Government Affairs Committee on The Proposed Export of Fuel to India, June 19, 1980, Text released by the State Department.


------, Tarapur Nuclear Power Station: Some Basic Information (Bombay: Department of Atomic Energy, Undated).


------, Explosions Not Necessary for Peaceful Nuclear Research: Prime Minister Reiterates Stand in Rajya Sabha, July 31, 1978, Text released by the Press Information Bureau, New Delhi.


------, Report of the Committee of Scientists set up by the Government of India to Study and Assess the Nanda Devi Nuclear Device Problem (New Delhi: National Committee on Science and Technology, 1979).


Pickering, Thomas R., Statement of Assistant Secretary of State Pickering and Deputy Assistant Secretary Peter D. Constable before the Senate Foreign Relations Committee on U.S. Political and Security Interests in South Asia and Vital U.S. Nonproliferation Goals, March 18, 1980, Text released by the
State Department.


SPEECHES, INTERVIEWS AND PRESS CONFERENCES:


Bonker, Don, "Sale of Nuclear Fuel to India Must be Stopped," In Extension of Remarks, Congressional Record, June 20, 1980.

Boschwitz, Rudy, Speech in the Senate while sponsoring Resolution 198 to disapprove export of spare parts for Tarapur, Congressional Record, August 4, 1983, pp. S11803-11805.


Byrd, Harry, "Expresses hope that the Administration will recognize the folly of approving export of nuclear fuels to India," Remarks in the Senate, Congressional Record, May 22, 1980, p. S5508.

-----, Speech in the Senate on submission of Senate Concurrent Resolution 103 to disapprove nuclear exports to India, Congressional Record, June 20, 1980, pp. S7649-7651.

-----, "Nuclear Fuel to India," Remarks in the Senate opposing the exports placing on record an article by Kingsbury Smith, Congressional Record, June 25, 1980, p. S8213.


Cohen, William, Remarks in Senate on disapproving the sale of uranium for nuclear reactors at Tarapur, Congressional Record, July 28, 1980, S10038.


-----, Remarks in the House on nuclear fuel export to India, Inserts his testimony before the House Foreign Affairs Committee expressing his deep concern over the shipment, Congressional Record, June 26, 1980, pp. E3226-3227.


Gandhi, Indira, Debate on No-Confidence Motion: Prime Minister's Speech (August 17, 1982), Official transcript released by Press Information Bureau, New Delhi, August 19, 1982.

-----, Indo-U.S. Agreement on Tarapur, Remarks in the Lok Sabha, August 11, 1982, Lok Sabha Debates (1982).


-----, Interview with Danish Television, June 28, 1974, Text published by the Press Information Bureau, New Delhi, July 18, 1974.

-----, Interview with ABC Television, USA. Telecast on June 16, 1974, Text released in advance by the Press Information Bureau, New Delhi.


-----, Speech in the senate opposing the exporting of nuclear fuel to India, Congressional Record, September 9, 1980, p. S12286.


-----, Speech supporting Senate Resolution 198 against export of nuclear reactor components to India, Congressional Record, pp. S11805-11087.


McClure, James A., "NRC Disapproval of Nuclear Export to India
Misinterprets the Nuclear Non-Proliferation Act," Speech in the Senate, Inserting his statement before the Committee on Foreign Relations, Congressional Record, June 22, 1978, pp. S9508-9513.


------, "Welcome to the Honourable Indira Gandhi, Prime Minister of India," Speech welcoming Mrs. Gandhi's visit and the U.S.-Indian compromise settlement on Tarapur, Congressional Record, pp. S9363-9365.


Ribicoff, Abraham, "The Indian Nuclear Explosion and the Export


-----, "Role of Indian Engineering in the Nuclear Power Programme," Address to the Annual General Meeting of the Association of the Indian Engineering Industry (Northern Region), New Delhi, April 28, 1981 (Bombay: Department of Atomic Energy).

-----, "Self-Reliance in Nuclear Fuel and Instrumentation," a lecture at the Osmania University, Hyderabad, reproduced in Indian & Foreign Review (February 15, 1979).


INTERNAL DOCUMENTS:


Department of Energy, U.S. Government, Internal Analysis of the Singer application to export a Rod Worth Minimizer to India, along with letter of John M. Rooney, Director, Technology Policy
Division, Office of Classification and Technology Policy, Department of Energy, December 14, 1989.

Department of State, U.S. Government, Information on U.S.-India Nuclear Relations provided in reply to seven questions from Abraham Ribicoff, Chairman, Senate Committee on Government Operations, along with letter of Robert J. McCloskey, Assistant Secretary for Congressional Relations, June 2, 1976.

-----, U.S. Nuclear Referral List/Country List. A previously classified nuclear referral list of commodities requiring a validated licence, along with a 'S' List of non-NPT signatory countries.

-----, Limited Official Use incoming telegram (No. 8336) of May 19, 1974, from New Delhi on the subject: Indian Nuclear Explosion: Some Technical Aspects.


-----, Limited Official Use incoming telegram (No. 0942) of April 24, 1978, from New Delhi on the subject: Indo-U.S. Nuclear Relations.


-----, Limited Official Use incoming telegram (No. 0430) of July 5, 1978), from New Delhi on the subject: Indian Nuclear Policy.


Kratzer, Myron B., Letter from the Director, Division of International Affairs, U.S. Atomic Energy Commission, to N. Srinivasan, Bhabha Atomic Research Centre, October 18, 1968, on the subject: Approval of the Design of the Power Reactor Fuel Reprocessing Plant (PREFRE) at Tarapur.

Lagomarsino, Robert J., and Jonathan B. Bingham, Letter of February 10, 1980, from Representatives Lagomarsino and Bingham to Secretary of State Alexander Haig on the issue of Indian reprocessing of the Tarapur spent fuel.


-----, Letter of September 16, 1974, to Homi N. Sethna, Chairman, Indian Atomic Energy Commission, providing the draft of the peaceful-use assurance the United States wanted India to give.

Rivlin, Alice M., Letter of September 12, 1980, from Director Rivlin of the Congressional Budget Office, U.S. Congress, to Chairman, Senate Committee on Foreign Relations, providing an estimate of the loss to the Department of Energy if Congress blocked fuel export for Tarapur.


-----, Letter of September 17, 1974, to Dixy Lee Ray, Chairman, U.S. Atomic Energy Commission, providing a pledge to devote Tarapur byproducts exclusively for the needs of the station.

Tarnoff, Peter, Letter of June 8, 1977, from Tarnoff, Executive Secretary of the Department of State, to Lee V. Gossick, Executive Director for Operations, U.S. Nuclear Regulatory Commission, in which it was revealed that the U.S. Administration was pressing the new Indian government of Prime Minister Morarji Desai to open nonproliferation negotiations.

Department of State.

United States Nuclear Regulatory Commission, Order of May 21, 1976, in the matter of Edlow International Company (Agent for the Government of India on Application to Export Special Nuclear Material).

-----, Memorandum and Order of July 1, 1976, in the matter of Edlow International Company (Agent for the Government of India on Application to Export Special Nuclear Material).

-----, Memorandum and Order of June 28, 1977, in the matter of Edlow International Company (Agent for the Government of India on Application to Export Special Nuclear Materials).

-----, Decision of April 24, 1978, in the matter of Edlow International Company (Agent for the Government of India on Application to Export Special Nuclear Materials), along with separate views of Commissioner Bradford and Gilinsky, on one side, and Commissioner Kennedy, on the other.


-----, Memorandum of June 5, 1979, from B.J. Synder, Acting Director, OPE, to Chairman Hendrie and other commissioners on the subject: Estimated Fuel Requirements for Tarapur Reactors.

-----, Memorandum of January 22, 1980, from Edward J. Hanrahan to Chairman Ahearne and other commissioners on the subject: Comparison of fuel requirements for the Indian fuel fabrication facility and Tarapur reactors.

-----, Memorandum and Order of May 16, 1980, in the matter of Edlow International Company (Agent for the Government of India on Applications to Export Special Nuclear Materials and Components), along with Chairman Ahearne’s concurring views and Commissioner Gilinsky’s separate opinion.

United States Senate, Committee on Foreign Relations, Letter from Committee Chairman John Sparkman to President Jimmy Carter conveying the committee’s views on the Tarapur fuel export issue, June 21, 1978.

United States Senate, Committee on Government Affairs, "Dear Colleague" letter of July 2, 1980, on the Tarapur issue from John Glenn, Abraham Ribicoff, Alan Cranston, Rudy Boshwitz, William Cohen and Harry F. Byrd, Jr.

Vance, Cyrus, Letter from the Secretary of State to Senator John Glenn, May 18, 1978, on the Tarapur issue.

Young, William, Brief of November 28, 1978 for the U.S. Government, on the subject: *Continuance of Safeguards on Tarapur Spent Fuel in the event of Fuel Supply Termination or Suspension.*

**PUBLISHED DOCUMENTS:**


Department of State, U.S. Government, *Agreement for Cooperation Between the Government of the United States of America and the*


----- and Neile L. Miller, Nuclear Exports: Termination of U.S.


Prasad, A.N., and S.V. Kumar, "Indian Experience in Fuel Reprocessing" (Bombay: Department of Atomic Energy, 1977).


CONGRESSIONAL/PARLIAMENTARY HEARINGS:

House Committee on Foreign Affairs, Subcommittee on Asian and


BOOKS:


Bhatia, Shyam, India's Nuclear Bomb (Bombay: Vikas, 1979).


Cohen, Stephen F. (ed.), The Security of South Asia: Asian and


Dunn, Lewis A., Controlling the Bomb: Nuclear Proliferation in the 1980s (New Haven, Conn.: Yale University Press, 1982).


Kodikara, Shelton, Strategic Factors in Interstate Relations in South Asia (Canberra: Australian National University, 1979).


Leventhal, Paul and Yonah Alexander (eds.), Preventing Nuclear

Mackie, Frederick D., Uranium Enrichment by Gas Centrifuge and Nuclear Weapons Proliferation (Livermore, Calif.: Lawrence Livermore National Laboratory, 1981).


Park, Jae Kyu (ed.), Nuclear Proliferation in Developing Countries (Seoul: Institute for Far Eastern Studies, 1979).


------, (ed.), *Perspectives of India's Nuclear Policy* (New Delhi: Young Asia Publications, 1978).


-----, *Going Nuclear* (Cambridge, Mass.: Ballinger, 1987).


-----, M. Zuberi and Raja Ramanna, *Problems of Living in Nuclear Age* (Chandigarh: Centre for Research in Rural and Industrial Development, 1985).


Williams, Frederick and David Deese (eds.), *Nuclear Proliferation: The Spent Fuel Problem* (New York: Pergamon, 1979).


**ARTICLES AND OTHER REFERENCES:**


Anderson, Robert S. and Barrie M. Morrison, "Power from Power: A
New Scenario Emerges for India's Scientists," Science Forum
(December, 1974).

Arumugham, P.N., "Indian Industry Meets Nuclear Demand," Indian &

Auerbach, Stuart, "India Proposing Amicable End to Nuclear

Barnaby, Frank, "India's Nuclear Views," New Scientist (April 2,
1971).

Benjamin, Milton R., "U.S. Responds to Indian Offer in Nuclear

-----, "Plutonium Reprocessing: The Step the U.S. Is Most Eager

-----, "U.S. Is Delaying Nuclear Exports to India," Washington
Post, June 23, 1983.

29, 1982.


-----, "India, Pakistan and Iran," in Joseph A. Yager (ed.),
Nonproliferation and U.S. Foreign Policy (Washington, D.C.:
Brookings Institution, 1982).

Bhabha, Homi J., "Safeguards and the Dissemination of Military

-----, "The Role of Atomic Power in India and its Immediate
Nations International Conference on the Peaceful Uses of Atomic

-----, "The Implications of a Wider Dispersal of Military Power
for World Security and the Problem of Safeguards," Paper
presented to the 12th Pugwash Conference.

Bhargava, G.S., "India's Nuclear Policy," India Quarterly (April-
June, 1978).

Bhattacharjea, Ajit, "Nuclear Mismanagement," Indian Express,
September 16, 1982.

Binder, David, "Business Leaders, Assailing Isolationism, Urge

-----, "How Canada's and India's Nuclear Roles have been Sadly Misrepresented," Science Forum (February 1977).


Chellaney, Brahma, "The Nuclearization of South Asia: Issues and


Church, George J., Marcia Gauger and Gary Lee, "Carter Pulls One Out: Despite Doubts, the Senate Backs Uranium Sale to India," Time, October 6, 1980.


Gillette, Robert, "India into the Nuclear Club on Canada's Shoulders," Science (June 7, 1974).


-----, "Is the Tarapur Agreement Any Good?", Washington Post, August 1, 1982.


Gomer, Robert, "India Explodes a 'Device'," Bulletin of Atomic Scientists (June 1974).

Graham, Tom, "India's 'Peaceful Nuclear Explosion'," New Directions (October, 1978).


Hann, Peter, "Tarapur Decision Draws Range of Reaction from International Community," October 2, 1980.


Hazelhurst, Peter, "India to Expand her Nuclear Programme," *Times* (London), May 27, 1970.


Jayaraman, K.S., "India's Nuclear Energy Programme," *India News*,


Laufer, Rob, "Interview with Malone: Defence of Policy and Assessment of ‘Hot Spots’," Nucleonics Week, August 19, 1982.


Martin, Don, "Glenn Casts Carter Decision on Tarapur as Boost to


-----, "Dateline New Delhi: India's Nuclear Cover-Up," Foreign Policy (Fall 1986).


"Nuclear Power Without Proliferation," Horizons USA, No. 27 (1978).


Pendergast, William R., "U.S. Foreign Policy and Nuclear


-----, "A Nuclearized South Asia?", Arms Control Today (October 1979).


-----, "Can Proliferation Now Be Stopped?", Foreign Affairs (October, 1974).


Ram, N., "India's Nuclear Policy: A Case Study in the Flaws and Futility of 'Non-Proliferation'," Paper prepared for the 34th Annual Meeting of the Association of Asean Studies, Chicago (April, 1982).


Rose, David J., and Richard K. Lester, "Nuclear Power, Nuclear


Smith, Jeffrey R., "Fight Brewing Over Reactor Fuel for India," *Science* (June 6, 1980).


-----, "Non-Proliferation Treaty and the Third World," Alternatives (December, 1976).


-----, "Nuclear Commerce and Nuclear Technology," Man &
289

*Development* (December, 1983).


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APPENDIX A

AGREEMENT made this 16th day of March, 1956, by and between the United States Atomic Energy Commission (hereinafter referred to as the "Commission") and the President of India (hereinafter referred to as the "Government").

WITNESSETH THAT the parties agree as follows

1. The Commission shall sell and deliver to the Government and the Government shall buy and accept twenty-one (21) short tons (forty-two thousand (42,000) pounds avoirdupois) of heavy water (deuterium oxide D₂O) of not less than 0.9973 purity (i.e., the content of deuterium, calculated as D₂O, shall not be less than 99.73 mol percent or 99.773 per cent by weight.)

2. The price to the Government shall be Twenty-Eight Dollars ($28.00) (U.S.) per pound of heavy water, payable in U.S. currency at the time of delivery, plus such additional amounts as shall represent the actual cost to the Commission under paragraph 5.

3. The foregoing prices shall be f.o.b. plant site to be designated in each instance of delivery by the Commission and delivery shall be accepted by the Government at such site.

4. Delivery and acceptance of the heavy water sold and purchased under this Agreement shall be made in accordance with the following schedule:

   5 Short Tons on or about March 15, 1956
   6 Short Tons on or about April 15, 1956
   5 Short Tons on or about May 15, 1956
   5 Short Tons on or about June 15, 1956
The Government may postpone any of the above scheduled deliv-
ernies if it notifies the Commission at least two weeks 
prior to the specified delivery date of the shipment which 
the Government wishes to postpone. The Commission shall 
make delivery of the shipment so postponed on a date in-
dicated by the Government, which date shall be communicated 
to the Commission at least thirty (30) days before the date 
the shipment is desired. Delivery dates under the above 
schedule may be advanced by mutual agreement of the parties.

5. Prior to delivery, the heavy water sold under this Agreement 
shall be packed for shipment in stainless steel containers 
provided by the Commission. The containers shall be cleaned, 
tested and marked for delivery by the Commission. Cost of 
containers and other costs incurred by the Commission under 
this paragraph shall be certified by the Commission and reim-
bursted by the Government as provided in paragraph 2.

6. Heavy water sold under this Agreement shall be at the sole 
risk of the Government from the time delivery is accepted by 
the Government and from such time shall be without warranty, 
either expressed, implied or statutory. Such risk shall in-
clude any loss or damages resulting from containers or 
packaging, or other acts of the Commission performed in ac-
cordance with paragraph 5 of this Agreement. Notwithstanding 
the foregoing, the Commission will furnish additional quantities 
of heavy water to replace any heavy water lost or damaged in 
transit at the same price and under the other terms and con-
ditions of this Agreement.

7. Weight and deuterium content of heavy water sold under this 
Agreement shall be ascertained by the Commission in accordance
with its normal practices and shall be certified. In accordance with procedures to be mutually agreed, the Government may test the heavy water for purity prior to accepting delivery. Any claim must be made before delivery and acceptance.

8. The Commission shall not be liable for any failure to deliver or delay in delivering the heavy water under this Agreement when such failure or delay is due to any cause beyond its control.

9. The Government agrees that neither this Agreement nor any interests hereunder shall be assigned. The heavy water sold hereunder shall be for use only in India by the Government in connection with research into and the use of atomic energy for peaceful purposes, and shall be retained by the Government, or by other parties authorized by the Government to receive it, and not resold or otherwise distributed.

10. This Agreement shall be construed in accordance with the laws of the United States of America.

IN WITNESS WHEREOF, the parties hereto, by representatives duly authorized, have executed this Agreement as of the day and year first above written.

