proposed to be exported or previously exported and subject to the applicable Agreement for Cooperation, and no special nuclear material produced through the use of such materials, facilities, or sensitive nuclear technology, will be used for any nuclear explosive device or for research on or development of any nuclear explosive device."

Indonesia, as a party to the NPT, has pledged not to manufacture or otherwise acquire any nuclear weapon or other nuclear explosive devices. Further, pursuant to Article IV of the Project Agreement, as amended, and Article V of the Third Supply Agreement, Indonesia has guaranteed that no material or equipment transferred thereunder and no special nuclear material produced therefrom, will be used in such a way as to further any military purpose or for any research and development on any nuclear explosive device involving any US-supplied material or facilities or any special nuclear material derived therefrom. No sensitive nuclear technology has been or will be exported to Indonesia subject to the Agreement.

Since these pledges and guarantees will apply to the proposed export and to any special nuclear material produced through its use, it is the view of the Executive Branch that criterion (2) is met.

Criterion (3)

"Adequate physical security measures will be maintained with respect to such material or facilities proposed to be exported and to any special nuclear material used in or produced through the use thereof. Following the effective date of any regulations promulgated by the Commission pursuant to Section 304(d) of the Nuclear Non-Proliferation Act of 1978, physical security measures shall be deemed adequate if such measures provide a level of protection equivalent to that required by the applicable regulations."

Indonesia has established physical security measures which, as a minimum, meet those recommended in the IAEA's INFCIRC/225/Rev.1, "The Physical Protection of Nuclear Material".

During February 1976, a team of U.S. Government experts visited Indonesia for an exchange of views on physical security, including visits to the Bandung and Yogyakarta nuclear facilities. The fixed site reviews included: (1) security forces, (2) barriers, (3) detection and alarm apparatus, (4) communication and response capabilities, (5) access and exit controls, (6) accountability and reporting procedures, and (7) physical security organization. In the area of transportation, procedures and equipment for protecting nuclear materials while in transit were examined.

The U.S. team judged Indonesia's physical protection system, procedures and equipment for transportation security adequate to physically protect the material at fixed sites, in transit and the material requested in this application.

Article VII of the Third Supply Agreement provides that measures of physical protection providing, as a minimum, a level of protection comparable to that laid down in IAEA document INFCIRC/225/Revision 1 shall be maintained by Indonesia for all nuclear materials under the Agreement.

Therefore, it is the view of the Executive Branch that criterion (3) is met.

Criterion (4)

"No such materials, facilities, or sensitive nuclear technology proposed to be exported, and no special nuclear material produced through the use of such material, will be retransferred to the jurisdiction of any other nation or groups of nations unless the prior approval of the United States is obtained for such retransfer. In addition to other requirements of law, the United States may approve such retransfer only if the nation or group of nations designated to receive such retransfer agrees that it shall be subject to the conditions required by this section."

Article I 4. of the Third Supply Agreement provides that: "The supplied material and any nuclear material produced through its use, including subsequent generations of produced fissionable material, shall be used exclusively by and remain at the Bandung Reactor Center in Bandung, Republic of Indonesia, unless otherwise agreed by the Parties to this Agreement (hereinafter called the "Parties")."

As the agreement of the United States, as one of the parties, is required for retransfer of the proposed export or for special nuclear material produced through its use (in irradiated fuel), it is the view of the Executive Branch that criterion (4) is met.

Criterion (5)

"No such material proposed to be exported and no special nuclear material produced through the use of such material will be reprocessed, and no irradiated fuel elements containing such material removed from a reactor shall be altered in form or content, unless the prior approval of the United States is obtained for such reprocessing or alteration."

Article I 5. of the Third Supply Agreement provides that: "The supplied material and any fissionable material produced through its use, including subsequent generations of produced special fissionable material, shall be stored or reprocessed or otherwise altered in form or content only under conditions and in facilities acceptable to Indonesia and the United States. Such material shall not be further enriched unless Indonesia and the United States agree "

Pursuant to the Third Supply Agreement, the Government of Indonesia has undertaken not to reprocess in any way or otherwise alter in form or content spent fuel except under conditions and in facilities acceptable to the U.S. as one of the Parties. Therefore, it is the view of the Executive Branch that criterion (5) is met.

Criterion (6)

"No such sensitive nuclear technology shall be exported unless the foregoing conditions shall be applied to any nuclear material or equipment which is produced or constructed under the jurisdiction of the recipient nation or group of nations by or through the use of any such exported sensitive nuclear technology."

The proposed export does not involve the transfer of sensitive nuclear technology. Criterion (6) is, therefore, not applicable.

B. Section 128 Criterion

Section 128 a.(1) of the Atomic Energy Act establishes the following additional criterion: "As a condition of continued United States export of source material, special nuclear material, production or utilization facilities, and any sensitive nuclear technology to non-nuclear-weapon states, no such export shall be made unless IAEA safeguards are maintained with respect to all peaceful nuclear activities in, under the jurisdiction of, or carried out under the control of such state at the time of the export."

As a party to the NPT, Indonesia has agreed to accept IAEA safeguards with respect to all its peaceful nuclear activities. All peaceful nuclear activities in Indonesia are currently subject to IAEA safeguards in accordance with the IAEA-Indonesia Safeguards Agreement of July 14, 1980. Therefore, this criterion is met.

3. Additional Factors

A. Safeguards Implementation

The IAEA Secretariat has noted in its Special Safeguards Implementation Report that with regard to nuclear material subject to IAEA safeguards, while some deficiencies exist in the system, no diversion of a significant quantity of nuclear material was detected in any of the 45 states in which inspections were carried out. Although recognizing the need to correct existing deficiencies in safeguards implementation, the Executive Branch has no reason to believe that the IAEA Secretariat's report is not valid. In the light of this and other factors associated with the proposed export, the Executive Branch believes the framework of commitments, assurances, and safeguards is adequate for the purpose of this export.

B. Special Non-Proliferation and Other Foreign Policy Considerations

None.

4. Inimicality Judgment

Based on review of the proposed export, it is the judgment of the Executive Branch that the proposed export will not be inimical to the common defense and security, and that the license should be issued.



International Atomic Energy Agency

BOARD OF GOVERNORS

GOV/1964

21 November 1979

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Item 4 of the provisional agenda
(GOV/1962)

REACTOR PROJECTS

Request by Indonesia for assistance in obtaining additional fuel for a research reactor

Memorandum by the Director General

INTRODUCTION

1. The Government of Indonesia has requested the Agency's assistance in securing the transfer from the United States of America of 18 330 grams of uranium enriched to approximately 19.90 per cent in the isotope uranium-235. This material, which is to be fabricated into a total of 65 fuel elements, is needed for the continued operation of the TRIGA Mark II research reactor at the Bandung Reactor Centre over a period of five years.

INFORMATION ABOUT THE PROJECT

2. The initial fuel for the reactor was supplied to Indonesia by the Government of the United States, through the Agency, under the Supply and Project Agreements of 19 December 1969^{1/}. Further supplies of enriched uranium were delivered to Indonesia pursuant to a Second Supply Agreement covering a five-year period and concluded between the Agency, Indonesia and the United States on 14 September 1972^{2/}. The reactor and the fuel are under Agency safeguards by virtue of the Project Agreement.

^{1/} The Agreements are reproduced in document INFCIRC/136.

^{2/} The Second Supply Agreement and an Amendment thereto are reproduced in documents INFCIRC/136/Add.1 and INFCIRC/136/Add.1/Mod.1 respectively.