FOR AND ON BEHALF OF THE

WITNESS:

 UNITED STATES ATOMIC ENERGY COMMISSION

John A. Hall

By

Lewis L. Strauss

FOR AND ON BEHALF OF THE

WITNESS:

PRESIDENT OF INDIA

S. Krishnamurti

By

Homi J. Bhabha

(title)
APPENDIX B

INDIA—ATOMIC ENERGY: COOPERATION FOR CIVIL USES

Agreement signed at Washington August 8, 1963; Entered into force October 26, 1963

AGREEMENT FOR COOPERATION BETWEEN THE GOVERNMENT OF THE UNITED STATES OF AMERICA AND THE GOVERNMENT OF INDIA CONCERNING THE CIVIL USES OF ATOMIC ENERGY

Whereas the peaceful uses of atomic energy hold great promise for all mankind;

Whereas the Government of India has decided to construct and operate a civil atomic power station near Tarapur in Maharashtra State as hereinafter specified;

Whereas the Government of the United States of America and the Government of India desire to cooperate with respect to the construction and operation of the aforesaid civil atomic power station;

Now therefore the Parties hereto agree as follows:

ARTICLE I

Unclassified information shall be exchanged between the Parties hereto with respect to the development, design, construction, operation, and use of the Tarapur Atomic Power Station, including research and development related thereto and problems of health and safety connected therewith.

ARTICLE II

A. During the period of this Agreement the United States Commission will sell to the Government of India and the Government of India will purchase from the United States Commission, as needed, all requirements of the Government of India for enriched uranium for use as fuel at the Tarapur Atomic Power Station, it being understood that the Tarapur Atomic Power Station shall be operated on no other special nuclear material than that made available by the United States Commission and special nuclear material produced therefrom. The enriched uranium, which shall contain no more than twenty percent (20%) U-235, will be made available in accordance with the terms, conditions and delivery schedules set forth in a contract to be made between the Parties; provided, however, that the net amount of U-235 contained in the enriched uranium sold hereunder shall not exceed 14,600 kilograms. The net amount of U-235 shall be the
gross quantity of U-235 contained in the enriched uranium sold to the Government of India hereunder less the quantity of U-235 contained in recoverable uranium resold or otherwise returned to the Government of the United States of America or transferred to any other nation or group of nations or international organization with the approval of the Government of the United States of America.

II. The net amount of U-235 contained in the enriched uranium to be sold pursuant to Paragraph A of this Article has been agreed upon by the Parties on the basis of estimated requirements for fueling the Tarapur Atomic Power Station. If the construction of the Tarapur Atomic Power Station is not begun by June 30, 1965, the United States shall not be required, unless it is otherwise agreed, to sell enriched uranium for fueling the Tarapur Station under this Agreement.

C. Within the limitations contained in Paragraph A of this Article the quantity of enriched uranium sold by the United States Commission under this Article and held by the Government of India pursuant to this Agreement shall not at any time be in excess of the quantity necessary for the full loading of the Tarapur Atomic Power Station, plus such additional quantity as, in the opinion of the Parties, is necessary to permit the efficient and continuous operation of the Station.

D. The Government of India will retain title to any enriched uranium purchased from the United States Commission.

E. It is agreed that when any special nuclear material utilized in the Tarapur Atomic Power Station requires reprocessing, and recourse is not taken by the Government of India to the provisions of Article VI C of this Agreement, such reprocessing may be performed in Indian facilities upon a joint determination of the Parties that the provisions of Article VI of this Agreement may be effectively applied, or in such other facilities as may be mutually agreed. It is understood, except as may be otherwise agreed, that the form and content of any irradiated fuel elements removed from the reactors shall not be altered before delivery to any such reprocessing facility.

F. With respect to any special nuclear material produced in the Tarapur Atomic Power Station which is in excess of the need of the Government of India for such material in its program for the peaceful uses of atomic energy, the Government of the United States of America shall have the first option to purchase such special nuclear material at the fair market price of the United States Commission which may be in effect domestically at such time as it may exercise its option. If such option is not exercised, the Government of India may with the approval of the Government of the United States of America transfer such excess special nuclear material to any other nation or group of nations or international organization.

G. Some atomic energy materials which the Government of India may request the United States Commission to provide in accordance with this Agreement are harmful to persons and property unless handled and used carefully. After delivery of such materials to the Government of India, the Government of India shall bear all responsibility, insofar as the Government of the United States of America is concerned, for the safe handling and use of such materials.
Article III

Materials needed for use at or in connection with the Tarapur Atomic Power Station, other than source materials or the special nuclear materials required for fueling the reactors, will, when such materials are not available commercially, be transferred by the Government of the United States of America to the Government of India on such terms and conditions and in such amounts as may be mutually agreed;provided, however, that special nuclear material transfers will be confined to limited quantities.

Article IV

The application or use of any information (including design drawings and specifications) and any material, equipment and devices, exchanged or transferred under this Agreement, shall be the responsibility of the Party receiving it, and the other Party does not warrant the accuracy or completeness of such information and does not warrant the suitability of such information, materials, equipment and devices for any particular use or application.

Article V

It is agreed that the Government of the United States of America will permit persons under its jurisdiction to transfer and export materials, equipment and devices, other than source or special nuclear materials, to, and perform services for, the Government of India and such persons under its jurisdiction as are authorized by the Government of India to receive and possess such materials, equipment and devices, and utilize such services for the Tarapur Atomic Power Station, subject to applicable laws, regulations and license requirements of the Government of the United States of America and the Government of India.

Article VI (safeguard provisions)

A. The Parties to this Agreement emphasize their common interest in assuring that any material, equipment or device made available to the Government of India for use in the Tarapur Atomic Power Station, or in connection therewith, pursuant to this Agreement shall be used solely for peaceful purposes. The Government of India emphasizes in contrast to the position of the United States, that its agreement to the provisions of this Article in relation to equipment or devices transferred pursuant to this Agreement has been accorded in consideration of the fact that, as provided in this Agreement, the Tarapur Atomic Power Station will be operated on no other special nuclear material than that furnished by the Government of the United States of America and special nuclear material produced therefrom, in consequence of which the provisions of this Article in relation to equipment or devices in any case contravene the safeguards on fuel.

B. The following arrangements shall be applicable between the Parties:

1. The Parties have reviewed the design of the Tarapur Atomic Power Station and may review any significant modification in
this design for the sole purpose of determining that the arrangements provided in this Article can be effectively applied. For the same purpose, the Parties may review the design of other facilities which will use, fabricate or process any special nuclear material made available pursuant to this Agreement or produced in the Tarapur Atomic Power Station. Such a review of the design of these other facilities will not be required if the Government of India, pursuant to mutually acceptable measurement arrangements, has placed an agreed equivalent amount of the same type of special nuclear material under the scope of this Agreement.

2. The Parties have agreed that a system of records and reports shall be established to assure the complete accountability of any special nuclear material which is made available to the Government of India pursuant to this Agreement or which is produced in the Tarapur Atomic Power Station. This system of records and reports shall be as described in the schedule annexed hereto and marked Annexure "A".

3. Any special nuclear material made available pursuant to this Agreement or produced in the Tarapur Atomic Power Station, which is surplus to the current needs of the fuel cycle for the Tarapur Atomic Power Station and which is not transferred by the Government of India pursuant to this Agreement, shall, unless otherwise mutually agreed, be stored at the Tarapur Atomic Power Station.

4. There will be consultations and periodic exchanges of visits between the Parties to give assurance that the objectives set forth in paragraph X of this Article and the provisions of this Agreement concerning transfers are being observed. To the extent relevant to the accomplishment thereof, personnel designated by the Government of the United States of America, following consultation with the Government of India, upon request of the Government of the United States of America, and personnel designated by the Government of India shall have full access to the Tarapur Atomic Power Station and to conversion, fabrication and chemical processing facilities in India at such time as special nuclear material transferred to the Government of India for, or received from, the Tarapur Atomic Power Station is located at such facilities, and at such other times as may be relevant to the accomplishment of the above-noted objectives. Personnel so designated shall also be afforded access to other places and data, and to persons, to the extent relevant to the accomplishment of these objectives. The personnel designated by either Party, accompanied by personal of the other Party if the latter so requests, may make such independent measurements as each Party considers necessary; and nothing in this Agreement is intended to impair the ability of either Party to have prompt access to data, places and persons to the extent relevant to accomplish the above-noted objectives. The Government of the United States of America will keep such access to a minimum consistent with the need for effective verification that these objectives are being observed.
C. Notwithstanding anything contained in this Agreement the Government of India shall have the right, upon prior notice to the Government of the United States, to remove from the scope of this Agreement quantities of special nuclear material provided it has, pursuant to mutually acceptable measurement arrangements, placed agreed equivalent quantities of the same type of special nuclear material under the scope of this Agreement.

D. In the event of noncompliance with the guarantees or with the provisions of this Article, and the subsequent failure of the Government of India to fulfill such guarantees and provisions within a reasonable time, the Government of the United States of America shall have the right to suspend or terminate this Agreement and require the return of any equipment and devices transferred under this Agreement and any special nuclear material safeguarded pursuant to this Article.

ARTICLE VII - Both India and the United States agree not to use any material produced at Tarapur for military purpose

A. The Government of Indian guarantees that the safeguards in Article VI shall be maintained and that:

1. No material, equipment or device transferred to the Government of India or authorized persons under its jurisdiction pursuant to this Agreement, by sale, lease or otherwise, will be used for atomic weapons or for research on or development of atomic weapons or for any other military purpose, and

2. That no such material, equipment or device will be transferred to unauthorized persons or beyond the jurisdiction of the Government of India except as may be agreed to by the Government of the United States of America and the Government of India, and then only if in the opinion of the United States Commission such transfer falls within the scope of an Agreement for Cooperation between the Government of the United States of America and the other nation or group of nations or international organization.

B. The Government of the United States of America guarantees that no special nuclear material produced at the Tarapur Atomic Power Station and acquired by it, or an equivalent amount of the same type substituted therefor, shall be used for atomic weapons or for research on or development of atomic weapons or for any other military purpose.

ARTICLE VIII

A. Recognizing the desirability of making use of the facilities and services of the International Atomic Energy Agency, the Parties agree in principle that, at a suitable time, the Agency will be requested to enter into a trilateral agreement for the implementation of the safeguards provisions of Article VI, in accordance with the following paragraphs: In addition, in accordance with the objectives set forth in the Statute of the International Atomic Energy Agency,[1] the Government of the United States of America is prepared, in principle, to include appropriate provisions in the aforementioned trilateral

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1 TIAS 8678; 8 UST 1093.
agreement, for the application of Agency safeguards to such special nuclear material produced in the Tarapur Atomic Power Station as may be received in the United States, or to equivalent material substituted therefor.

B. After the Agency has adopted a system of safeguards for reactors of the size of those of the Tarapur Atomic Power Station and at a reasonable time to be mutually agreed upon, the Parties will consult with each other to determine whether the system so adopted is generally consistent with the safeguards provisions contained in Article VI. If the system is generally consistent with these provisions, the Parties will request the Agency to enter into a trilateral agreement as referred to in the preceding paragraph. While the Parties recognize that the trilateral agreement should be implemented as soon as practicable, it is agreed, in order to avoid any dislocation or uncertainty during the period of early operation of the Tarapur Atomic Power Station, that the Government of India may specify that the agreement shall not be implemented until the Station has reached reliable full-power operation.

C. In the event the Parties do not reach a mutually satisfactory agreement on the terms of the trilateral arrangement envisaged in this Article, paragraph A, either Party may, by notification, terminate this bilateral agreement. Before either Party takes steps to terminate, the Parties will carefully consider the economic effect of any such termination. Neither Party will invoke its termination rights until the other Party has been given sufficient advance notice to permit arrangements by the Government of India, if it is the other Party, for an alternative source of power to permit adjustment by the Government of the United States of America, if it is the other Party, of production schedules. The Government of the United States of America will not invoke its termination rights unless there has been widespread acceptance, by those nations with whom it has bilateral agreements, of the implementation of safeguards by the Agency or of provisions similar to those contained in this Agreement. In the event of termination by either Party, the Government of India shall, at the request of the Government of the United States of America, return to the Government of the United States of America all special nuclear materials received pursuant to this Agreement and in its possession or in the possession of persons under its jurisdiction. The Government of the United States of America will compensate the Government of India for such returned material at the current schedule of prices then in effect domestically.

**Article IX**

For the purposes of this Agreement:

(a) "United States Commission" means the United States Atomic Energy Commission.

(b) "Tarapur Atomic Power Station" means an electrical generating power plant consisting of two boiling water reactors and associated equipment with a combined net output of approximately 380 MWe, to be located near Tarapur, Maharashtra State, India.

(c) "Equipment and devices" and "equipment or device" means any instrument, apparatus, or facility and includes any facility,
except an atomic weapon, capable of making use of or producing
special nuclear material, and component parts thereof.

(d) "Person" means any individual, corporation, partnership,
firm, association, trust, estate, public or private institution, group,
government agency, or government corporation, but does not
include the Parties to this Agreement.

(e) "Reactor" means any apparatus, other than an atomic
weapon, in which a self-supporting fission chain reaction is main-
tained by utilizing uranium, plutonium, or thorium.

(f) "Atomic weapon" means any device utilizing atomic energy,
exclusive of the means for transporting or propelling the device
(where such means is a separable and divisible part of the device),
the principal purpose of which is for use as, or for development
of, a weapon, a weapon prototype, or a weapon test device.

(g) "Special nuclear material" means (1) plutonium, uranium
enriched in the isotope 233 or in the isotope 235 and any other
material which the United States Commission pursuant to the
United States Atomic Energy Act [5] determines to be special
nuclear material; or (2) any material artificially enriched by any
of the foregoing.

(h) "Source material" means (1) uranium, thorium or any
other material which is determined by either Party to be source
material; or (2) ores containing one or more of the foregoing
materials in such concentration as either Party may determine
from time to time.

(i) "Parties" means the Government of the United States of
America and the Government of India, including the United
States Commission on behalf of the Government of the United
States of America. "Party" means one of the above-mentioned
"Parties".

(j) "Reliable full power operation" shall be deemed to have
been reached one year after the Tarapur Atomic Power Station
has first operated continuously for one hundred hours at full
power. In computing this one-year period, periods during which
either reactor is not in operation for more than four consecutive
weeks will be excluded.

Article X

This Agreement shall enter into force on the date on which both
Governments have notified each other of compliance with all statutory
and constitutional requirements for entry into force of such Agree-
ment [7] and shall remain in force for a period of thirty (30) years.

In witness whereof, the undersigned, duly authorized, have signed
this Agreement.

Done at Washington, in duplicate, this eighth day of August 1963.

For the Government of the United States of America:

PHILLIP TALBOT,
GLEN X T. SEMBOL.

For the Government of India:

BRAHMA KUMAR NEHRU.

ANNEXURE “A”

The Parties have agreed that the system of records and reports for the Tarapur Atomic Power Station will consist of the following elements:

A. With respect to records, information covering the following will be included:
   1. receipts of all nuclear materials,
   2. internal movements of all nuclear materials,
   3. any removal of nuclear materials, including shipments, known losses, and unaccounted for quantities,
   4. inventories of all nuclear materials on hand at the end of each accounting period, showing form, quantity, and location, and
   5. reactor-operating data necessary for determining and reporting on the production and consumption of any nuclear materials and the use of the Tarapur Atomic Power Station.

B. With respect to reports, information covering the following will be included:
   1. all receipts and removals of nuclear materials,
   2. any production and consumption of nuclear materials,
   3. any known losses and unaccounted-for nuclear materials,
   4. all inventories of nuclear materials,
   5. the operation of the Tarapur Atomic Power Station, including unusual incidents; and significant modifications made or to be made in the plant or in the fueling program.

Routine reports covering the foregoing elements shall be submitted to the Government of the United States of America and the Government of India on a monthly basis. Any losses of nuclear materials, however, or any unusual incidents or major changes in the fueling program will be reported as soon as the loss has been discovered or the change has been scheduled.

The Parties further agree that if any special nuclear material which is made available to India pursuant to this Agreement or produced in the Tarapur Atomic Power Station is placed, in accordance with this Agreement, in any facilities in India other than the Tarapur Atomic Power Station, then the principles of the agreed-upon system referred to in Paragraph B.2 of Article VI of this Agreement and set forth in this Annexure will be applied to such a situation.

The records and reports will include such details as may be relevant to the achievement of the objectives of Article VI and may be modified by mutual agreement.

In the event of unusual incidents, special reports may be requested, including such amplifications and elucidations as each party considers relevant to the achievement of the objectives of Article VI.

4 The term “nuclear material” as used in this Annexure means both source materials and special nuclear materials as they are defined in Article IX of this Agreement.

[Footnote in the original.]
APPENDIX C

CONTRACT OF SALE OF ENRICHED URANIUM BETWEEN THE UNITED STATES ATOMIC ENERGY COMMISSION ACTING ON BEHALF OF THE GOVERNMENT OF THE UNITED STATES OF AMERICA AND THE GOVERNMENT OF INDIA

The United States Atomic Energy Commission, acting on behalf of the Government of the United States of America, (hereinafter referred to as the "Seller"), and the Government of India (hereinafter referred to as the "Purchaser"), with respect to the sale of enriched uranium pursuant to the Agreement for Cooperation Between the Government of the United States of America and the Government of India Concerning the Civil Uses of Atomic Energy, signed on August 8, 1963, and, on the part of the Seller, pursuant to the Atomic Energy Act of 1954, as amended, hereby agree as follows:

ARTICLE I—DEFINITIONS

The following terms, as used herein, shall have the following meanings:

a. The terms "Atomic Energy Commission", "Commission" or "AEC" mean the United States Atomic Energy Commission or any duly authorized representative thereof.

b. The term "base charge" means the United States dollar charge per unit of special nuclear material in standard form and specification in effect as of the time any particular transaction under this Contract takes place as set forth in schedules published by the Commission in the United States Federal Register from time to time.

c. The term "use charge" means the Commission's published rate of annual (365 days) use charge in effect for the billing period covered by the Seller's invoice.

d. The term "Chemical Processing Contract" means the contract which may be entered into between the Parties related to the chemical processing and conversion of certain irradiated reactor material to be removed from the Tarapur Atomic Power Station.

e. The term "Commission Facility" means a laboratory, plant, office or other establishment operated by or on behalf of the Commission.

f. The term "Commission's established specifications" means the specifications for purity and other physical and chemical properties of special nuclear material, as published by the Commission in the United States Federal Register from time to time.

g. The term "deferral period" means the period of time commencing with the date of acceptance of delivery by the Purchaser (as provided...
in Article III E) of the first quantity of enriched uranium sold pursuant to this Contract and terminating June 30, 1973.

h. The term "enriched uranium" means uranium enriched in the isotope U-235, with the applicable limitations on enrichment specified in the Agreement for Cooperation. (Uranium containing more than 90 parts of U-233 per million parts of U-235 and more than 11 parts of U-232 per billion parts of U-235, is uranium enriched in U-233 which is not included in the term enriched uranium as used in this contract.)

i. The "enriched uranium value of the first core" for a given reactor is the value as of the date of delivery of the enriched uranium distributed by the Seller to the Purchaser under this Contract and incorporated into those fuel assemblies which are in the reactor at the time it reaches full thermal power or the unit of which is a part is first used to generate electricity, whichever event occurs first.

j. The term "established Commission pricing policy" means any applicable price or charge in effect at the time any particular transaction under this Contract takes place (i) published by the Commission in the United States Federal Register, or (ii) in the absence of such a published price or charge determined in accordance with the Commission's pricing policies in which event a statement of such pricing policies will be furnished the Purchaser as promptly as possible.

k. The term "guaranteed purchase price" means the price established by the Commission pursuant to section 56 of the Atomic Energy Act of 1954, as amended, with respect to special nuclear material production in the United States.

l. The term "installment payment period" means the period commencing July 1, 1973, and terminating June 30, 1983.

m. The term "persons acting on behalf of the Commission (or Seller)" includes employees and contractors of the Commission, and employees of such contractors, who implement or participate in the implementing of this Contract pursuant to their employment or their contracts with the Commission.

n. The term "Purchaser's United States Contractor" means a domestic lessee of the Seller who is engaged by the Purchaser to provide services for the Purchaser with respect to special nuclear material obtained by such contractor under a Special Nuclear Material Lease Agreement with the Commission.

o. The term "special nuclear material" means (i) plutonium, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 51 of the Atomic Energy Act of 1954, as amended, determines to be special nuclear material, but does not include source material; or (ii) any material artificially enriched by any of the foregoing, but does not include source material.

p. The term "Special Nuclear Material Lease Agreement" means the Commission's standard form of agreement for distribution of special nuclear material to persons in the United States authorized to receive, transfer, possess and use special nuclear material.

q. The term "Standard Form" means the chemical form of special nuclear material, as published by the Commission in the Federal Register from time to time.
The term "Tarapur Atomic Power Station" means the electrical generating power plant consisting of two boiling water reactors and associated equipment with a combined net output of approximately 380 MWe, to be located near Tarapur, Maharashtra State, India.