3. The relevant Agency safety standards and measures are applied in the operation of the reactor and the handling of the fuel pursuant to the Project Agreement. An Agency safety mission visited the reactor and the radioisotope production laboratory at the Bandung Reactor Centre in May 1978 and again in February 1979. As a result of its first visit, the mission made a number of recommendations with a view to improving the physical conditions of and the operational procedures for both the reactor and the laboratory. During its second visit the mission noted with satisfaction that its recommendations had been taken into account by the Indonesian authorities and that the operational conditions and procedures appeared to be adequate for both facilities.

THIRD SUPPLY AGREEMENT AND AMENDMENT OF THE PROJECT AGREEMENT

4. The Government of the United States is prepared to authorize the transfer of the additional fuel to the Government of Indonesia, through the Agency, under a Third Supply Agreement, the negotiation of which has just been completed. The draft of such an agreement is reproduced in part I of the Appendix to this document. This tripartite agreement is similar in structure and content to the Fourth Supply Agreement which the Board approved last June for the transfer of additional fuel for a research reactor in Yugoslavia^{3/}. In the present case, the material requested by Indonesia would be sufficient to meet the fuel requirements for the research reactor at Bandung over a five-year period.

5. In addition to the proposed Third Supply Agreement, the Government of Indonesia has also accepted that the Project Agreement of 1969 between it and the Agency be amended to include provisions recently approved by the Board for incorporation into such agreements^{4/}. The draft of such an amendment is reproduced in part II of the Appendix to this document. The Amendment provides that safeguards will be implemented and maintained with respect to the reactor and the supplied material and any special fissionable material produced in or by the use of either, including subsequent generations of produced special fissionable material. In this connection, it will be noted that Indonesia, which became a party to the Treaty on the Non-Proliferation of Nuclear Weapons on 12 July 1979, is in the process of negotiating a safeguards agreement with the

^{3/} See document GOV/1950, Appendix, part I.

^{4/} Ibid., part II.

Agency pursuant to Article III(4) of that Treaty. The proposed Amendment to the Project Agreement therefore provides that pending the conclusion of such a safeguards agreement the Agency's safeguards rights and responsibilities will continue to be implemented in accordance with the relevant provisions of the Project Agreement^{5/}. The Amendment further ensures that the safety standards and measures applying to the project are based on those defined in the currently applicable document of the Agency^{6/}.

6. Both the Government of Indonesia and the Government of the United States have also recently informed the Director General that through bilateral negotiations conducted in Jakarta in late October they have agreed on a number of matters of a bilateral nature that are connected with the proposed transfer and use of the additional fuel. They have accordingly requested that the draft agreements reproduced in the Appendix to this document be submitted to the Board for approval.

EVALUATION OF THE PROJECT

7. The Director General considers that the project continues to be sound and meets the requirements of the Statute, and that the request by the Government of Indonesia for an additional supply of enriched uranium merits the Board's approval.

RECOMMENDED ACTION BY THE BOARD

8. The Director General accordingly recommends that the Board:

- (a) Approve the supply to the Government of Indonesia of 18 330 grams of uranium enriched to approximately 19.90 per cent in the isotope uranium-235 and contained in fuel elements for the continued operation of the TRIGA Mark II research reactor at the Bandung Reactor Centre in Bandung, Indonesia; and

5/ See document IAEA/CIRC/136, part II, Articles IV and VI and Annex A.

6/ See document IAEA/CIRC/18/Rev.1, entitled "The Agency's Safety Standards and Measures". In this connection, it will be noted that the safety measures set out in the amended Annex to the Project Agreement have been implemented insofar as such measures related to the operation of the reactor with the fuel supplied earlier through the Agency for the project.

- (b) Authorize him to conclude and subsequently to implement a Third Supply Agreement with the Governments of Indonesia and the United States, and an Amendment to the Project Agreement of 19 December 1969 with the Government of Indonesia, the texts of which are set forth in the Appendix to this document, parts I and II respectively.

APPENDIX

1. DRAFT OF A THIRD SUPPLY AGREEMENT

AGREEMENT BETWEEN THE INTERNATIONAL ATOMIC ENERGY AGENCY
AND THE GOVERNMENTS OF INDONESIA AND THE UNITED STATES
OF AMERICA FOR THE TRANSFER OF ENRICHED
URANIUM FOR A RESEARCH REACTOR IN INDONESIA

WHEREAS the International Atomic Energy Agency (hereinafter called the "Agency") and the Government of Indonesia (hereinafter called "Indonesia") on 19 December 1969 signed an agreement (hereinafter called the "Project Agreement") for assistance by the Agency to Indonesia in continuing a training and research project for peaceful purposes relating to the Triga Mark II research reactor (hereinafter called the "reactor") at the Bandung Reactor Centre in Bandung, Republic of Indonesia;

WHEREAS the Agency, Indonesia, and the United States Atomic Energy Commission, acting on behalf of the Government of the United States of America (hereinafter called the "United States"), on 19 December 1969 and 14 September 1972 concluded contracts, as amended, for the transfer of enriched uranium for the reactor, pursuant to which supplies of enriched uranium were delivered to Indonesia;

WHEREAS Indonesia, in connection with the Project Agreement, has requested the assistance of the Agency in securing from the United States an additional supply of enriched uranium for the reactor;

WHEREAS the Board of Governors of the Agency (hereinafter called the "Board") approved the additional assistance for the project on 1979;

WHEREAS Indonesia and the United States, being Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (hereinafter called the "Treaty"), desire to promote universal adherence to the Treaty;

WHEREAS Indonesia and the United States affirm support of the objectives of the Treaty and the Statute of the Agency and, in this regard, have demonstrated their commitment to ensuring that the international development and use of nuclear energy for peaceful purposes are carried out under arrangements which, to the maximum extent, will prevent the proliferation of nuclear explosive devices;

WHEREAS Indonesia has made arrangements with a manufacturer (hereinafter called the "manufacturer") for the fabrication of enriched uranium into additional fuel elements for the reactor;

WHEREAS, under the Agreement for Co-operation between the Agency and the United States, concluded on 11 May 1959, as amended (hereinafter called the "Co-operation Agreement"), the United States undertook to make available to the Agency pursuant to its Statute certain quantities of special fissionable material, and also undertook, subject to applicable provisions of the Co-operation Agreement 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 materials, equipment or facilities for Members of the Agency in connection with an Agency project; and

POOR ORIGINAL

WHEREAS, pursuant to the Co-operation Agreement, the Agency and the United States on 14 June 1974 concluded a Master Agreement Governing Sales of Source, By-Product and Special Nuclear Materials for Research Purposes (hereinafter called the "Master Agreement");

NOW THEREFORE the Agency, Indonesia and the United States hereby agree as follows:

ARTICLE I

Supply of Enriched Uranium

1. The Agency, pursuant to Article IV of the Co-operation Agreement, shall request the United States to permit the transfer and export to Indonesia of up to a total net amount of 3647.67 grams of uranium-235 contained in 18 330 grams of uranium enriched to approximately 19.90 per cent (hereinafter called the "supplied material"), contained in fuel elements for use in the reactor.
2. The United States, subject to the provisions of the Co-operation Agreement and the Master Agreement and to the issuance of any required licences or permits, shall transfer to the Agency and the Agency shall transfer to Indonesia the supplied material.
3. The particular terms and conditions for the transfer of the supplied material, including all charges for or connected with such material, a schedule of deliveries and shipping instructions, shall be specified in a supplemental contract to the Master Agreement, to be concluded between the Agency, Indonesia and the United States (hereinafter called the "Supplemental Contract").
4. The supplied material and any nuclear material produced through its use, including subsequent generations of produced special fissionable material, shall be used exclusively by and remain at the Bandung Reactor Centre in Bandung, Republic of Indonesia, unless otherwise agreed by the Parties to this Agreement (hereinafter called the "Parties").
5. The supplied material and any special fissionable material produced through its use, including subsequent generations of produced special fissionable material, shall be stored or reprocessed or otherwise altered in form or content only under conditions and in facilities acceptable to Indonesia and the United States. Such material shall not be further enriched unless Indonesia and the United States agree.