The term "value" when applied to enriched uranium means the United States dollar amount determined by multiplying the applicable Commission base charge by the number of units, or fractions thereof, of enriched uranium involved, whether or not such material is in standard form and specification.

ARTICLE 11 SCOPE—COMMITMENTS TO SELL AND TO PURCHASE

(1) During the period of this Contract the Seller shall sell to the Purchaser and the Purchaser shall purchase from the Seller, as needed, all of the Purchaser's requirements of enriched uranium for use as fuel for the Tarapur Atomic Power Station up to a net amount of 14,500 kilograms of U-235 contained in the enriched uranium sold hereunder. Such material shall be sold in accordance with Purchase Orders submitted to the Seller, and subject to such terms, charges and conditions as are provided for in this Contract.

(2) The net amount of U-235 specified in subparagraph A. (1) hereof reflects the estimated maximum net quantity of such material that will be required hereunder by the Purchaser for the Tarapur Atomic Power Station during the period of this Contract. This net amount may be increased or decreased by mutual agreement of the Parties, within the limitations of the Agreement for Cooperation, taking into consideration operating experience as to the enriched uranium requirements, during the period of this Contract for the Tarapur Atomic Power Station.

(3) The term "net amount" as used herein with respect to U-235 contained in uranium, means the gross quantity of U-235 contained in the enriched uranium sold to the Purchaser under this Contract less the quantity of U-235 contained in recoverable uranium returned to the Purchaser by the Seller for credit pursuant to Article VII, infra, or transferred to any other nation or international organization with the approval of the Government of the United States of America in accordance with the provisions of the Agreement for Cooperation.

B. (1) The enriched uranium which is the subject of this Contract shall be furnished by the Seller as provided in Article III, infra, in standard form in accordance with the Commission's established specifications.

(2) The Seller shall from time to time advise the Purchaser of advance notice requirements for the fulfillment of purchase orders in order to facilitate the delivery of enriched uranium as of the date requested in the purchase order.

C. Beginning with the calendar year 1966, the Purchaser shall provide the Seller on or before January 15 of that year and each subsequent year with a written schedule for a period of five years of dates, quantities and enrichments of estimated purchases and returns of uranium pursuant to Article VII, infra. Such schedules shall be for the purpose of facilitating deliveries hereunder and shall not be binding on either Party.
ARTICLE III—DELIVERIES

A. (1) The Purchaser will place purchase orders which will specify the amount and enrichment of the material desired under the terms of this Contract and when and to whom the material should be made available. As the Purchaser may request, enriched uranium necessary for the implementation of Purchase Orders executed under this Contract shall be made available by the Seller either (a) to Purchaser's United States Contractor for purposes of processing, fabricating, or analysis and measurement, or (b) to a transporter engaged by the Purchaser subject to such conditions and licenses as the Seller may require. The enriched uranium shall be made available at a facility of the Seller unless it is drawn from the inventory of Purchaser's United States Contractor.

(2) The quantities and properties of the enriched uranium which is to be sold to the Purchaser hereunder shall be determined in accordance with Article VIII, infra.

B. (1) In the case of enriched uranium made available to Purchaser's United States Contractor for purposes of processing, fabricating, or analysis and measurement, upon completion of the operations of said contractor with respect to the enriched uranium, the Purchaser shall cause said contractor to submit to the Seller a written certification, accepted by the Purchaser, of said contractor's determination of the U-235 isotopic content and quantity of such enriched uranium. After Seller's acceptance of said written certification in accordance with Article VIII, infra, the Purchaser shall arrange for transport of the enriched uranium to a port of export in the United States to be designated by the Purchaser with the approval of the Seller. Transportation of the enriched uranium from the facility of Purchaser's United States Contractor to the port of export shall commence only after thirty days written notice to the Seller of Purchaser's intent to effect transport of the enriched uranium, except as may be otherwise agreed to by the Seller.

(2) In the case of enriched uranium which is to be made available directly to the Purchaser without intervening fabrication, processing, or analysis and measurement, the Seller shall make available the enriched uranium so ordered to a transporter engaged by the Purchaser who shall transport and deliver the material to a port of export in the United States designated by the Purchaser with the approval of the Seller.

C. All arrangements and costs of delivery and handling of enriched uranium in connection with delivery and transfer shall, as between the Purchaser and the Seller, be the responsibility of the Purchaser.

D. In the event the Purchaser arranges hereunder for transportation of enriched uranium to a port of export through a transporter who is not a lessee of the Seller with respect to the enriched uranium, the Purchaser shall, commencing with the start of transport of the enriched uranium and until Purchaser's acceptance of delivery thereof, hold the Seller harmless from any and all liability (including third party liability) for any cause whatsoever arising out of or resulting from the transport of such enriched uranium to the port of export and shall be responsible to the Seller for loss of or damage to such
material and for such charges (determined in accordance with established Commission pricing policy) as the Seller may require with respect to such material. Nothing in this paragraph shall deprive the Purchaser or any other person of any rights under Section 170 of the United States Atomic Energy Act of 1954, as amended.

E. The Seller shall promptly perform those actions required to effect delivery and authorize export of the enriched uranium to the Purchaser at the designated port of export. The Purchaser or its duly authorized agent shall promptly accept delivery of such enriched uranium at the designated port of export and, upon acceptance of said delivery (to be evidenced by an appropriate written receipt), the Purchaser shall assume full and complete responsibility for the enriched uranium insofar as the Seller is concerned.

ARTICLE IV—TITLE

Title to enriched uranium supplied hereunder shall vest in the Purchaser at the time it leaves the jurisdiction of the United States of America.

ARTICLE V—PAYMENT

A. (1) The charges under this Contract shall be equivalent to the applicable charges in effect at the times provided herein with respect to Seller's domestic distributes of enriched uranium.

(2) The charges for the amount of enriched uranium sold pursuant to this Contract shall be in accordance with the value of such material at the time of acceptance of delivery thereof by the Purchaser, as provided in Article III E, provided, however, where material is made available at a facility of the Seller to a transporter who is not a lessee of the Seller with respect to the material, the charge will be in accordance with the value of the material at the time it is made available to Purchaser's transporter.

(3) The parties have agreed that the maximum value of enriched uranium for which payment may be deferred (hereinafter referred to as the deferred payment amount) during the deferral period shall not exceed the enriched uranium value of the first core of the first fully loaded reactor of the Tarapur Atomic Power Station multiplied by factor of 1.26 and that of the other reactor multiplied by a factor of 1.06. In the event the enriched uranium incorporated in those fuel assemblies which are in the reactor at the time it first reaches full thermal power produces less than the reactor's rated electrical output, such additional quantity of enriched uranium which the Parties mutually agree to be required to attain the reactor's rated electrical output shall be added to the maximum value of enriched uranium for which payment may be deferred.

(4) The Seller shall open on its books a “deferred payment account” for the Purchaser, which account shall reflect the amount of the outstanding indebtedness of the Purchaser to the Seller for enriched uranium sold hereunder for which payment is to be deferred by the Purchaser. Charges to the deferred payment account of the Purchaser shall be made as of the time of acceptance of delivery (as provided in Article III E) of such enriched uranium by the Purchaser. Payment
for the deferred payment amount shall be in accordance with para-
graph C., infra, and shall be effective as of the date such payment
is received by the Seller.

B. The Purchaser shall compensate the Seller within 60 days after
the date of any invoice of the Seller for:

(1) The value of any quantity of enriched uranium sold pursuant
to this Contract during the deferral period to the extent such value
when added to the deferred payment account exceeds the deferred
payment amount less any credit for unconsumed U-235 gained to date
of Seller's invoice pursuant to Article VII infra.

(2) The value of any quantity of enriched uranium sold pursuant
to this Contract subsequent to the termination of the deferral period
less any credit for unconsumed U-235 gained to date of Seller's in-
voice pursuant to Article VII infra.

The Seller's invoice for the aforesaid quantities of enriched uranium
shall be dated and dispatched at or subsequent to the time of Pur-
chaser's acceptance of delivery of enriched uranium as provided in
Article III E. Payment shall be made in United States currency and
shall be paid to the Seller or its designated agent or contractor. Failure
to receive payment for the aforesaid quantities of enriched uranium
within sixty days (60) days after the date of the invoice shall entitle
the Seller to an additional charge at the rate of 6% per annum of the
invoiced amount. Such additional charge shall be made unless the
Seller elects to waive such charge upon request of the Purchaser in
the event such delay in payment is for reasons beyond the Purchaser's
control. Further the Seller shall, without prejudice to any other rights
and remedies of the Seller, be entitled to suspend the Seller's obligation
hereunder to deliver enriched uranium to the Purchaser until satisfac-
tion of the invoiced amount and any additional charge thereon; pro-
vided that the Seller shall not suspend delivery if the payment is re-
ceived by the Seller within forty-five (45) days after receipt by the
Purchaser of a written notification of default which shall be dispatched
at or subsequent to expiration of the sixty (60) day period for payment
of seller's invoice. Such suspension of delivery shall not affect the
existing indebtedness of the Purchaser to the Seller including the con-
tinued accrual of interest hereunder until payment.

C. (1) Interest at the rate of the Seller's use charge shall be paid
semiannually on outstanding daily balance of the deferred payment
account during the deferral and installment payment periods. Billing
shall be as of January 1 and July 1 of each year. For purposes of in-
terest computed during the deferral period, the enriched uranium shall
be deemed to be held by the Purchaser from the time of acceptance
delivery of such material by the Purchaser, as provided in Article
III E, provided, however, where enriched uranium is made available
to a transporter engaged by the Purchaser who is not a lessee of the
Seller with respect to the enriched uranium for direct shipment to a
United States port of export pursuant to Article III D, supra, such
enriched uranium shall be deemed to be held by the Purchaser from
the time it is made available to the said transporter.

(2) The balance of the deferred payment account outstanding as
of June 30, 1973, shall be payable in ten equal annual installments
commencing with the initial payment on June 30, 1974, and continu-
ing annually thereafter on the anniversary date until final payment is made on June 30, 1983. Within sixty (60) days after June 30, 1973, the Seller shall forward a written notice to the Purchaser specifying the outstanding balance of the deferred payment account as of June 30, 1973.

(3) All payments due under this paragraph C, shall be made in United States currency to the Seller or an agent designated by the Seller. Failure to receive payment on (1) any interest payment under paragraph C, (1) supra within sixty (60) days after the date of Seller's billing or (2) any installment payment under subparagraph C, (2) supra within sixty (60) days of the date on which the installment becomes payable shall entitle the Seller to an additional charge at six (6) percent per annum on such amount. Such additional charge shall be made unless the Seller elects to waive such charge upon request of the Purchaser in the event such delay in payment is for reasons beyond the Purchaser's control.

(4) Nothing herein shall be deemed to prevent the full or partial payment by the Purchaser of any outstanding indebtedness prior to the time at which such payment would become due and payable.

ARTICLE VI—DEFAULT IN PAYMENT OF DEFERRED PAYMENT ACCOUNT

A. (1) In the event of any default in payment by the Purchaser of any sum due under the deferred payment account referred to in Article V A. (4) of this contract, which default is not cured by receipt of payment by the Seller within forty-five (45) days after receipt by the Purchaser of written notification of default, the Seller, without prejudice to any other rights and remedies of the Seller, be entitled to invoke at its option any of all of the following measures:

(a) The Seller may, at its option, declare any amount up to the full dollar amount owed by the Purchaser to the Seller under the deferred payment account to be immediately due and payable and said dollar amount shall thereupon become due and payable.

(b) Suspend or terminate the Seller's obligation hereunder to deliver enriched uranium to the Purchaser. Such termination or suspension of delivery shall not affect the existing indebtedness of the Purchaser to the Seller including the continued accrual of interest hereunder until payment.

(c) Require, at no expense to the Seller, the return of an amount of unirradiated enriched uranium transferred hereunder, together with enriched uranium irradiated in the Tarapur Atomic Power Station and material produced therefrom, to a facility within the United States of America designated by the Seller, to the extent that the value of these materials at the time of demand for return (the value of special nuclear material other than enriched uranium to be determined upon the basis of the Commission's guaranteed purchase price for delivery to it of the applicable special nuclear material other than enriched uranium or in the absence of a Commission guaranteed purchase price, the last previous guaranteed purchase price for the applicable special nuclear material other than enriched uranium at the time of Seller's demand for return) equals the full amount due and pay-
able hereunder plus any costs incurred by or on behalf of the Seller as a result of the return of the material and processing and/or conversion into standard form. In the event the Seller invokes the option provided for in this subparagraph, the Purchaser shall take or cause to be taken all action necessary to effect the return of the aforesaid enriched uranium and material produced therefrom to a facility within the United States of America designated by the Seller. All rights, title, and interest in or to said material shall pass to the Seller at the time the material enters the jurisdiction of the United States.

(d) The Purchaser shall accord no rights to others which would impair the ability to invoke any or all of these measures.

(e) If irradiated material is required to be returned pursuant to this Article VI, the Purchaser, prior to the return of such material, shall be given an appropriate period of time to allow for radioactive decay to the extent necessary to permit shipment in accordance with applicable criteria.

(2) The Purchaser shall have the right to cancel the return of material pursuant to subparagraph A. (1) (e), supra, at any time prior to its delivery to a facility within the United States designated by the Seller, upon payment to the Seller of the amount due and payable hereunder plus any costs incurred by or on behalf of the Seller in contemplation of the return of the material.

ARTICLE VII—CREDIT FOR UNCONSUMED U-235

A.(1) The Seller will accept from the Purchaser for credit under this Contract, as herein provided, such amounts of uranium enriched in the isotope U-235 recovered or recoverable from enriched uranium purchased by the Purchaser under this Contract which, during any period of normal power operation of the Tarapur Atomic Power Station, are delivered to the Seller (i) if in standard form meeting the Commission's established specifications, at a location or facility specified by the Seller, e.g., commercial conveyance such location or facility, in containers meeting the Seller's established safety and operational criteria or (ii), pursuant to a Chemical Processing Contract or (iii), in form and specification other than as provided in (i) and (ii) above pursuant to mutual agreement of the Parties provided that material will not be accepted hereunder for credit if its enrichment in the isotope U-235 exceeds the enrichment levels which the Seller is then producing.

(2) The amount of credit to be allowed for enriched uranium returned pursuant to subparagraph A. (1) of this Article shall (i) in the case of material in standard form meeting the Commission's established specifications, be equal to the value of the returned enriched uranium calculated in accordance with established Commission pricing policy in effect at the time of delivery to the Seller, as provided in B., infra (ii) in the case of material delivered to the Seller pursuant to a Chemical Processing Contract, be determined by the applicable terms and conditions thereof and (iii) in cases other than as provided in A. (2) (i) and (ii) supra, be determined by mutual agreement of the Parties.
(3) With respect to such enriched uranium no cash payment will be made therefor by the Seller to the Purchaser. Credit to the Purchaser for such enriched uranium will be applied against deliveries under this Contract subsequent to the date the enriched uranium is returned for credit.

B. The Purchaser shall, unless otherwise mutually agreed, notify the Seller at least ninety (90) days in advance of the date on which Purchaser wishes to ship to the Seller for credit enriched uranium in standard form meeting the Commission's established specifications. Seller shall thereupon promptly advise the Purchaser of the acceptability of the proposed shipment schedule or, if the proposed schedule is unacceptable to the Seller, an alternative schedule acceptable to the Seller. Such alternate schedule shall not result in unreasonably delaying the return of material for credit. Enriched uranium shall be accepted by the Seller for credit hereunder at the time of its delivery at the location or facility specified by the Seller. Such credit shall be considered as provisional and shall become final only if Seller has not within sixty (60) days submitted a notice of disagreement to the Purchaser pursuant to Article VIII B(2) (b). In the event the Seller disagrees with the Purchaser's determination of properties for such enriched uranium, the Purchaser's statement shall govern pending resolution of the disagreement. The value of the provisional credit shall be appropriately adjusted, if necessary, upon resolution of the disagreement. Such adjustment shall include an interest charge at the rate of six (6) percent per annum, commencing with the date from which credit is given as provided in A(3) supra to the extent that the provisional credit is more than the actual value provided, however that no interest shall apply if the provisional credit is less than the actual value.

C. Except as otherwise agreed, the Seller shall not be obliged to accept for credit any enriched uranium which has been blended with uranium not supplied under this Contract.

D. All rights, title and interest in or to enriched uranium delivered to the Seller for credit pursuant to this Article VII shall pass to the Seller at the time such material enters the jurisdiction of the United States of America, provided that the Purchaser shall be entitled to receive credit for such material as set forth herein.