ARTICLE II

Shipment of the Supplied Material

All arrangements for the export from the United States of America of the supplied material shall be the responsibility of Indonesia and the manufacturer. Prior to the export of such material, Indonesia shall notify the Agency of the amount thereof and of the date, place and method of shipment.

ARTICLE III

Payment

1. Indonesia shall pay the manufacturer all charges for or connected with the fabrication of the supplied material into fuel elements, in accordance with the arrangements made between Indonesia and the manufacturer.

2. Indonesia shall pay the United States all charges for or connected with the supplied material in accordance with the provisions of the Supplemental Contract, except as provided for in paragraph 4 of this Article.
3. In extending their assistance for the project, neither the Agency nor the United States assumes any financial responsibility in connection with the transfers of the supplied material by the United States to Indonesia.
4. In order to assist and encourage research on peaceful uses or for medical therapy, the United States has in each calendar year offered to distribute to the Agency, 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 United States finds the project to which this Agreement relates eligible, it shall decide by the end of the calendar year in which this Agreement is concluded on the extent, if any, to which the project shall benefit by the gift offer, and shall promptly notify the Agency and Indonesia of that decision. The payments provided for in paragraph 2 of this Article shall be reduced by the value of any gift material thus made available or, if payments for such material have been made by Indonesia, the United States shall credit Indonesia with the value of such material.

ARTICLE IV

Transport, Handling and Use

Indonesia and the United States shall take all appropriate measures to ensure the safe transport, handling and use of the supplied material. Neither the United States nor the Agency warrants the suitability or fitness of the supplied material for any particular use or application or shall at any time bear any responsibility towards Indonesia or any person for any claims arising out of the transport, handling or use of the supplied material.

ARTICLE V

Safeguards

1. Indonesia undertakes that none of the following materials shall be used for the manufacture of any nuclear weapon or any nuclear explosive device or for research on or the development of any nuclear weapon or any nuclear explosive device, or for any other military purpose:
 - (a) The supplied material;
 - (b) Any special fissionable material produced through the use of the supplied material, including subsequent generations of produced special fissionable material.
2. The Agency shall apply safeguards to the nuclear material referred to in paragraph 1 above in accordance with the provisions of the Project Agreement.
3. Indonesia shall permit the Agency and the Agency undertakes to inform the United States of the status of all inventories of any materials required to be safeguarded under this Agreement, should the United States so request.

ARTICLE VI

Safety Standards and Measures

The safety standards and measures specified in the Project Agreement shall, to the

ARTICLE VII

Physical Protection

1. Indonesia undertakes that adequate physical protection shall be maintained with respect to the supplied material and any special fissionable material used in or produced through the use of the reactor or the supplied material.
2. The Parties agree to the levels for the application of physical protection set forth in the Annex to this Agreement, which levels may be modified by mutual consent of the Parties without amendment to this Agreement. Indonesia shall maintain adequate physical security measures in accordance with such levels. These measures shall as a minimum provide protection comparable to that set forth in Agency document INFCIRC/225/Rev.1, entitled "The Physical Protection of Nuclear Material", as it may be revised from time to time.

ARTICLE VIII

Settlement of Disputes

1. Any dispute arising out of the interpretation or implementation of this Agreement, which is not settled by negotiation or as may otherwise be agreed by the Parties concerned, shall on the request of any such Party be submitted to an arbitral tribunal composed as follows: each Party to the dispute shall designate one arbitrator and the arbitrators so designated shall by unanimous decision elect an additional arbitrator, who shall be the Chairman. If the number of arbitrators so selected is even, the Parties to the dispute shall by unanimous decision elect an additional arbitrator. If within thirty (30) days of the request for arbitration any Party to the dispute has not designated an arbitrator, any other Party to the dispute 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 (30) days of the designation or appointment of the arbitrators, the Chairman or any required additional arbitrator has not been elected. A majority of the members of the arbitral tribunal shall constitute a quorum, and all decisions shall be made by majority vote. The arbitral procedures shall be established by the tribunal, whose decisions, including all rulings concerning its constitution, procedure, jurisdiction and the division of the expenses of arbitration between the Parties to the dispute, shall be final and binding on all the Parties concerned. The remuneration of the arbitrators shall be determined on the same basis as that of ad hoc judges of the International Court of Justice.
2. Any decision of the Board concerning the implementation of Article V or VI shall, if the decision so provides, be given effect immediately by Indonesia and the Agency pending the final settlement of any dispute.

ARTICLE IX

Entry into Force and Duration

1. This Agreement shall enter into force upon signature by the authorized representatives of Indonesia and the United States and by or for the Director General of the Agency.
2. This Agreement shall continue in effect so long as any nuclear material which was ever subject to this Agreement remains in the territory of Indonesia or under the jurisdiction of Indonesia or under its control anywhere, or until such time as the Parties agree that such material is no longer usable for any nuclear activity relevant from the point of view of safeguards.

DONE in this day of 1979, in triplicate in the
English language.

For the INTERNATIONAL ATOMIC ENERGY AGENCY:

For the GOVERNMENT OF INDONESIA:

For the GOVERNMENT OF THE UNITED STATES OF AMERICA:

ANNEX

LEVELS OF PHYSICAL PROTECTION

Pursuant to Article VII, the agreed levels of physical protection to be ensured by the competent national authorities in the use, storage and transportation of nuclear material listed in the attached table shall as a minimum include protection characteristics as follows:

CATEGORY III

Use and storage within an area to which access is controlled.

Transportation under special precautions including prior arrangements between sender, recipient and carrier, and prior agreement between entities subject to the jurisdiction and regulation of the supplier State and the recipient State, respectively, in case of international transport, specifying time, place and procedures for transferring transport responsibility.

CATEGORY II

Use and storage within a protected area to which access is controlled, i.e. an area under constant surveillance by guards or electronic devices, surrounded by a physical barrier with a limited number of points of entry under appropriate control, or any area with an equivalent level of physical protection.

Transportation under special precautions including prior arrangements between sender, recipient and carrier, and prior agreement between entities subject to the jurisdiction and regulation of the supplier State and the recipient State, respectively, in case of international transport, specifying time, place and procedures for transferring transport responsibility.

CATEGORY I

Materials in this category shall be protected with highly reliable systems against unauthorized use as follows:

Use and storage within a highly protected area, i.e. a protected area as defined for Category II above, to which, in addition, access is restricted to persons whose trustworthiness has been determined, and which is under surveillance by guards who are in close communication with appropriate response forces. Specific measures taken in this context should have as their objective the detection and prevention of any assault short of war, unauthorized access or unauthorized removal of material.

Transportation under special precautions as identified above for transportation of Category II and III materials and, in addition, under constant surveillance by escorts and under conditions which assure close communication with appropriate response forces.

TABLE: CATEGORIZATION OF NUCLEAR MATERIAL^e

Material	Form	Category		
		I	II	III
1. Plutonium ^{a,f}	Unirradiated ^b	2 kg or more	Less than 2 kg but more than 500 g	500 g or less ^c
2. Uranium-235 ^d	Unirradiated ^b	5 kg or more - - -	Less than 5 kg but more than 1 kg	1 kg or less ^c
	- uranium enriched to 20% ²³⁵ U or more		10 kg or more	Less than 10 kg ^c
	- uranium enriched to 10% ²³⁵ U but less than 20%		-	10 kg or more
	- uranium enriched above natural, but less than 10% ²³⁵ U			
3. Uranium-233	Unirradiated ^b	2 kg or more	Less than 2 kg but more than 500 g	500 g or less ^c