ARTICLE VIII—DETERMINATION OF MATERIAL QUANTITIES AND PROPERTIES: SETTLEMENT OF MEASUREMENT DIFFERENCES: ADJUSTMENTS OF INTEREST CHARGES

A. The following provisions and procedures shall apply to the determination of quantities and properties and the resolution of measurement differences resulting from such determination with respect to material sold by the Seller to the Purchaser hereunder which has been made available to Purchaser's United States Contractor.

(1) The quantities of enriched uranium sold by the Seller to the Purchaser shall be determined as set forth in this subparagraph:

(a) The quantities of enriched uranium sold by the Seller to the Purchaser, which have been made available to Purchaser's
United States Contractor solely for the purpose of analysis, or measurement or transportation shall, unless otherwise agreed by the Parties, be deemed the same as the quantities of such material made available by the Seller to said contractor as determined pursuant to the Special Nuclear Material Lease Agreement between the Seller and said contractor.

(b) The quantities of enriched uranium sold by the Seller to the Purchaser, which have been made available to Purchaser's United States Contractor for the purpose of processing or fabrication shall be as agreed to by said contractor and the Purchaser and accepted by the Seller.

(2) The properties of enriched uranium sold by the Seller to the Purchaser which has been made available to Purchaser's United States Contractor for any purpose shall, for purposes of this Contract, be deemed the same as the properties of such material made available by the Seller to said contractor as determined pursuant to the Special Nuclear Material Lease Agreement between the Seller and said contractor.

B. The following provisions and procedures shall apply to the determination of quantities and properties and the resolution of measurement differences resulting from such determination with respect to material sold hereunder which is transferred directly to the Purchaser from a Commission facility and with respect to material returned by the Purchaser to the Seller pursuant to Article VII supra. For purposes of this section, the term “transferred directly” means a transfer of material from the Seller to the Purchaser without an intervening transfer to Purchaser's United States Contractor and from the Purchaser to the Seller or its facility. The term “shipper” and “receiver” shall refer to the Seller and the Purchaser as the case may be.

(1) The quantities of material transferred directly shall be determined prior to transfer to the Purchaser's transporter or prior to acceptance of delivery by the Seller, as the case may be, at a facility of the Seller using the Seller's procedures and facilities. The quantities shall be as determined by the Seller; provided, however, at the option of the Purchaser, the quantities will be jointly determined by the Seller and the Purchaser, in which case the Purchaser or its representative shall, at its expense, be permitted to witness the weighing of the material and the taking of official samples by the Seller. Simultaneously with the submission of any Purchase Order under this Contract or notification of its intention to deliver material pursuant to Article VII, the Purchaser will advise the Seller whether it desires to witness weighing and sampling, in order that necessary arrangements may be made therefor.

(2) The uranium content, weight per cent U-235, and any other property affecting the value of material transferred directly, as well as the conformity of such material to the Commission's established specification, shall be determined as follows:

(a) The Seller's samples obtained using the Seller's procedures will be the official samples and shall be binding upon the Seller, the Purchaser, and the umpire, unless the Seller and Purchaser agree upon the use of other samples.

(b) If the receiver does not accept the shipper's determination of uranium content, weight per cent U-235, any other property
affecting the value of the material, and conformity to the Commission's established specifications as reported in the shipper's statement of quantities and properties the receiver shall within sixty (60) days after transfer of the material at the Seller's facility or receipt of the shipper's statement for such material, whichever is later, submit a written or telegraphic notice of disagreements to the shipper. The notice of disagreement shall include data supporting the disagreements. If such notice of disagreement is not submitted within the prescribed time period, the shipper's determination will be final and binding upon both parties. If the disagreement is with respect to whether or not the material meets the Commission's established specifications, the receiver shall not use or dispose of the material in any manner until the difference is resolved unless such use or disposition is mutually agreed to by the Seller and the Purchaser; provided that nothing herein shall prevent the receiver from handling the material as necessary for storage or protection against health and safety hazards.

(8) If any disagreement with respect to the shipper's determination under subparagraph B(2)(b) is not resolved by mutual agreement, the following procedures shall apply. The official sample will be submitted by the Seller to an umpire mutually agreed upon for analysis, and the umpire's result will be conclusive upon both parties.

(a) In the case of a disagreement as to whether or not an amount or property is within the Commission's established specifications, the receiver will bear the umpire's charges if the umpire's result is within specifications, and the shipper will pay the umpire's charges if the umpire's result is not within specifications.

(b) In the case of a disagreement as to the absolute value of an amount or property of material which is within the Commission's established specifications, the umpire's result will be used and the party whose result is furthest from the umpire's result will pay the umpire's charges; provided in the event the umpire's result is equidistant between the parties' results, the parties will each bear one-half of the umpire's charges. The value of the material shall be adjusted in accordance with the umpire's result.

C.(1) The period of time during which interest charges on the deferred payment account shall accrue pursuant to Article V C. (1) supra with respect to material transferred directly from the Seller to the Purchaser and subject to a measurement disagreement shall be adjusted as follows:

(a) If the disagreement is with respect to whether or not the material meets the Commission's established specifications and is resolved by the umpire in favor of the Purchaser, no interest charge shall accrue unless the Purchaser uses or disposes of the material (when mutually agreed upon) or fails to return it within a reasonable time after resolution of the disagreement. If the disagreement is resolved in favor of the Seller, interest charges shall continue to accrue.

(b) If the disagreement is with respect to the absolute value of an amount or property of material which is within the Commission's established specifications, interest charges shall accrue from the date material is provided by the Seller to the Purchaser's transporter. The Seller's determination shall govern pending reso-
solution by mutual agreement or by the umpire but interest charges shall be subsequently adjusted appropriately to accord with the final resolution.

(c) Where the disagreement is resolved by mutual agreement, the amount and period of the interest charge shall be included in and settled by mutual agreement.

D. (1) The liabilities and responsibilities of the Seller with respect to enriched uranium made available to Purchaser's United States Contractor shall be governed by the arrangements between the Seller and the said contractor.

(2) If the material made available to the Purchaser under the conditions of paragraph B of this Article fails to conform to the Commission's established specifications, the responsibility and liability of the Seller shall be limited to (a) adjustment of interest charges as set forth in paragraph C supra, (b) exchange of specification material for the non-conforming material at a facility in the United States designated by the Seller and (c) reimbursement to the Purchaser for the reasonable costs of packaging and transportation for returning the non-conforming material, as well as the transportation charges for shipping conforming replacement material.

E. The determinations made pursuant to the foregoing paragraphs of this Article VIII shall be final and binding for purposes of this Contract and shall not be subject to arbitration under Article XII hereof.

ARTICLE IX—TIME OF DELIVERY

The Seller will make all reasonable efforts to make available the material which is the subject of sale hereunder at the time or times requested by the Purchaser or its contractors pursuant to Article III A., but neither the Seller nor persons acting on behalf of the Seller other to determine the modifications, if any, required to this Contract shall be subject to any liability resulting from the failure so to make available the material at the time or times requested.

ARTICLE X—FORCE MAJEURE

Neither Party shall be liable for any failure to perform under Articles II and III of this Contract which failure to perform is caused by any Act of God, strike, fire or the public enemy.

ARTICLE XI—RELATIONSHIP TO DOMESTIC POLICIES

During the term of this Contract it is possible that the applicable domestic laws or policies of the United States of America with respect to ownership and supply of special nuclear material for use by the Seller's domestic distributors may be changed. In such an event the Parties, upon the request of either Party, agree to consult with each other to determine the modifications, if any, required to this Contract to make actions to be performed hereunder within the United States consistent with the implementation of applicable laws and policies relating to ownership and responsibility for special nuclear material distributed by the Seller domestically. Nothing contained in this Article XI shall affect the obligation of the Seller to sell at the Com-
mission's published charges and that of the Purchaser to purchase all of the Purchaser's enriched uranium requirements for Tarapur Atomic Power Station as provided in Article II supra nor enlarge the financial obligations and responsibilities of the Purchaser to the Seller as provided in Articles III and V supra nor diminish the obligation of the Seller contained in Article VIII supra to accept unconsumed U-235 from the Purchaser for credit under this Contract.

ARTICLE XII—ARBITRATION

Except as otherwise specifically provided in this Contract, all disputes concerning questions of fact which may arise under this Contract, and which are not disposed of by mutual agreement, shall be referred to arbitration by a board composed of three arbitrators. One of such arbitrators shall be appointed by the Seller, one shall be appointed by the Purchaser, and the third arbitrator shall be selected by the first two. In the event that the first two arbitrators so selected are unable to agree upon a third arbitrator, then the Chairman of the United States Atomic Energy Commission and the Chairman of the Atomic Energy Commission of India shall mutually agree upon and designate the person to act as the third arbitrator.

The arbitration proceedings shall be in accordance with the rules established by the American Arbitration Association for Commercial Arbitration. The decision of a majority of the arbitrators on the arbitration shall be final and binding. Allocation of the costs of arbitration shall be as determined by the board of arbitrators; provided, however, that neither Party shall be obliged to pay the costs of the other Party's arbitrator.

ARTICLE XIII—DISCLAIMER

The application or use of any material sold by the Seller to the Purchaser pursuant to this Contract shall be the responsibility of the Purchaser and the Seller does not warrant the suitability of such material for any particular use or application. The application or use of material returned by the Purchaser to the Seller pursuant to Article VII of this Contract shall be the responsibility of the Seller and the Purchaser does not warrant the suitability of such material for any particular use or application.

ARTICLE XIV—ASSIGNMENTS

Neither the Purchaser nor the Seller shall assign this Contract or any rights or interests hereunder, without the express written consent of the other and then only in accordance with the provisions of the Agreement for Cooperation and any amendments or revisions thereto.

ARTICLE XV—AGREEMENT FOR COOPERATION

The sale which is the subject of this Contract shall be in all respects subject to and in accordance with all of the terms, conditions, and provisions of the Agreement for Cooperation and any amendments or revisions thereto. In the event of incompatibility between this Contract and the Agreement for Cooperation, the latter shall govern.
ARTICLE XVI—OFFICIALS NOT TO BENEFIT

No Member or Resident Commissioner to the Congress 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 XVII—APPLICABLE LAW

This Contract shall be construed according to the laws applicable in the Federal Courts of the United States of America for contracts in the United States of America to which the Government of the United States of America is a party.

ARTICLE XVIII—CONTRACT PERIOD

This Contract shall enter into force and effect upon the date of its execution. The obligations of the Seller to sell and the Purchaser to purchase enriched uranium hereunder shall, except as otherwise provided in Article XIX, infra, remain in force and effect during the period of the Agreement for Cooperation is in force and effect.

ARTICLE XIX—TERMINATION

Except as provided for in the Agreement for Cooperation:

A. (1) This Contract may be terminated at any time by mutual agreement of the Parties.

(2) The obligation of the Purchaser under Article II A. (1), supra, for the purchase hereunder during the period of this Contract of the enriched uranium requirements for use as fuel for the Tarapur Atomic Power Station may be terminated in whole by the Purchaser at any time by delivery to the Seller of a written Notice of Termination stating the date after receipt of the Notice upon which such termination shall become effective; Provided, however, That unless the effective date of termination is at least five years subsequent to the date of receipt by the Seller of the said written Notice, or in the absence of such written Notice, the Purchaser shall be liable to the Seller, in accordance with paragraph B., infra, for the payment of termination charges.

B. (1) If the Purchaser terminates in accordance with the provisions under subparagraph A. (2) of this Article XIX, on less than the five-year period of notice to the Seller provided for in said subparagraph A. (2) the Purchaser, except in the case where the Purchaser has entered into a contract for uranium enrichment services as provided in Paragraph F infra, shall pay to the Seller as termination charges the sum of all costs incurred by the Seller for or in anticipation of the Seller's performance hereunder (including charges for capital outlays made by the Seller specifically in anticipation of deliveries under this Contract and costs of terminating outstanding commitments) which costs are allocable to the period or that portion thereof for which advance notice to the Seller was required but not given in accordance with subparagraph A. (2), supra, and which costs have not been recovered.
(2) Any payment to be made under the provisions of subparagraph B. (1), supra, may be equitably adjusted downward if the Seller is able otherwise to use the facilities or services involved.

(3) Upon request of the Purchaser prior to its delivery of a Notice of Termination, the Seller will advise the Purchaser of the approximate amount of charges which would become payable by the Purchaser under this Article XIX B. in the event of termination by the Purchaser without the requisite period of notice; Provided, however, that the Seller shall not be obligated so to advise the Purchaser in accordance with the foregoing, more than once in any twelve (12) month period.

C. In the event that this Contract is terminated with the effect that further deliveries hereunder cease prior to the terminal date of the deferral period, the balance of the Purchaser’s deferred payment account, including interest, outstanding as of the date of the final acceptance of delivery of enriched uranium hereunder, as provided in Article III E., by the Purchaser shall be payable in ten equal annual installments commencing with the initial payment one year from the above latter date and continuing annually thereafter on the anniversary date until final payment is made.

D. Subject to the provision of Paragraph F., infra, termination pursuant to Paragraph A., supra, shall relieve the Seller, after the effective date of termination, of any obligation or liability hereunder and under the Agreement for Cooperation relating to the supply of enriched uranium for the Tarapur Atomic Power Station.

E. Any termination of the Contract shall be exclusive of those provisions herein relating to material sold or returned during the Contract period, said provisions remaining in force and effect for such period of time as is necessary to satisfy the rights and obligations provided for therein.

F. The obligations under Article II A. (1) of the Seller to sell and the Purchaser to purchase, as needed, all of the Purchaser’s requirements of enriched uranium for use as fuel for the Tarapur Atomic Power Station during the period of this Contract will be deemed to be fulfilled if: (1) the Purchaser gives the Seller adequate notice in writing of its desire to terminate the Contract in order to obtain the enriched uranium requirements for the Tarapur Atomic Power Station through a contract for uranium enrichment services of a type which the Seller is prepared to enter into with other non-U.S. users; provided that, except as the Parties may otherwise agree, such notice shall be given at least five years prior to provisions of services under a uranium enrichment services contract; (2) the Parties agree as to the terms and conditions applicable to the payment of the balance of the Purchaser’s deferred payment account outstanding as of the effective date of termination of this Contract; and (3) the Parties enter into a contract for uranium enrichment services which contains mutually agreeable terms and conditions. The effective date of the termination of this Contract shall be the same as the effective date of the contract for uranium enrichment services, provided that, in no event shall such effective date be prior to January 1, 1969. Pending the agreement of
the Parties on a contract for uranium enrichment services, the rights, duties and obligations of the Parties shall be governed by this Contract.

ARTICLE XX—NOTICES

A. Except as may otherwise be agreed, any notices required by this Contract of the Purchaser shall be submitted in writing to the Seller addressed to: Director, Division of International Affairs, United States Atomic Energy Commission, Washington, D.C. 20545.

B. Except as may otherwise be agreed, any notices required by this Contract of the Seller shall be submitted in writing to the Purchaser addressed to: Project Administrator, Tarapur Atomic Power Project, Department of Atomic Energy, Government of India, Apollo Pier Road, Bombay 1, India.

C. The Seller undertakes to promptly notify the Purchaser, at the address stated in this article, of changes in Seller's charges, pricing policies, standard forms, and specifications for special nuclear material or any services performed by Seller which may be pertinent to this Contract as promptly as practical. It is understood and agreed, however, that such of the aforesaid notices as are published by the Seller in the United States Federal Register and copies whereof have been supplied to the Purchaser shall, in accordance with the terms of such Federal Register publication constitute full and complete notice for purposes of this Contract.

In witness whereof, the undersigned, duly authorized, have signed this Contract, the pretext of which shall be the only authentic version.

Done at New Delhi, India, in quadruplicate, this 17th day of May, 1965.

FOR THE UNITED STATES ATOMIC ENERGY COMMISSION ACTING ON BEHALF OF THE GOVERNMENT OF THE UNITED STATES OF AMERICA:

[Signature]
American Ambassador

FOR THE GOVERNMENT OF INDIA:

[Signature]
Secretary
Department of Atomic Energy
Amendment to Contract of Sale of Enriched Uranium Between the United States Atomic Energy Commission Acting on Behalf of the Government of the United States of America and the Government of India

This amendment, entered into this twenty-sixth day of November, 1971, by and between the United States Atomic Energy Commission, acting on behalf of the Government of the United States of America (hereinafter referred to as the "seller"), and the Government of India (hereinafter referred to as the "purchaser");

Witnesseth that:

Whereas, the seller and the purchaser, on May 17, 1966, concluded a contract of sale of enriched uranium; and

Whereas, under Article XI of said contract the seller and the purchaser agreed, in the event that the applicable domestic laws of policies of the United States of America with respect to ownership and supply of special nuclear material for use by the seller's domestic distributees were changed, to consult with each other to determine the necessary modifications to said contract in light of such changes; and

Whereas, the parties recognize that such modifications are now required in said contract;

Now, therefore, the parties hereto do agree as follows with respect to the above-mentioned contract of sale of enriched uranium:

1. Article III is amended to read as follows:

"A. The purchaser will place purchase order which will specify the amount and enrichment of the material tested under the terms of this contract and when and to whom the material should be made available. Enriched uranium necessary for the implementation of purchase orders executed under this contract shall be delivered to the purchaser, F.O.B. purchaser's vehicle or commercial conveyance, at the seller's facilities to be designated by the seller.

"B. The quantities and properties of the enriched uranium weigh is to be sold to the purchaser hereunder shall be determined in accordance with article VIII, infra.

"C. All arrangements and costs of delivery and handling of enriched uranium in connection with delivery and transfer shall, as between the purchaser and the seller, be the responsibility of the purchaser. The purchaser shall, commencing with delivery of enriched uranium by the seller, hold the seller harmless from any and all liability (including third-party liability) for any cause whatsoever arising out of or resulting from the transport or possession of such enriched uranium prior to its export from the United States. Nothing in this paragraph shall deprive the purchaser or any other person of any rights under section 170 of the United States Atomic Energy Act of 1944, as amended.

"D. The purchaser shall procure all necessary permits or licenses (including any special nuclear material license) and comply with all applicable laws, regulations and ordinances of the United States and of any state, territory, or political subdivision, in connection with the material delivered to the purchaser pursuant to article III A., or to the seller pursuant to article VII."
2. Article IV is amended to read as follows:
   "Title to enriched uranium supplied hereunder shall vest in the purchaser upon delivery to the purchaser in accordance with article III A."