- ^a All plutonium except that with isotopic concentration exceeding 80% in plutonium-238.
- ^b Material not irradiated in a reactor or material irradiated in a reactor but with a radiation level equal to or less than 100 rads/hour at one meter unshielded.
- ^c Less than a radiologically significant quantity should be exempted.
- ^d Natural uranium, depleted uranium and thorium and quantities of uranium enriched to less than 10% not falling in Category III should be protected in accordance with prudent management practice.
- ^e Irradiated fuel should be protected as Category I, II or III nuclear material depending on the category of the fresh fuel. However, fuel which by virtue of its original fissile material content is included as Category I or II before irradiation should only be reduced one Category level, while the radiation level from the fuel exceeds 100 rads/h at one meter unshielded.
- ^f The State's competent authority should determine if there is a credible threat to disperse plutonium malivoltently. The State should then apply physical protection requirements for category I, II or III of nuclear material, as it deems appropriate and without regard to the plutonium quantity specified under each category herein, to the plutonium isotopes in those quantities and forms determined by the State to fall within the scope of the credible dispersal threat.

POOR ORIGINAL

II. DRAFT OF AN AMENDMENT TO THE PROJECT AGREEMENT OF 19 DECEMBER 1969
BETWEEN THE INTERNATIONAL ATOMIC ENERGY AGENCY AND THE
GOVERNMENT OF INDONESIA FOR ASSISTANCE BY THE AGENCY TO
INDONESIA IN CONTINUING A RESEARCH REACTOR PROJECT

WHEREAS the International Atomic Energy Agency (hereinafter called the "Agency") and the Government of Indonesia (hereinafter called "Indonesia") on 19 December 1969 concluded an agreement (hereinafter called the "Project Agreement") for assistance by the Agency to Indonesia in continuing a training and research project for peaceful purposes relating to the TRIGA Mark II research reactor (hereinafter called the "reactor") at the Bandung Reactor Centre in Bandung, Republic of Indonesia;

WHEREAS Indonesia has requested further assistance from the Agency in obtaining from the United States of America (hereinafter called the "United States") the supply of 3647.67 grams of uranium-235 contained in 18 330 grams of uranium enriched to approximately 19.9 per cent (hereinafter called the "supplied material") for fabrication into fuel elements for the continued operation of the reactor;

WHEREAS the Board of Governors of the Agency (hereinafter called the "Board") approved the additional assistance by the Agency to Indonesia on 1979; and

WHEREAS the Agency, Indonesia and the United States are this day concluding an agreement for the transfer of the supplied material for the reactor (hereinafter called the "Third Supply Agreement");

NOW THEREFORE the Agency and Indonesia agree to amend the Project Agreement as follows:

ARTICLE I

Article II, Section 2 of the Project Agreement is amended to include the supplied material transferred to Indonesia pursuant to the terms of the Third Supply Agreement which constitutes an integral part of the Project Agreement to the extent that it creates rights and obligations between the Agency and Indonesia.

ARTICLE II

Article IV of the Project Agreement is amended to read as follows, with the subsequent Sections thereof to be renumbered accordingly:

"Section 4. Indonesia undertakes that the reactor and the supplied material, and any special fissionable material produced in or by the use of either, shall not be used for the manufacture of any nuclear weapon or any nuclear explosive device or for research on or the development of any nuclear weapon or any nuclear explosive device, or for any other military purpose.

"Section 5. It is specified that the safeguards rights and responsibilities of the Agency provided for in paragraph A of Article XII of its Statute are relevant to the project and shall be implemented and maintained with respect to the project. Indonesia shall co-operate with the Agency to facilitate the implementation of the safeguards required by this Agreement.