3. Article V A. (2) is amended to read as follows:
   "The charges for amounts of enriched uranium sold pursuant to this contract shall be in accordance with the value of such material at the time of delivery thereof to the purchaser in accordance with article III A."

4. Article V B. Is amended by deleting the sentence which reads:
   "The seller's invoice for the aforesaid quantities of enriched uranium shall be dated and dispatched at or subsequent to the time of purchaser's acceptance of delivery of enriched uranium as provided in article III E."

And substituting in lieu thereof:
   "The seller's invoice for the aforesaid quantities of enriched uranium shall be dated and dispatched at or subsequent to each delivery of enriched uranium to the purchaser as provided in article III A."

5. Article VII D. Is amended to read as follows:
   "Title to enriched uranium delivered to the seller for credit pursuant to this article VII shall pass to the seller upon delivery thereof pursuant to article VII A. (1)."

6. It is understood that nothing contained in this amendment shall affect the terms and conditions of the contract of sale of enriched uranium as applied to enriched uranium previously delivered under said contract.

In witness whereof, the undersigned, duly authorized, have executed this amendment, the present text of which shall be the only authentic version.

Done at Bombay, India, in quadruplicate on the day and year first above written.

FOR THE UNITED STATES ATOMIC ENERGY COMMISSION ACTING ON BEHALF OF THE GOVERNMENT OF THE UNITED STATES OF AMERICA

[Signature]

FOR THE GOVERNMENT OF INDIA

[Signature]

CHIEF BUILDING ENGINEER
TAIPUR ATOMIC POWER STATION
APPENDIX D

MULTILATERAL—ATOMIC ENERGY: APPLICATION OF SAFEGUARDS BY THE IAEA TO THE UNITED STATES-INDIA COOPERATION AGREEMENT


AGREEMENT BETWEEN THE INTERNATIONAL ATOMIC ENERGY AGENCY, THE GOVERNMENT OF INDIA AND THE GOVERNMENT OF THE UNITED STATES OF AMERICA RELATING TO SAFEGUARDS PROVISIONS

Whereas the Government of the United States of America and the Government of India have been co-operating on the construction and operation of a civil atomic power station near Tarapur in Maharashtra State under their Agreement for Co-operation of 8 August 1963,[1] which requires that materials, equipment and devices made available to India by the United States of America for use at the Tarapur Atomic Power Station, or in connection therewith, be used solely for peaceful purposes.

Whereas the Agreement for Co-operation reflects the mutual recognition by the two Governments of the desirability of making use of the facilities and services of the International Atomic Energy Agency;

Whereas the Agency is authorized, pursuant to its Statute,[2] to apply safeguards at the request of the parties to any bilateral or multilateral arrangement;

Whereas Article VI of the Agreement for Co-operation contains provisions for safeguards;

Whereas the two Governments have requested the Agency to enter into a trilateral agreement;

Whereas the Board of Governors of the Agency approved that request on 25 February 1970;

Now, therefore, the Agency and the two Governments agree as follows:

UNDERTAKING BY THE GOVERNMENTS AND THE AGENCY

Section 1. The Government of India agrees not to use in such a way as to further any military purpose any material, equipment or device while subject to this Agreement.

Section 2. The Government of the United States of America agrees not to use in such a way as to further any military purpose any special

1 TIAS 9446; 14 UST 1484.
2 TIAS 8878; 8 UST 1068.
nuclear material, equipment or device while subject to this Agreement.

Section 3. The Agency agrees to implement in accordance with this Agreement the provisions of paragraphs B and C of Article VI of the Agreement for Co-operation and to apply the provisions mutatis mutandis in the United States of America in respect of special nuclear material produced in the Tarapur Atomic Power Station which may be received in the United States of America or to equivalent material substituted therefor.

Section 4. The rights of the Government of the United States of America under Article VI of the Agreement for Co-operation to implement the safeguards provisions will be suspended with respect to materials, equipment and devices while subject to this Agreement. It is understood that no other rights and obligations of the Government of India and the Government of the United States of America between themselves under Article VI and under other provisions of the Agreement for Co-operation, including those arising by reason of Article VII, will be affected by this Agreement.

Section 6. The Governments of India and the United States of America shall promptly notify the Agency of any amendment to the Agreement for Co-operation and any notice of termination given with respect to that Agreement.

SAFEGUARDS PROCEDURES

Section 6. This Agreement covers items listed in the Annex to this Agreement (which Annex includes those items already transferred under the Agreement for Co-operation and subject to Article VI thereof) and those subsequently notified to the Agency pursuant to Section 7.

Section 7.

(a) The Governments of India and the United States of America shall jointly notify the Agency of:

(i) Transfers to India of materials, equipment and devices under the Agreement for Co-operation and any return thereof to the United States of America; and

(ii) Transfers to the United States of America of special nuclear material produced in India in or by the use of materials, equipment or devices transferred under the Agreement for Co-operation.

(b) The Government concerned shall notify the Agency of:

(i) Any facility while it is containing, using, fabricating or processing, any special nuclear material transferred to the Government of India under the Agreement for Co-operation for, or special nuclear material produced at, the Tarapur Atomic Power Station; and

(ii) Any special nuclear material produced in India in, or by use of, materials, equipment or devices transferred under the Agreement for Co-operation. This notification is normally to be made by way of reports.

The notification required under (a) above shall normally be sent to the Agency not more than two weeks after the material, equipment or device arrives in India. All notifications under this Section shall include, to the extent relevant, the nuclear and chemical composition, the physical form, and the quantity of the material, the date of ship-
ment, the date of receipt, the identity of the consignor and consignee, and any other relevant information. The two Governments also undertake to give to the Agency as much advance notice as possible of the transfer of large quantities of nuclear materials or major equipment or devices.

Section 8. The Agency shall, within 30 days of its receipt of a joint notification pursuant to Section 7 advise both Governments that it is able to implement provisions of Article VI of the Agreement for Co-operation or that it is unable to do so, in which case, however, it may indicate at what future time or under which conditions and to what extent it would be able to do so, if the Governments so desire. Produced material for which notification is to be made under Section 7(b)(ii) shall be subject to this Agreement from the time it is produced.

Section 9. The two Governments shall jointly notify the Agency of any transfer of materials, equipment or devices subject to this Agreement to a recipient which is not under the jurisdiction of either of the two Governments. Such materials, equipment or devices may be transferred and shall thereupon cease to be subject to this Agreement, provided that:

(a) Such materials, equipment, or devices are subject to Agency safeguards; or

(b) The materials, equipment, or devices are subject to safeguards other than those applied by the Agency under this Agreement, but generally consistent with such safeguards and accepted by the Agency.

Section 10. Whenever either Government intends to transfer special nuclear material subject to this Agreement to a facility within its jurisdiction which the Agency has not previously accepted for applying safeguards, any notification that will be required pursuant to Section 7(b) should be made to the Agency before such transfer is effected. The Agency shall also be given the opportunity as early as possible in advance of the transfer to review the design of the facility for the sole purpose of determining that the arrangements provided for in this Agreement can be effectively applied. For purposes of such review, the Agency shall require only a minimum amount of information and data consistent with carrying out such a review. It shall complete the review promptly on receipt of such information.

Section 11. The notifications provided for in Sections 9 and 10 shall be sent to the Agency at least two weeks before each such transfer. The contents of these notifications shall conform, so far as appropriate, to the requirements of Section 7.

Section 12. For the purposes of this Agreement it is agreed that the Agency shall have the rights and obligations of the United States of America under paragraphs B and C of Article VI of the Agreement for Co-operation. It is also agreed that the Agency shall apply these provisions mutatis mutandis in the United States of America in respect of special nuclear material produced in the Tarapur Atomic Power Station which may be received in the United States of America or to equivalent material substituted therefor.

Section 13. Notwithstanding anything contained in this Agreement, the Government of India shall have the right, upon prior notice to the Agency, to remove from the scope of this Agreement quantities of special nuclear material provided it has, pursuant to mutually acceptable measurement arrangements, placed agreed equivalent quantities
of the same type of special nuclear material under the scope of this Agreement. The Government of the United States of America shall have the same right with respect to special nuclear material produced at the Tarapur Atomic Power Station and acquired by it.

Section 14. In the event of unusual incidents, special reports may be requested, including such amplifications and elucidations as each party considers relevant to the achievement of the objectives of this Agreement.

Section 15. The provisions of this Agreement shall be terminated with respect to:

(a) Items, other than produced special nuclear material, transferred from India to the United States of America under the Agreement for Cooperation;
(b) Produced nuclear material when such material is removed from the scope of this Agreement as provided in Section 13;
(c) Any items transferred pursuant to Section 9;
(d) Material with respect to which the Agency has determined that it has been consumed, or has been diluted in such a way that it is no longer usable for any nuclear activity relevant from the point of view of safeguards, or has become practically irrecoverable.

Section 16. The conditions for exemption, suspension, or termination of the provisions of this Agreement on items not covered by Section 15 above shall be decided by mutual agreement.

Section 17. The Agency shall not publish or communicate to any State, organization or person any information obtained by it under this Agreement except with the consent of the Government of the State to which the information relates; provided, however, that specific information relating to implementation of its responsibilities in a State may be given to the Board and to such Agency staff members as require such knowledge by reason of their official duties in connection with the Agreement, but only to the extent necessary for the Agency to fulfill its responsibilities.

Section 18. If the Board determines that there has been any non-compliance with this Agreement, the Board shall call upon the Government concerned to remedy such non-compliance forthwith, and shall make such reports as it deems appropriate. If such Government fails to take fully corrective action within a reasonable time:

(a) The Agency shall be relieved of its undertaking under Section 8 for such time as the Board determines; and
(b) The Board may take any measures provided for in Article XII.C of the Statute.

The Agency shall promptly notify both Governments in the event of any determination by the Board pursuant to this Section.

Section 19. Personnel designated by the Agency in accordance with Section 12 above, performing functions under this Agreement, shall be governed by paragraphs 1 to 3, 5 to 9, 10, 12 and 14 of the Inspectors Document.

Section 20. The Government of India shall apply the relevant provisions of the Agreement on the Privileges and Immunities of the Agency [*] to Agency personnel performing functions under this Agreement and to any property of the Agency used by them.

Section 21. The Government of the United States of America shall apply the provisions of the International Organizations Immunities
Act of the United States of America [1] to Agency inspectors performing functions in the United States of America under this Agreement and to any property of the Agency used by them.

Section 22. Each party shall bear any expense incurred in the implementation of its responsibilities under this Agreement. The Agency shall reimburse each Government for any special expenses, including those referred to in paragraph 6 of the Inspectors Document, incurred by the Government or persons under its jurisdiction at the written request of the Agency, if the Government notified the Agency before the expense was incurred that reimbursement would be required. These provisions shall not prejudice the allocation of expenses attributable to a failure by a party to comply with this Agreement.

Section 23.

(a) In carrying out its functions under this Agreement within the United States of America, the Agency and its personnel shall be covered to the same extent as United States of America nationals by any protection against third party liability provided under the Price-Anderson Act, [2] including insurance or other indemnity coverage that may be required by the Price-Anderson Act with respect to nuclear incidents within the United States of America.

(b) The Government of India shall ensure that any protection against third party liability, including any insurance or other financial security, in respect of a nuclear incident occurring in a nuclear installation under its jurisdiction shall apply to the Agency and its inspectors when carrying out their functions under this Agreement as that protection applies to nationals of India.

Section 24. Decisions of the Board concerning the implementation of this Agreement, except such as relate only to Sections 22 and 23, shall, if they so provide, be given effect immediately by the parties, pending the final settlement of any dispute.

AMENDMENT, MODIFICATION, ENTRY INTO FORCE AND DURATION

Section 25. If the Board modifies the Safeguards System as contained in Agency document INFCIRC/66/Rev.2, or the Inspectors Document, or modifies the general nature of its safeguards agreements, this Agreement shall be amended, if the Government so request, to take account of any or all such modifications. The parties shall, at the request of any one of them, consult about amending this Agreement. Additionally, the parties shall, after this Agreement has been in effect for a period of three years, and every five years thereafter, undertake a review of its provisions and implementation with a view to determining whether it should be amended.

Section 26. This Agreement shall enter into force upon signature by or for the Director General of the Agency and by the authorized representative of each Government.

Section 27. This Agreement shall remain in force during the term of the Agreement for Co-operation, as it may be extended from time to time, unless terminated sooner by any party upon six months' notice to the other parties or as may otherwise be agreed.

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*874 UNTS 147.*  
DEFINITIONS

Section 23. For the purposes of this Agreement:

(a) "Agency" means the International Atomic Energy Agency;
(b) "Board" means the Board of Governors of the Agency;
(c) "Agreement for Co-operation" means the Agreement for Co-operation between the Government of the United States of America and the Government of India concerning the Civil Uses of Atomic Energy, signed on 8 August 1963;
(d) "Inspectors Document" means the Annex to Agency document GC(V)/INF/39, which was placed in effect by the Board on 29 June 1961;
(e) "Nuclear material" means any source material or special nuclear material as they are defined in Article IX of the Agreement for Co-operation.

Done in Vienna, this twenty-seventh day of January 1971, in triplicate in the English language.

FOR THE INTERNATIONAL ATOMIC ENERGY AGENCY:

SIGVARD EXLUND

FOR THE GOVERNMENT OF INDIA:

V. C. TRIVEDI

FOR THE GOVERNMENT OF THE UNITED STATES OF AMERICA:

T. KEITH GLENNAN

ANNEX

The following constitutes the initial list of items transferred to India under the Agreement for Co-operation:

I. Materials

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity (rounded to nearest gram)</th>
<th>Percent enriched</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 598 fuel elements containing rods with varying enrichments and quantities of uranium and 235U as indicated.</td>
<td>2.4955</td>
<td>27 608 812</td>
</tr>
<tr>
<td>2.4955</td>
<td>27 608 812</td>
<td>699 254</td>
</tr>
<tr>
<td>1.8019</td>
<td>12 713 381</td>
<td>229 046</td>
</tr>
<tr>
<td>1.4088</td>
<td>145 510</td>
<td>16 138</td>
</tr>
<tr>
<td>1.4000</td>
<td>154 644</td>
<td>16 104</td>
</tr>
<tr>
<td>Total</td>
<td>82 886 321</td>
<td>1 864 323</td>
</tr>
</tbody>
</table>

2. 68 In-core detector assemblies | 93 | 4 |

II. Equipment and Devices

Two boiling-water nuclear power reactors for the Tarapur Atomic Power Station located at Tarapur, Maharashtra State, India, manufactured by the General Electric Company with a combined net electrical output rating of approximately 380 megawatts electrical.
The United States Government has noted various affirmations of Indian interest in developing the technology of peaceful nuclear explosions, as well as statements that the Government of India is not planning for a nuclear explosion.

Occasionally, in the public debate on the nuclear issue, the question has been raised as to whether, under extant agreements, the Government of India could legitimately use foreign-supplied nuclear technology or materials to manufacture an explosive device to be used in detonating a peaceful nuclear explosion.

We believe the Government of India is aware of the American interpretation of agreements under which the United States has assisted India's development in the field of atomic energy. However, we would like to reiterate the American view in the interest of clarity and to obviate any misunderstanding.

The American position, reflected in the Non-Proliferation Treaty, is that the technology of nuclear explosives for peaceful uses is indistinguishable from that of nuclear weapons, and that any nuclear explosive device, though it be intended for benign economic purposes,
would also be used for destructive purposes. The development of such explosives, therefore, is tantamount to the development of nuclear weapons. Any other position would be inconsistent with United States obligations under the Non-Proliferation Treaty and the United States Atomic Energy Act.

Consequently, the United States would consider it incompatible with existing United States-Indian agreements for American nuclear assistance to be employed in the development of peaceful nuclear explosive devices. Specifically, for example, the use, for the development of peaceful nuclear explosive devices of plutonium produced therefrom, would be considered by the United States a contravention of the terms under which the American materials were made available.

The United States interprets the safeguards and guarantees provisions of the Tarapur agreement as prohibiting the use of American materials and equipment, or materials produced from such materials and equipment, for research or development of any nuclear explosive devices, regardless of stated applications.

The contract of March 16, 1960, under which the United States sold heavy water to India for the CIRUS Reactor states: "The heavy water sold hereunder shall
be for use only in India by the government in connection with research into and the use of atomic energy for peaceful purposes...." The United States would not consider the use of plutonium produced in CIRUS for peaceful nuclear explosives intended for any purpose to be "research into and use of atomic energy for peaceful purposes."
MEMORANDUM

TO: OPR/FAIM - Mr. Price
FROM: OES/N - Louis V. Nosenzo

SUBJECT: Declassification of US Aide Memoire

Attached is a US Government Aid Memoire which was presented to the Indian Government on November 16, 1970.

I am declassifying this document and would like all files copies marked accordingly.

Attachment
As stated

cc: 'ACDA - Mr. Van Doren
DOE - Mr. Handyside
NEA/INS - Mr. Schaffer
OES/NEP - Mr. Guhin

Drafted: OES/N:LVNosenzo:sk
Ext. 24360:9/19/80
Dr. Homi N. Sethna, Chairman  
Indian Atomic Energy Commission  
Chhatrapati Shivaji Maharaj Marg  
Bombay 1, India

Dear Dr. Sethna:

As you are aware, a five-part shipment of enriched uranium fuel for the Tarapur reactors has been scheduled for the period between June 15, 1974 and April 1, 1975. Delivery is being made of the initial portion of this shipment.

In this connection, the United States Government wishes to emphasize its understanding, expressed most recently by the U.S. representative to the IAEA Board of Governors on June 12, 1974, (1) that the use in or for any nuclear explosive device of any material or equipment subject to United States Agreements for Cooperation in Civil Uses of Atomic Energy is precluded; and (2) that under the safeguards agreements related to such Agreements for Cooperation, the IAEA is responsible for verifying, inter alia, that the safeguarded material is not used in or for any nuclear explosive device. The United States Government has permitted this initial part of the shipment to proceed only on the basis of the foregoing understandings and on the assumption that the Government of India will respect these understandings.

The United States Government requests confirmation by the Government of India, prior to the date of the next scheduled portion of the shipment, that it will take no actions which are inconsistent with the foregoing understandings.

Sincerely,

[Signature]

Chairman

---

occ: SECY (3)  
GM  
E. Giller, GM  
OGC  
J. Poor, ISA  
REG  
AA/LA Br., IP  
W. Yeomans, IP  
D. Hoyle, IP
Dear Mr. Secretary,

Apropos our conversation at dinner on July 15, I enclose a letter in original from Dr. H.N. Sethna, Chairman of our Atomic Energy Commission, addressed to the Chairman of the US Atomic Energy Commission. I sincerely hope that the material urgently required by the Tarapur Plant will be cleared by the State Department without delay, as the Plant has had to be temporarily closed for want of such material. Further discussions will be held between our two Atomic Energy Commissions for future collaboration in this regard, but it is urgent that the functioning of the Plant should not be held up until such discussions are held. In any case, I assured Dr. Joseph Sisco, Under Secretary of State, when he gave me a letter from the Chairman of your Atomic Energy Commission, that we had not violated any provisions of the Agreement we had signed with regard to the Tarapur Plant and that we would abide by the same. I hope that will be enough to clear the material urgently required by the Plant.

Yours sincerely,

(T.N. Yael)
Please refer to your letter dated June 19, 1974 which was handed over to our Ambassador at Washington.

2. The Government of India regrets that it is unable to share the understanding of the United States Government expressed recently by the United States Representative to the IAEA Board of Governors on June 12, 1974 (1) that the use in or for any nuclear explosive device of any material or equipment subject to United States Agreements for Cooperation in Civil Uses of Atomic Energy is precluded; and (2) that under the safeguards agreements related to such Agreements for Cooperation, the IAEA is responsible for verifying, inter alia, that the safeguarded material is not used in or for any nuclear explosive device. The Government of India is of the opinion that this understanding does not flow from the Agreement for Cooperation between the two Governments concerning the construction and operation of the Atomic Power Station at Tarapur.

3. Under Article II of the Agreement, the United States Atomic Energy Commission has contracted to sell to the Government of India all requirements of enriched uranium for use as fuel at the Tarapur Atomic Power Station, it being understood that the Tarapur Atomic Power Station shall be operated on no other special nuclear material than that made available by the United States Atomic Energy Commission and special nuclear material produced therefrom. Under Article VI, the parties to the Agreement have emphasised their common interest in assuring that any material, equipment or device made available to the Government of India for use in the Tarapur Atomic Power Station, or in connection therewith, pursuant to the Agreement shall be used solely for peaceful purposes. However, the Government of India had emphasised in this Article, in contrast to the position of the United States, that its agreement to the provisions of Article VI was accorded in consideration of the fact that the Tarapur Atomic Power Station will be operated on no other special nuclear material than that furnished by
the United States Government and special nuclear material produced therefrom. The safeguards provisions of Article VI of the Agreement for Cooperation were later on transferred under a Trilateral Agreement to the International Atomic Energy Agency.

4. I would like also to draw your attention to Clause F of Article II of the Agreement for Cooperation under which the United States Government has the first option to purchase the special nuclear material produced in the Tarapur Atomic Power Station which is in excess of the need of the Government of India for such material in its programme for the peaceful uses of atomic energy. I would like to state that the Government of India is prepared to return to the United States Government special nuclear material produced in the Tarapur Atomic Power Station at a mutually agreed price except a quantity which could be required for recycling in the Tarapur Atomic Power Station as provided under Clause A of Article II, the amount being arrived at after mutual consultations.

5. May I suggest that in case the U.S. Government wishes to incorporate changes in the existing agreement, that we meet and discuss this matter? If you will recollect, you have agreed to visit India this year and this matter could be discussed and finalised at that time.

6. In the meantime, I hope that my suggestion regarding special nuclear material produced in the Tarapur Atomic Power Station would be acceptable to the U.S. Government and that there will be no difficulty in the United States Atomic Energy Commission adhering to the shipments of enriched uranium and other materials need for use at or in connection with the Tarapur Atomic Power Station.

With best wishes,

Your sincerely,

(H. N. Sethna)

Dr Dixy Lee Ray
Chairman
U.S. Atomic Energy Commission
Washington, D.C., U.S.A.

NS:kv:
10-7-74
September 16, 1974

Dr. Rami B. Sethna
Chairman
Atomic Energy Commission
Bombay, India

Dear Dr. Sethna:

Thank you for your letter of July 10 responding to mine of June 19, 1974 concerning shipments of enriched uranium fuel and other material to the Tarapur Atomic Power Station.

Your response leads us to believe that we may not have made sufficiently clear the nature of the assurance we need. What we seek is simply written assurance from your Government that the special nuclear material that has been, or is hereafter made available for, or used or produced in, the Tarapur Atomic Power Station will be devoted exclusively to the needs of that station unless the two Governments hereafter specifically agree that such material be used for other purposes.

We look forward to hearing from you on this in order that we may promptly proceed with further shipments.

Sincerely,

Dixy Lee Ray
Dear Dr. Lay,

I thank you for your letter dated 16th September 1974.

The Government of India would like to reassure the Government of the United States of America that the special nuclear material that has been or is hereafter made available for, or used, or produced in the Tarapur Atomic Power Station located at Tarapur will be devoted exclusively to the needs of that Station unless our two Governments hereafter specifically agree that such material be used for other purposes.

I hope that with this assurance, the United States Atomic Energy Commission will promptly proceed with further shipments.

With best wishes,

Yours sincerely,

[Signature]

(Domi N. Sethna)

Dr. (Miss) Dixy Lee Ray
Chairman
United States Atomic Energy Commission
U.S.A.
June 2, 1976

Dear Senator Ribicoff:

The Secretary has asked that I reply to your letter of May 24, 1976, requesting documents and information related to U.S.-India nuclear relations.

The answers to your seven specific questions are enclosed. Some of the information requested required review of documents now almost twenty years old and since many of these documents had been retired by the Atomic Energy Commission (or its successor agency, the Energy Research and Development Administration) with whom they originated, it is possible that some information or documents may inadvertently have been overlooked in our efforts to meet the Committee's deadline.

I hope that this information will be helpful to you and the members of the Committee.

Sincerely yours,

Robert J. Closkey
Assistant Secretary for Congressional Relations

Enclosure:

As Stated.

The Honorable
Abraham Ribicoff,
Chairman,
Committee on
Government Operations,
United States Senate.
1. The specifications, and the agreement and export documents, relating to the transfer to India of heavy water that was subsequently used in the CIRUS research reactor.

Answer:

The only relevant document which our search has uncovered is the Agreement (Contract) of March 16, 1956 itself. The agreement includes the specifications of the material. Restrictions on retransfer of the heavy water and requirements for its use in peaceful research are covered in Article 9. Since the transaction was on a Government-to-Government basis, no export licenses were involved. Normally, under these circumstances a letter was prepared advising the Collector of Customs at the port of export of this fact; ERDA has not been able to furnish this document, however.
2. A summary of the peaceful or civil use understanding with India regarding utilization of the heavy water, including any explicit or implicit reference to peaceful nuclear explosions.

Answer:
On March 16, 1956, an agreement was signed between the United States Atomic Energy Commission and the Government of India for the sale of 21 short tons (42 thousand pounds) of heavy water to India. (See Response to Question 1.) This agreement stipulated that the heavy water was for use only in India by the Government of India in connection with research into and the use of atomic energy for peaceful purposes. It was further agreed that the heavy water should be retained by the Government of India or by other parties authorized to receive it, and should not be resold or otherwise distributed.

There was no explicit or implicit reference to peaceful nuclear explosions in this agreement; the concept of a peaceful nuclear explosion had not been developed at that time.
3. An explanation as to why the agreement for cooperation negotiated with India was a power-only agreement dealing with the U.S. supplied Tarapur reactors, not a power-and-research agreement that would have included the heavy water previously exported for use in the CIRUS reactor.

Answer:

At the time of negotiation of the Agreement for Cooperation with India, a principal U.S. objective was to secure Indian agreement to the administration of safeguards by the International Atomic Energy Agency. Until that time, the U.S. had followed a permissive policy in which safeguards could be implemented by the Agency or by the U.S., largely dependent on the wishes of the other country. The Indian agreement was widely recognized, as the crucial test case for a new policy under which the United States would require the implementation of safeguards by the IAEA.

This requirement ran strongly counter to Indian preferences. As a result, it was essential, in order to achieve agreement, to accomplish this important U.S. policy objective and to limit the scope of the Agreement for Cooperation specifically to the Tarapur project.

It was the judgment of the negotiators at the time that U.S. insistence on a broader scope for this agreement, encompassing both prior or unspecified future cooperative undertakings, would have made it impossible to achieve the U.S. objective of safeguards administration by IAEA.
4. A description of the circumstances surrounding the U.S.-supplied heavy water during and after the time that the CIRUS reactor was used to produce the plutonium utilized in the Indian explosion of 1974.

Answer:

The United States sold 21 short tons of heavy water to India in 1956 under an Agreement which contained a "peaceful purpose only" guarantee. This quantity of heavy water met the moderating requirement of the CIRUS research reactor which began operation in July 1960 and achieved full power operation in 1963. Energy Research and Development Administration has indicated that heavy water degrades at a rate of about 10 percent per year which would indicate that, even without deliberate substitution, the U.S.-supplied heavy water would have been totally replaced by about 1970.

India has a small heavy water production plant operated in conjunction with a fertilizer plant at Nangal. This plant, which was built with German assistance, began operating in 1962, and has a capacity of 15 short tons of heavy water per year. A heavy water reconcentration plant at Trombay began operating in 1965 and is capable of upgrading heavy water to 99.84 percent. Since the Nangal plant can produce in about one and a half years the requirements of the CIRUS reactor, it is believed that U.S.-origin heavy water was replaced from this source. The existence of excess heavy water in India during this period is borne out by the fact that it leased ten tons to Belgium.
5. An explanation as to why the United States did not join Canada, the supplier of the CIRUS reactor, in protesting the explosion as a violation of peaceful-use understandings if, in fact, the U.S.-supplied heavy water was used in the reactor that produced the plutonium used in the explosion.

Answer:

In testimony before the Senate Committee on Government Operations on March 9, 1976, Secretary Kissinger stated in response to a question about the official U.S. reaction to India's 1974 nuclear explosion, "We deplored it strongly and we have made clear to India that we saw no need for it, that we do not see the peaceful uses of nuclear energy in India that would justify the doubts and insecurities that have been raised. We objected strongly, but since there was no violation of U.S agreements involved, we had no specific leverage on which to bring our objections to bear."
6. If India advised the United States that the heavy water was not to be used, or was not in fact used, in the explosion program, in what ways was this verified?

Answer:

On July 6, 1974, a letter was sent by the Indian Ambassador to the United States, Ambassador Kaul, to Secretary Kissinger in which he stated that the plutonium used in the Indian nuclear explosive had been produced by using one hundred percent Indian material, technology and personnel.

At a meeting in Vienna in September 1974 when Dr. Ray then Chairman of the U.S. Atomic Energy Commission met with Dr. Sethna of the Indian A.E.C., Dr. Sethna confirmed that Ambassador Kaul's statement was correct.

No effort was made to verify this statement, since it would have been impossible to determine the origin of the heavy water actually in CIRUS at the time the plutonium used in the nuclear explosive device had been produced.
7. A reaction to the recent decision by the Canadian government to maintain its nuclear boycott of India until a satisfactory safeguards agreement can be reached; please include the reasons as to why the United States did not choose to participate in this boycott.

Answer:

The U.S. greatly appreciates the strong and effective support which the Government of Canada has consistently shown to the achievement of the non-proliferation objectives which our two governments have in common. There are, naturally, as in all such cases, some differences in judgment on how these objectives can best be met. There are also important differences in the framework in which the two governments must operate. In the case of the Canadian decision to discontinue its nuclear assistance to India, we assume that a significant factor was the fact that one of the two power reactors supplied by Canada which would have been covered by this agreement had not yet been completed, and Canadian assistance would assure its completion in a relatively short time. In the case of the United States agreement with India, Tarapur reactors had been completed and in operation for a number of years and have already produced substantial quantities of plutonium whose continued safeguarded condition depends on the continued validity of our Agreement for Cooperation with India. It is the United States' judgment that steps on the part of the U.S. which might lead to termination of this agreement and a discontinuance of the important control provisions which it contains, would be contrary to U.S. non-proliferation objectives and to our national security interests.
APPENDIX H

PROVISIONS OF THE NUCLEAR NON-PROLIFERATION ACT OF 1978 RELATING TO NUCLEAR EXPORTS AND COOPERATION: SUMMARIES AND EXCERPTS

Statement of Policy. Sec. 2.

Sec. 2. The Congress finds and declares that the "... proliferation of nuclear explosive devices or of direct capability to manufacture or otherwise acquire such devices poses a grave threat to the security interests of the United States and to continued international progress toward world peace and development." Recent events emphasize the urgency of this threat and the imperative need to increase the effectiveness of international safeguards and controls on peaceful nuclear activities to prevent proliferation. Accordingly, it is the policy of the United States to--

"(a) actively pursue ... the establishment of more effective international controls over the transfer and use of nuclear materials and equipment and nuclear technology for peaceful purposes in order to prevent proliferation, including the establishment of common international sanctions" and

"(b) take such actions as are required to confirm the reliability to the United States in meeting its commitments to supply nuclear reactors and fuel to nations which adhere to effective non-proliferation policies by establishing procedures to facilitate timely processing of requests for subsequent arrangements and export licenses."

Statement of Purpose. Sec. 3.

Sec. 3. It is the purpose of this Act to promote the policies set forth above by--

(a) establishing a more effective framework for international cooperation to ... ensure that the worldwide development of peaceful nuclear activities and the export by any nation of nuclear materials and equipment and nuclear technology ... do not contribute to proliferation;

(b) authorizing the United States to take such actions as are required to ensure that it will act reliably in meeting its commitments to supply nuclear reactors and fuel to nations which adhere to effective non-proliferation policies;

(c) providing incentives to other nations to join such international cooperative efforts and to ratify the NPT; and

(d) ensuring effective controls by the United States over its exports of nuclear material and equipment and of nuclear technology.

Sensitive Nuclear Technology. Sec. 4.

The Act defined a new category of information. Sensitive nuclear technology means "... any information (including information incorporated in a production or utilization facility or important component part thereof) which is not available to the public and which is important to the design, construction, fabrication, operation, or maintenance of a uranium enrichment or nuclear fuel reprocessing facility or a facility for the production of heavy water, but shall not include Restricted Data, ..." (Sec. 4(a))


The United States, as a matter of national policy, shall take such actions and institute such measures as may be necessary and feasible to assure other nations and groups of nations ... that it will provide a reliable supply of nuclear fuel to those nations and groups of nations which adhere to policies designed to prevent proliferation. ... (Sec. 101)

Technology Transfer--Sec. 302.

The NPPA amended Sec. 57(4) of the Atomic Energy Act of 1954 to enlarge the requirements for authorization by the Secretary of Energy to "... directly or indirectly engage in the production of any special nuclear material of the United States ...", requiring concurrence of the Secretary to State and consultation with the Arms Control and Disarmament Agency and the Nuclear Regulatory Commission.

Post Export Controls (Subsequent Arrangements). Sec. 303.

The NPPA added a new section 131 to the Atomic Energy Act of 1954 which, in essence, codified past U.S. practice of requiring in agreements for cooperation that cooperating States get U.S. approval before certain things are done with or to U.S. nuclear exports. The NPPA termed these "subsequent arrangements". To approve a subsequent arrangement, the Secretary of Energy has to obtain the concurrence of the Secretary of State, consult with AEC, the NRC and the Department of Defense, and make a written determination that the action will not be "inimical to the common defense and security." The definition of subsequent arrangements includes contracts for the supply of nuclear materials and equipment; approvals for the transfer of nuclear materials, equipment, facilities or nuclear technology; and, among other things, "any arrangement which the President finds to be of importance from the standpoint of preventing proliferation."
PROVISIONS OF THE NUCLEAR NON-PROLIFERATION ACT OF 1978 RELATING TO NUCLEAR EXPORTS AND COOPERATION:
SUMMARIES AND EXCERPTS

Nuclear Export Licensing. Sec. 304.

The NNPA added a new section 126 to the Atomic Energy Act of 1954 to specify nuclear export licensing procedures for the NRC. Two major steps are now required. First, the Commission must be notified by the Secretary of State that it is "... the judgment of the executive branch that the proposed export ... will not be inimical to the common defense and security. ..." In submitting such judgement, the Secretary of State must address the extent to which the export criteria in effect are met and to which the cooperating party has adhered to the agreement for cooperation. The Act also authorizes the Secretary if he considers it warranted, to address the following additional factors:

"Whether issuing the license ... will materially advance the non-proliferation policy of the United States by encouraging the recipient nation to adhere to the Treaty. ..."

"Whether failure to issue the license ... would otherwise be seriously prejudicial to the non-proliferation objectives of the United States"; and

"Whether the recipient nation or group of nations has agreed that conditions substantially identical to the export criteria set forth ... will be applied by another nuclear supplier nation or group of nations to the proposed United States export, and whether in the Secretary's judgment those conditions will be implemented in a manner acceptable to the United States."

The second condition for an export license is that the NRC find, based on a "... reasonable judgment of the assurances provided and other information available to the Federal Government, including the Commission ...", that the criteria for nuclear export licensing are met. (Sec. 304(a))

Criteria Governing U.S. Nuclear Exports. Sec. 305.

The NNPA added a new Sec. 127 to the Atomic Energy of 1954 which specified six criteria to govern the exports for peaceful uses of source material, special nuclear material, production or utilization facilities, and any sensitive nuclear technology. Briefly summarized, these criteria are that:

1. IAEA safeguards be applied to the nuclear exports or their derivatives.

2. No nuclear exports or sensitive nuclear technology be used for any nuclear explosive device or related research and development.

3. Adequate physical security be maintained for nuclear exports and materials derived from them.

4. No nuclear exports or sensitive nuclear technology by transferred to another nation or group of nation without prior U.S. approval.

5. No spent fuel be reprocessed or altered in form without prior U.S. approval.

6. No sensitive nuclear technology be exported unless the foregoing conditions apply to any nuclear material or equipment produced through its use.

Additional Export Criterion -- Full Scope Safeguards. Sec. 306.

The NNPA added a new section 128 to the Atomic Energy Act of 1954. Effective in September 1979, no export of source material, special nuclear material, production or utilization facilities, and sensitive nuclear technology can be made to non-nuclear weapons states 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."

Conduct Resulting in Termination of Nuclear Exports. Sec. 307.

The NNPA added a new section 129 to the Atomic Energy Act of 1954 which specified actions that would cause cutoff of U.S. nuclear exports, dealing separately with non-nuclear weapons states, and all states.