"Section 6. It is agreed that the Agency's safeguards rights and responsibilities referred to in Section 5 of this Agreement shall be implemented in accordance with Annex A to this Agreement until such time as these safeguards rights and responsibilities are being satisfied by the application of safeguards procedures pursuant to an agreement between Indonesia and the Agency for the application of safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons (hereinafter called the "Safeguards Agreement"). In the event that the Agency's safeguards rights and responsibilities are not being implemented pursuant to the Safeguards Agreement, they shall be implemented in accordance with Annex A to this Agreement.

"Section 7. In the event the Board determines, in accordance with Article XII, C of the Statute of the Agency, that there has been any non-compliance with Section 4 or 5 of this Article, the Board shall call upon Indonesia to remedy such non-compliance forthwith, and the Board shall make such reports as it deems appropriate. In the event of failure by Indonesia to take fully corrective action within a reasonable time, the Board may take any other measures provided for in Article XII, C of the Statute of the Agency."

ARTICLE III

Annex B to the Project Agreement with respect to the health and safety measures applying to the reactor and the supplied material is replaced by the Annex to this Amendment.

ARTICLE IV

This Amendment shall enter into force upon signature by or for the Director General of the Agency and by the authorized representative of Indonesia.

DONE in this day of 1979, in duplicate in the English language.

For the INTERNATIONAL
ATOMIC ENERGY AGENCY:

For the GOVERNMENT
OF INDONESIA:

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ANNEX

SAFETY STANDARDS AND MEASURES

1. The safety standards and measures applicable to the project shall be those set forth in Agency document INFCIRC/18/Rev. 1 (hereinafter called the "Safety Document") as specified below.
2. Indonesia shall apply the Agency's Basic Safety Standards for Radiation Protection and relevant provisions of the Agency's Regulations for the Safe Transport of Radioactive Materials, as they are revised by the Agency from time to time, and shall as far as possible apply them also to any shipment of the supplied material outside the jurisdiction of Indonesia. Indonesia shall endeavour to ensure safety conditions as recommended in the relevant parts of the Agency's codes of practice.
3. Indonesia shall arrange for submission to the Agency, at least sixty days prior to the proposed transfer of any part of the supplied material to the jurisdiction of Indonesia, of a detailed safety analysis report containing the information specified in paragraph 4.7 of the Safety Document, with particular reference to the following types of operations, to the extent that such information is relevant and not yet available to the Agency:
 - (a) Receipt and handling of the supplied material;
 - (b) Loading of the supplied material into the research reactor;
 - (c) Start-up and pre-operational testing of the research reactor with the supplied material;
 - (d) Experimental programme and procedures involving the research reactor;
 - (e) Unloading of the supplied material from the research reactor;
 - (f) Handling and storage of the supplied material after unloading.

Once the Agency has determined that the safety measures provided for are adequate, it shall give its consent for the start of the assisted operation. Should Indonesia desire to make substantial modifications to the procedures with respect to which information has been submitted, or to perform any operations with the research reactor or the supplied material with respect to which operation no such information has been submitted, it shall submit to the Agency all relevant information as specified in paragraph 4.7 of the Safety Document, on the basis of which the Agency may require the application of additional safety measures in accordance with paragraph 4.8 of the Safety Document. Once Indonesia has undertaken to apply the additional safety measures requested by the Agency, the Agency shall give its consent for the modifications or operations referred to above.

4. Indonesia shall arrange for submission to the Agency, as appropriate, of the reports specified in paragraphs 4.9 and 4.10 of the Safety Document.
5. The Agency may, in agreement with Indonesia, send safety missions for the purpose of providing advice and assistance to Indonesia in connection with the application of safety measures to the project, in accordance with paragraphs 5.1 and 5.3 of the Safety Document. Special safety missions may be arranged by the Agency in the circumstances specified in paragraph 5.2 of the Safety Document.
6. Changes in the safety standards and measures laid down in this Annex may be made in accordance with paragraphs 6.1 to 6.3 of the Safety Document.