No nuclear material and or sensitive nuclear technology shall be exported to:

1. any non-nuclear weapon state that is found by the President to have, at any time after the effective date of the Act, detonated a nuclear explosive device; or terminated or abrogated IAEA safeguards; or materially violated an IAEA safeguards agreement; or "engaged in activities involving source or special nuclear material and having direct significance for the manufacture or acquisition of nuclear explosive devices, and has failed to take steps which, in the President's judgment, represent sufficient progress toward terminating such activities; or
PROVISIONS OF THE NUCLEAR NON-PROLIFERATION ACT OF 1978 RELATING TO NUCLEAR EXPORTS AND COOPERATION:  
SUMMARIES AND EXCERPTS

(2) Any nation or group of nations that is found by the President to have, at any time after the effective date of the Act, materially violated an agreement for cooperation with the United States, or with respect to material or equipment not supplied under an agreement for cooperation, materially violated the terms under which such material or equipment was supplied or the terms of any commitments obtained with respect thereto . . . ; or assisted, encouraged, or induced any non-nuclear weapon state to engage in activities involving source or special nuclear material and having " . . . direct significance for the manufacture or acquisition of nuclear explosive devices, and has failed to take steps which, in the President's judgment, represent sufficient progress toward terminating such assistance, encouragement, or inducement; or entered into an agreement . . . for the transfer of reprocessing equipment, materials, or technology to the sovereign control of a non-nuclear weapon state except pursuant to an international agreement or understanding to which the United States subscribes.

The Act authorizes the President to continue such nuclear exports if he determines that cessation would be "seriously prejudicial to the achievement of U.S. non-proliferation objectives or otherwise jeopardize the common defense and security." However, the Presidential authorization is subject to disapproval by concurrent resolution of the Congress.

Component and Other Parts of Facilities, Sec. 309.

The NNPRA amended Sec. 109 of the Atomic Energy Act of 1954. Under it, the NRC is authorized to determine which component parts and which other items or substances are "especially relevant from the standpoint of export control because of their significance for nuclear explosive purposes." Such items require an export license after an NRC finding, "based on a reasonable judgment of the assurances provided and other information available to the Federal Government, including the Commission," that three criteria are met. The criteria are:

(1) IAEA safeguards be applied to the item;
(2) no such item be used for any nuclear explosive device or related research and development; and
(3) no such item be retransferred to any other nation or group of nations unless prior U.S. consent is obtained.

In addition, the NRC must find that licensing will not be "inimical to the common defense and security." Also, the NRC may not issue export license for a component or part if it is advised by the executive branch that the export would be "inimical to the common defense and security."

Agreements for Cooperation, Sec. 401.

The NNPRA rewrote Sec. 123 of the Atomic Energy Act of 1954, on agreements for nuclear cooperation. In its current form, Sec. 123 specifies that agreements for cooperation have to include nine requirements, briefly summarized as follows:

(1) A guaranty that safeguards "as set forth in the agreement" will be maintained for all U.S. nuclear materials and equipment supplied and for all special nuclear material used in or produced by the exports.
(2) For non-nuclear weapons states, agreement that IAEA safeguards be maintained with respect to all nuclear materials in all peaceful nuclear activities within the territory of such state.
(3) A guaranty that no nuclear materials, equipment or sensitive nuclear technology transferred and no derived special nuclear material will be used for any nuclear explosive, or related research and development or for any other military purpose.
(4) A stipulation that the United States has the right to require the return of any nuclear materials and equipment transferred and any special nuclear material produced through their use if the cooperating party detonates a nuclear explosive or terminates or abrogates an IAEA safeguards agreement.
(5) A guaranty that any transferred material, production or utilization facility or Restricted Data, or any derived special nuclear material, will not be transferred beyond the jurisdiction of the cooperating party without U.S. consent.
(6) A guaranty that adequate physical security will be maintained with respect to any nuclear material transferred or in or produced through use of U.S. exports.
(7) A guaranty that no material transferred or used in or derived from U.S. nuclear transfers will be reprocessed, enriched or otherwise altered in form or content without prior U.S. approval;
(8) A guaranty that no plutonium, no uranium-233 and no uranium enriched to more than 20 percent in the isotope-235, either transferred or recovered from transferred materials covered, will be stored in any facility that has not been approved in advance by the United States.
(9) A guaranty that any special material, production facility or utilization facility produced or constructed by or through the use of any sensitive nuclear technology transferred will be subject to the preceding requirements.
PROVISIONS OF THE NUCLEAR NON-PROLIFERATION ACT OF 1978 RELATING TO NUCLEAR EXPORTS AND COOPERATION:
SUMMARIES AND EXCERPTS

Additional Requirements, Sec. 402.

The NHPA specified that except as provided in an agreement for cooperation, no source or special nuclear material exported may be enriched after export without prior U.S. approval.

In addition, no major critical component of any uranium enrichment, nuclear fuel reprocessing, or heavy water production facility shall be exported under an agreement for cooperation unless such agreement specifically designates them. For purposes of this subsection, "major critical component" means any component part or group of component parts which the President determines to be essential to the operation of a complete uranium enrichment, nuclear fuel reprocessing, or heavy water production facility.

International Export Policies, Sec. 403.

The NHPA directed the President to take immediate and vigorous steps to seek agreement from other nations and groups of nations to commit themselves to adhere to export policies specified as follows:

(a) No nuclear materials and equipment and no sensitive nuclear technology within the territory of any nation or group of nations, under its jurisdiction, or under its control anywhere will be transferred to the jurisdiction of any other nation or group of nations unless the nation or group of nations receiving such transfer commits itself to strict undertakings including, but not limited to, provisions sufficient to ensure that:

(1) no nuclear materials and equipment and no nuclear technology in, under the jurisdiction of, or under the control of any non-nuclear-weapon state, shall be used for nuclear explosive devices for any purpose or for research on or development of nuclear explosive devices for any purpose . . . ;

(2) IAEA safeguards will be applied to all peaceful nuclear activities in, under the jurisdiction of, or under the control of any non-nuclear-weapon state;

(3) adequate physical security measures will be established and maintained by any nation or group of nations on all of its nuclear activities;

(4) no nuclear materials and equipment and no nuclear technology intended for peaceful purposes in, under the jurisdiction of, or under the control of any nation or group of nations shall be transferred to the jurisdiction of any other nation or group of nations which does not agree to stringent undertakings meeting the objectives of this section; and

(5) no nation or group of nations will assist, encourage, or induce any non-nuclear-weapon state to manufacture or otherwise acquire any nuclear explosive device.

(b) (1) No source or special nuclear material within the territory of any nation or group of nations, under its jurisdiction, or under its control anywhere will be enriched . . . or reprocessed, no irradiated fuel elements containing such material which are to be removed from a reactor will be altered in form or content, and no fabrication or stockpiling involving plutonium, uranium 233, or uranium enriched to greater than 20 percent in the isotope 235 shall be performed except in a facility under effective international auspices and inspection, and any such irradiated fuel elements shall be transferred to such a facility as soon as practicable after removal from a reactor consistent with safety requirements. Such facilities shall be limited in number to the greatest extent feasible and shall be carefully site and managed so as to minimize the proliferation and environmental risks associated with such facilities. In addition, there shall be conditions to limit the access of non-nuclear-weapon states other than the host country to sensitive nuclear technology associated with such facilities.

(2) Any facilities within the territory of any nation or group of nations, under its jurisdiction, or under its control anywhere for the necessary short-term storage of fuel elements containing plutonium, uranium 233, or uranium enriched to greater than 20 percent in the isotope 235 prior to placement in a reactor or of irradiated fuel elements prior to transfer as required in subparagraph (1) shall be placed under effective international auspices and inspection.

(c) Adequate physical security measures will be established and maintained with respect to all nuclear activities within the territory of each nation and group of nations, under its jurisdiction, or under its control anywhere, and with respect to any international shipment of significant quantities of source or special nuclear material or irradiated source or special nuclear material, which shall also be conducted under international safeguards.
Dear John:

The President has asked that I respond to your thoughtful letter of April 25 concerning the export of nuclear fuel for India's Tarapur reactors.

As you know, the President sent to the Congress on April 26 an Executive Order authorizing this export. While the President's decision was based on overall non-proliferation objectives, his statement transmitting the Order to the Congress also addressed some of the specific issues raised by members of the Nuclear Regulatory Commission to which you referred in your letter.

With regard to full-scope safeguards, the Executive Branch shares your concern about India's continued refusal to accept international safeguards on all its nuclear activities. We are making every effort to urge the Government of India to change that policy. However, we are convinced that denial of this license would undermine our ongoing dialogue on this issue, as well as prejudice the achievement of other US non-proliferation goals. We, of course, have no assurance that India will place all of its nuclear facilities under international safeguards within the period provided in the Non-Proliferation Act, but the clear intent of the law is that the grace period be used to find mutually acceptable ways to resolve such problems.

You also referred to the questions that NRC Commissioners Bradford and Gilinsky raised about the maintenance of US controls on US-supplied material in the event nuclear cooperation with India is later terminated. The Government of India has given its commitment to use US

The Honorable
John Glenn,
United States Senate.
exports only at the Tarapur Atomic Power Station. We are confident that India will honor the assurances it has given us. In the course of our further discussions with India, we will be addressing the question of the controls over and disposition of the Tarapur fuel. In the interim, I am satisfied that the assurances we now have adequately meet the applicable statutory export licensing criteria and, from a policy standpoint, denial of this export would reduce our ability to control previously supplied US nuclear material.

In regard to the possible application of Section 129 of the 1954 Act, as added by Section 307 of the Non-Proliferation Act, we have no reason to question Prime Minister Desai's personal commitment to refrain from further detonation of nuclear explosive devices. We have no indication that India has engaged in any activities contemplated in Section 307 since the enactment of that section.

We look forward to working with you on this problem and on the continued implementation of US non-proliferation policy. I hope that the foregoing information will be useful to you.

Sincerely,

Cyrus Vance
The PnESIDN.T, The White House,
UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,

DEAR MR. PRESIDENT: The Committee on Foreign Relations has recently reviewed the proposed export of enriched uranium for continued fueling of India's Tarapur reactors pursuant to the provisions of the Nuclear Non-Proliferation Act of 1978 regarding congressional review of presidential determinations.

At hearings on May 22 and 24, the Subcommittee on Arms Control, Oceans and International Environment of the Committee on Foreign Relations received testimony from the four Nuclear Regulatory Commissioners and representatives of the Central Intelligence Agency and the Department of State. The Subcommittee also heard Senator McClure and two non-governmental witnesses.

The Committee discussed the proposed export on June 20. Upon the motion of Senator Glenn, the Committee requested that I write to you to communicate the following views of the Committee:

Substantial progress at an early date toward placing all peaceful nuclear activities in India under international safeguards is of critical importance. The executive branch should make a vigorous effort to secure Indian agreement to full-scope safeguards within 18 months of the enactment of the Nuclear Non-Proliferation Act of 1978. The executive branch and the Indian government should base their discussions on the anticipation that, if full-scope safeguards are not achieved, it is highly unlikely that a waiver allowing continued exports would be acceptable.

The President should make every effort to obtain from the Government of India agreement to the transfer of an amount of heavy water to the inventory of a safeguard facility equal to all previous transfers of heavy water from the United States to India. In addition, the United States and India should seek to ensure that any additional heavy water shipments will result directly in increasing safeguards coverage.

The United States should also actively seek an arrangement with India ensuring that no spent fuel of United States origin could be used at any time for explosive purposes. Such agreement might provide for the United States to exercise its right to repurchase spent fuel should it desire to do so or to maintain veto rights as to the future disposition of the fuel. It may not be necessary for the United States to have physical control of the fuel so
long as the fuel will be assuredly under international safeguards and will not be handled in a manner unacceptable to the United States.

India and other nations have linked their acceptance of strong non-proliferation controls to success in achieving a comprehensive test ban and agreement on nuclear arms reduction. While success in other arms control endeavors cannot be a precondition for mutual agreement on nuclear safeguards, the administration should appreciate the concerns of such nations as India and should strive vigorously to achieve further arms control measures.

The Committee intends to follow closely the negotiating process and nuclear supply arrangements with India during the period before full-scope safeguards are specified in the Non-Proliferation Act.

Sincerely,

JOHN SPARKMAN, Chairman.

THE SECRETARY OF STATE,

Hon. John J. Sparkman,
Chairman, Committee on Foreign Relations,
U.S. Senate

Dear Mr. Chairman: I am pleased to respond to your letter of June 21 to the President concerning the proposed export of enriched uranium for India's Tarapur reactors.

I very much appreciate the Committee views on this issue, as expressed in your letter, and we are in basic agreement with them.

In regard to securing India's agreement to full-scope safeguards, the Executive Branch will make a vigorous effort to secure Indian agreement to placing all its nuclear activities under international safeguards within the period provided for in the Nuclear Non-Proliferation Act of 1978. We have made it clear at the highest level that if full-scope safeguards are not achieved during this period it is highly unlikely that there will be a waiver allowing continued nuclear exports to India.

We expect to discuss with India the issue of the disposition of U.S. origin heavy water. As the Committee knows, the bulk of U.S. origin heavy water in India is in safeguarded reactors. We agree with your view that any additional supply of U.S. origin heavy water should only be undertaken if it will result in increasing safeguards coverage.

On ensuring that no spent fuel of U.S. origin is used at any time for explosive purposes, we have assurances from India that U.S. supplied material will be used only at the Tarapur Atomic Power Station. The Executive Branch is now studying internally various options for the disposition of the Tarapur fuel, including possible repurchase by the U.S. As soon as we have completed our internal study we expect to renew discussions with the Indian Government on mutually acceptable methods of handling the Tarapur spent fuel over the long term.

The Administration also appreciates the concerns of India and other non-nuclear-weapon states on the need for nuclear arms reduction agreements and a comprehensive test ban and the linkage these states make between these efforts and non-proliferation controls. It
is the U.S. position that success in these arms control endeavors should not be a precondition for mutual agreement on nuclear safeguards, but we are striving vigorously to achieve further arms control measures because of their inherent importance and because of their impact on non-proliferation in general.

The Administration and the Department of State appreciate the support that your Committee has given to U.S. non-proliferation policy in general and to the recent export to India in particular. We welcome the Committee's intention to follow closely our discussions with India, and we will keep you and the members of your Committee and staff abreast of developments. We look forward to continued close cooperation with the Congress on this important issue.

Sincerely,

Cyrus Vance.
APPENDIX K

To the Congress of the United States:

I am transmitting with this message, pursuant to Section 126b. (2) of the Atomic Energy Act of 1954, as amended, an Executive Order authorizing the export of 39,718 kgs. of low-enriched uranium to India for use in fueling its Tarapur Atomic Power Station and authorizing the export of replacement parts for this station.

Two applications for licenses to export the fuel were submitted to the Nuclear Regulatory Commission in September 1978 and August 1979 respectively. After a careful review of these applications, and the applications for replacement parts for the Tarapur reactors, the Executive Branch concluded that the proposed exports would not be inimical to the common defense and security, that they met all applicable statutory criteria under the Atomic Energy Act, and that the licenses should be issued. The Commission was notified of these Executive Branch findings and recommendations on March 28, 1979, and on May 7, 1980.

On May 16, 1980, the Nuclear Regulatory Commission decided that it could not find that the criteria for issuing the licenses had been met. Pursuant to the law, the Commission then referred these applications to me.

In reaching its decision, the Commission argued that the full-scope safeguards export criterion of Section 128a of the Atomic Energy Act applies to these applications because they do not fall within the grace period provided in the law. The Department of State, on the other hand, concludes that this statutory criterion does not apply to these two applications because they were submitted before September 10, 1978, the cutoff date specified in the law, because the first shipment under each was reasonably planned to occur before March 10, 1980, and because there is no reason to believe that the applications were filed early as a way of circumventing the September 10, 1970, deadline.

In any event, the license criteria specified by statute, of which Section 128a is one, are not the same as the export criteria on the basis of which I must determine whether to issue an Executive Order. As the Commission noted, its inability to issue the licenses "should not be read as a recommendation one way or the other on the proposed exports." As the Commission noted further, in such cases the law provides that the President may authorize such exports by Executive Order if he determines that withholding them would be seriously prejudicial to the achievement of United States non-proliferation objectives or would otherwise jeopardize the common defense and security.
I have determined that to withhold these exports would be seriously prejudicial to the achievement of United States non-proliferation objectives and would otherwise jeopardize the common defense and security. I have made this determination for the policy reasons discussed below. However, I want to make it clear that I do in fact regard these export applications as having fallen within the statutory grace period before the full-scope safeguards requirement of action 128a takes effect. Thus, my authorization of these exports does not constitute a precedent for an exception to the full-scope safeguards criterion. Further, this action in no way indicates a change in the high priority I attach to preventing the spread of nuclear explosives. On the contrary, this action reflects my judgment that non-proliferation would be set back, not advanced, by withholding these exports, and that our failure to supply this fuel could seriously jeopardize other important U.S. interests.

India's failure to accept international safeguards on all its peaceful nuclear activities and its failure to commit itself not to conduct further nuclear explosions are of serious concern to me. These exports will help us to maintain a dialogue with India in which we try to narrow our differences on these issues.

The exports will avoid the risk of a claim by India that the United States has broken an existing agreement between the two governments and has thereby relieved India of its obligation to refrain from reprocessing the fuel previously supplied by the United States.

Supply of this fuel will also ensure the continuation of safeguards and other U.S. controls on disposition of U.S.-origin fuel that has been supplied to India.

Approval of these exports will help strengthen ties with a key South Asian democracy at a time when it is particularly important for us to do so. Insecurity in South and Southwest Asia has been greatly heightened by the crisis in Iran and the Soviet invasion of Afghanistan. We must do all we reasonably can to promote stability in the area and to bolster our relations with states there, particularly those that can play a role in checking Soviet expansionism.

When I signed the Nuclear Non-Proliferation Act of 1978, I expressed reservations about the constitutionality of provisions of law which purport to allow the Congress to overturn my decisions by actions not subject to my veto power. In transmitting this Executive Order, I also want to make it clear that I am not departing from those reservations.


JIMMY CARTER.
Honorable Alexander Haig  
Secretary of State  
Department of State  
Washington, D.C. 20520  

Dear Mr. Secretary:

It is alarming that India's principal nuclear energy officials appear prepared to authorize, without U.S. consent, the reprocessing of U.S.-supplied nuclear fuel now at the Tarapur reactors. We respectfully urge the State Department to make the gravity of this matter unambiguously clear to the Indian government, and to halt shipment of the remaining 19 tons of uranium authorized for export to Tarapur last year until such time as India's intentions have been satisfactorily clarified. Moreover, if India were actually to violate the 1963 U.S.-Indian nuclear agreement for cooperation, we would expect both the Executive Branch and the Congress swiftly to consider and implement additional measures to demonstrate that such violations will have serious consequences.

Our clear and obvious preference is for an amicable resolution of the long-standing nuclear differences between India and the United States, and we would be pleased to work with the State Department towards a negotiated settlement which would satisfy the key concerns of both countries and preserve the integrity of the United States in its other non-proliferation negotiations, not to mention the conduct of its foreign policy as a whole. However, the United States simply cannot submit to threats and coercion.

India first flouted U.S. peaceful use controls in 1974 by exploding a nuclear device using our materials. Instead of terminating further nuclear cooperation, the United States sought a negotiated solution. Seven years and nearly 80,000 kilograms of U.S. fuel to Tarapur later, our negotiators have not obtained a single concession from India towards more effective safeguards and nuclear controls. Last year, the Carter Administration held out.
no hope of improvement; more fuel, they argued, had to be sent simply to protect the minimal controls the United States had left. Indian officials have now undercut that argument by resorting, as they did in 1974, to unilateral and self-serving interpretations of their binding agreements with the United States.

India must not be misled by any confused signals from the new Administration into believing that legal artifice can justify violations by India of U.S. consent rights.

Sincerely,

Robert J. Lagomarsino
Ranking Minority Member
Subcommittee on International Economic Policy & Trade

Jonathan B. Bingham, Chairman
Subcommittee on International Economic Policy & Trade
Dear Colleague:

Pending before the Senate is a Presidential Executive Order authorizing the export of 38 tons of enriched uranium and some component parts for India's Tarapur reactors. The Executive Order is intended to override the unanimous rejection of the export licenses by the Nuclear Regulatory Commission. The Congress has 60 days of continuous session to consider this order and may reject it by concurrent resolution of disapproval. The House has had a number of such resolutions introduced already, one of them with 65 cosponsors. It is our intention to also introduce a resolution to disapprove the fuel shipments.

Test of Policy

These exports constitute a landmark test of the nuclear Non-Proliferation Act of 1978 (NNPA) which prohibits, after a two-year grace period that ended March 10, 1980, U.S. nuclear exports to nations that have not accepted the inspection regime ("safeguards") of the International Atomic Energy Agency on all of their nuclear facilities. India has steadfastly refused, during two years of negotiations, to place her indigenous nuclear facilities under safeguards, including the facilities used to produce the material for her nuclear detonation in May, 1974. That explosion was carried out with materials that included U.S. heavy water despite the fact that the U.S. had officially informed India four years earlier that such use would violate the terms of the heavy water sale. Recently, Mrs. Gandhi has reiterated India's intent to produce further nuclear explosions whenever it is deemed in her national interest.

Administration Position

The President fears that if we block these exports the Indians might claim we were in breach of our supply agreement with them and that they, in turn, were freed from their obligations under it, in particular the requirements to maintain the IAEA safeguards which have covered previous U.S. fuel shipments and to obtain our permission before extracting the weapons-usable plutonium from that fuel.

Legal Counterclaim

But there is an even stronger legal claim to be made that blocking these exports does not violate the agreement or the fuel contract pursuant to it.
Our supply agreement with India pledges us to supply sufficient nuclear fuel for the "efficient and continuous operation" of the Tarapur reactors until 1993, "in accordance with the terms, conditions and delivery schedule set forth in a contract to be made between the Parties". The contract, in turn states that India shall "comply with all applicable laws, regulations, and ordinances of the United States..." (including, therefore, the NNPA).

Even if one ignores the language of the contract, there is no basis, in fact, for a claim that a rejection of these exports would interfere with the "efficient and continuous operation" of these reactors in the near term. According to a Nuclear Regulatory Commission analysis, the Indians already have so much fresh fuel on hand that no further exports would be needed by them until at least February, 1982.

**Advantages of Not Sending Fuel at This Time**

During this intervening period, negotiations could continue on the extension of safeguards and on the status of our spent fuel; however, the negotiating context would be changed from what it has been because, by rejecting the now pending exports, we would have demonstrated with force the importance we attach to the NNPA export criteria.

Also during this interim, the U. S. will have participated in the Nuclear Non-Proliferation Treaty Review Conference and the Congress will have received a major report by the General Accounting Office assessing U. S. nonproliferation policy three years after the enactment of the NNPA; both will provide an improved basis for further policy decisions on this vital issue. If there is evidence that the NNPA has had a beneficial effect, then the law should continue as is. If, however, the NNPA is having little or no effect and all we are accomplishing is to give away U. S. business to others then the NNPA should be changed accordingly so we are not in a charade of pretending to have one policy while following another. In either event, it is premature to alter our policy until the GAO report is completed and digested.

There are additional flexibilities in the present situation. In particular, we agree with the NRC on the applicability of the full-scope safeguards criterion to this export. Accordingly, the President's Executive Order could be treated under the provisions of the NNPA dealing with waivers of the full-scope safeguards criterion. Under those provisions, the President would, on the basis of new information, be able to bring another Executive Order for this export before the next Congress if the present Executive Order is disapproved. The net result would be to delay a final resolution of the Indian situation until additional variables could be taken into account.
Dear Colleague
Page Three
July 2, 1980

U.S.-Indian Ties in Other Areas

It is important to recognize, in consideration of the consequences of a cutoff of nuclear trade with India, that such trade is but one of many continuing ties we and our NATO allies have to that country, including significant economic and military assistance. Upholding our nonproliferation goals by rejecting these exports need not end these other facets of our relationship with India that contribute to the desirable goal of maintaining good working relations with her.

Effect on U. S. Nonproliferation Policy

The President's claims notwithstanding, it is our firm belief that authorization of these exports at this time would constitute a major policy reversal that would signal to the world that the U. S. is in retreat on the vital international security issue of nuclear nonproliferation. An indication of this is given by the enclosed copies of 25 editorials that have been written on this issue in the past few weeks, all of them opposing the President's action.

If you believe, as we do, that this is no time to abandon our nonproliferation policy and objectives, we invite you to join us as original cosponsors of the attached resolution of disapproval that would overturn the President's Executive Order.

If you wish to cosponsor or have any questions, please contact Ms. Debby Steinmeyer at x42627.

Sincerely,

John Glenn
Abraham Ribicoff
Rudy Boschwitz
William Cohen

Alan Cranston
Harry F. Byrd, Jr.
APPENDIX N

United States of America
Nuclear Regulatory Commission

In the Matter of Edlow International Company (Agent for the Government of India on Applications to Export Special Nuclear Materials and Components)

Commissioners: John F. Ahearn, Chairman; Victor Gilinsky, Richard T. Kennedy, Joseph M. Hendrie, and Peter A. Bradford.

(License Nos. XSNM-1379, XSNM-1569, XCOM-0240, XCOM-0250, XCOM-0376, XCOM-0381, and XCOM-0395)

Memorandum and Order

CLI-80—

Edlow International Company, as agent for the Government of India, filed the following license applications 1 with the Commission seeking authorization to export material and components for use in the Tarapur Atomic Power Station (Tarapur) located near Bombay, India:

1 XSNM-1370 on September 28, 1978 for export of 487.8 kilograms of U-235 contained in 10,888.8 kilograms of uranium enriched to a maximum of 2.7 percent;
2 XCOM-0240 on April 25, 1979, as amended May 8, 1980, for export of replacement parts;
3 XCOM-0250 on May 7, 1979, for export of replacement parts;
4 XSNM-1569 on August 17, 1970, for export of 487.8 kilograms of U-235 contained in 19,888.8 kilograms of uranium enriched to a maximum of 2.71 percent;
5 XCOM-0376 on March 6, 1980, for export of replacement parts;
6 XCOM-0381 on March 14, 1980, for export of replacement parts; and
7 XCOM-0395 on April 8, 1980, for export of replacement parts.

The lengthy history of United States-Indian cooperation in connection with the Tarapur reactors is fully chronicled in several formal Commission decisions. 2

The Commission cannot find, based on a reasonable judgment of the assurances provided by the Government of India and other informa-

1 A brief chronology of correspondence on these applications is attached.
2 CLI-79-16, 4 NRC 564 (1979); CLI-79-6, 4 NRC 538 (1979); CLI-79-20, 4 NRC 538 (1979); CLI-78-8, 7 NRC 430 (1978); CLI-78-20, 7 NRC 476 (1979); CLI-78-9, 8 NRC 200 (1979).
tion available, that License Applications XSNM-1379, XSNM-1569, XCOM-0240, XCOM-0250, XCOM-0376, XCOM-0381 and XCOM-0395 meet the criteria for issuance set forth in Sections 109, 127, and 128 of the Atomic Energy Act. Accordingly, NRC is referring these license applications to the President, pursuant to procedures set forth in Section 126b(2) of the Atomic Energy Act.

The basis for the Commission's decision is as follows. India has several nuclear facilities which have not been placed under International Atomic Energy Agency safeguards. After reviewing the legislative history of Section 128 of the Atomic Energy Act, the Commission has concluded that the full-scope safeguards criterion applies to the two fuel applications. The legislative history of the Nuclear Non-Proliferation Act is replete with references that the full-scope safeguards criterion would come into effect at a date certain—that the application of the criterion would have a "guillotine" effect. The State Department's view that the criterion does not apply to license applications filed before September 10, 1979, where the applicant reasonably expected the license to issue prior to March 10, 1980, is, we believe, inconsistent with Congressional intent. As we understand the Department's view, if an application were filed with the Commission prior to September 10, 1979, an applicant expected the license before March 10, 1980, but the Executive Branch did not provide the Commission with its views until years later, the criterion would not apply. Such results do not comport with the "guillotine" approach which was contemplated.

Because of unique features in the Agreement for Cooperation between the United States and India, the Commission is also unable to find that the two fuel applications satisfy the requirements of Section 127 of the Atomic Energy Act or that the component applications satisfy the requirements of Section 100 of the Atomic Energy Act. This issue is thoroughly discussed in earlier Commission opinions.

The Commission's inability to issue these licenses should not be read as a recommendation one way or the other on the proposed exports. Rather, we have found that the particular statutory findings with which the NRC is charged cannot be made. Congress provided that the President may in such a case authorize the export by executive order if he finds "that withholding the proposed export would be seriously prejudicial to the achievement of United States non-proliferation objectives, or would otherwise jeopardize the common defense and security." 2

It is so ordered.

By the Commission:

SAMUEL J. CHILDI
Secretary of the Commission.

Dated at Washington, D.C., this — day of May 1980.

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1 75 S. Ct. 1054, 84 L.Ed. 2d 129 (1985).
2 Section 201 of the Energy Reorganization Act, 42 U.S.C. 5841, provides that action of the Commission shall be determined by a "majority vote of the members present." Commissioner Kennedy was not present at the meeting at which this Order was approved. Had he been present he would have voted to approve this Order. Accordingly, the formal vote of the Commission is 4-0.
On March 28, 1979, Louis V. Nosenzo, Deputy Assistant Secretary of State sent a letter to James R. Shea, Director, Office of International Programs, U.S. Nuclear Regulatory Commission, which contained an Executive Branch analysis on XSNM-1379. The Executive Branch concluded that all applicable export licensing criteria were met and recommended issuance of XSNM-1379. Shortly after receiving this submission, the NRC passed additional questions to the Executive Branch regarding India's nuclear programs and policies. The Department of State forwarded its response to the NRC on July 5, 1979. On August 15, 1979, the Commission noted changes in the leadership of the Government of India and requested an Executive Branch assessment of the impact of these developments on the Executive Branch analysis of XSNM-1379. In its letter the NRC noted its intention to defer final consideration of XSNM-1379 and two component cases (XCOM-0240 and 0250) until receiving a response to this inquiry. On October 19, 1979, the Commission sent a letter to the Department of State noting that it had not received a response to the questions raised in the August letter and requesting that the Executive Branch include an assessment of the leadership changes in its views on License Application XSNM-1569, which was then pending in the Executive Branch. On May 7, 1980, the Executive Branch in a letter from Louis V. Nosenzo to James R. Shea provided responses to the Commission's August 15 questions and provided its views on XSNM-1569. The Executive Branch concluded that XSNM-1569 met all applicable criteria for issuance and recommended issuance of the license.

In a letter from Louis V. Nosenzo to James R. Shea, dated June 11, 1979, the Executive Branch concluded that XCOM-0240 met all applicable licensing criteria and recommended issuance of the license.

In a letter from Louis V. Nosenzo to James R. Shea, dated October 22, 1979, the Executive Branch concluded that XCOM-0250 met all applicable licensing criteria and recommended issuance of the license.

In three separate letters from Louis V. Nosenzo to James R. Shea, dated May 13, 1980, the Executive Branch concluded that XCOM-0376, 0381, and 0395 met all applicable licensing criteria and recommended issuance of these licenses.

CHAIRMAN AHEARNE'S CONCURRING VIEWS

In March 1979 I found that a license application for export of fuel to India for use in Tarapur met the Section 127 criteria and concurred in the Commission's decision to authorize that export. In connection with that decision I made the following statements:

"If there had been no indications of progress towards U.S. non-proliferation goals, I would find that to weigh in favor of denial. The fact that some progress has been made weighs in the other direction.

\(^1\) Iteilman International Company (Agent for the Government of India on Application to Export Special Nuclear Materials), CLI-70-4, 9 NRC 200, 250-50 (1974) (separate views of Commissioner Ahearn).
"The current Government of India has taken truly significant steps to meet these proliferation goals. India is the only country that having exploded a nuclear device, has turned away from nuclear weapons, and has demonstrated the ability to make the difficult choice of not continuing down that path. Although the previous government was certainly not supportive of non-proliferation policy and acted in a manner which was inimical, the present government has done just the opposite—it has acted responsibly and courageously." (Id. at 250).

Since that decision, Mr. Desai has departed and Mrs. Gandhi has been elected Prime Minister. No progress has been made in achieving full scope safeguards and Prime Minister Gandhi "has not ruled out the option of so-called peaceful nuclear experiments, should this be considered to be in India's interest."

Consistent with my reasoning in the previous case, I can no longer find that the criteria in Section 127 are met. In addition, I do not agree with the Executive Branch's interpretation that the March 10, 1980 deadline for full-scope safeguards meant only that the applicant intended to ship the material prior to the deadline. Consequently, I cannot find that the Section 128 criterion has been met. Finally I cannot find that the criteria in Section 109 are met for the same reasons I cannot find that the corresponding criteria in Section 127 are met. Consequently, I agree we should forward these applications to the President for his consideration.

**SEPARATE OPINION OF COMMISSIONER GILINSKY**

This decision involves, primarily, two export license applications for fuel shipments for the Tarapur Atomic Power Station. These applications, on which the NRC is acting after the expiration of a two-year grace period provided by the Nuclear Nonproliferation Act, are subject to the requirements of Section 128 of the Atomic Energy Act that international safeguards apply to all nuclear facilities in the receiving country. India has rejected such full-scope safeguards.

In recommending approval of these applications, the Department of State has informed the Nuclear Regulatory Commission that "[t]he NRC does not act favorably, the President is prepared to authorize the export by Executive Order." There is reason to believe, on the basis of the Department of State's presentation to NRC, that the Department, prior to submitting these license applications to NRC, as-

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3 May 7, 1980 letter from Louis V. Nunnance, Deputy Secretary Assistant of State, to James R. Sheen, Director, Office of International Programs, U.S. Nuclear Regulatory Commission (providing the Executive Branch response to NRC's August 15, 1979 inquiry concerning the impact of the change in government on the prior Executive Branch analysis).

4 42 U.S.C. Section 2157 which provides that "[a]s a condition of continued United States export of ... special nuclear material ... 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. ..."

5 Dress correction issued on May 3, 1980 by Deputy Assistant Secretary of State, Louis V. Nunnance.

The Nuclear Nonproliferation Act contemplates that the President can respond to the Commission's findings in one of two fashions: he can, after receiving the views of both the Executive Branch and the NRC, determine that a waiver of the Act's requirements is necessary or he can, prior to submitting the application to the NRC, announce that he is granting an exemption from the full-scope safeguards requirement and ask the NRC to consider only the other applicable provisions of law. In the present case, the Department of State has placed the Administration in the position of ignoring NRC's views on the applicability of Sections 128 to these exports without regard to what those views might be.
sured the President that Section 128's full-scope safeguard requirement is not applicable to these particular fuel exports, and that the President, in authorizing public comment on his intention, relied on that opinion.

The Nuclear Regulatory Commission disagrees with the Department of State's interpretation. The export can take place only if the President grants a waiver from this requirement of the law and if Congress allows that waiver to stand. The law requires the President, in granting the waiver, to find that failure to approve the export "would be seriously prejudicial to the achievement of the United States non-proliferation objectives, or would otherwise jeopardize the common defense and security." 6

It is an unfortunate accident of history that these license applications have come under consideration at a time when the international situation is thought to require a serious compromise of our long-term security objective of preventing the spread of nuclear weapons. 7 It would be even more unfortunate, however, if the decision to except India from this central provision of the Nuclear Non-proliferation Act were made without a full understanding of the price we may be forced to pay.

Full scope safeguards are the sine qua non of the Nuclear Non-proliferation Act. 7 If a waiver is in fact granted by the President, and if it is upheld by the Congress, the law will be gravely impaired. If India does not need to satisfy the full-scope safeguards requirement, other countries will be quick to seek similar exemptions, with the inevitable erosion of the law's effectiveness.

There are other difficulties with the export. For reasons which have been spelled out in prior opinions, and which apply with even greater force now, these fuel shipment applications also fail to satisfy the requirements of Section 127 of the Act. 8 In relevant part, Section 127 requires a pledge that IAEA safeguards will be applied to any material or facilities proposed to be exported or previously exported, that no material or facility will be used for any nuclear explosive device or for research on or development of any such device, and that no material will be reprocessed without the prior approval of the United States. India has made it clear that if there is any halt, or por-

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6 The Commission has rejected the Department of State argument that the applicability of the full-scope safeguards requirement depends on when an export occurs but on when the exporter would have liked it to take place for the reasons set forth in the attached opinion of the General Counsel, "Application of Sections 127 and 129 of the Atomic Energy Act to Proposed Exports to India," memorandum of the General Counsel to the Commission, May 13, 1980.

7 Section 128(h)(2) of the Atomic Energy Act, 42 U.S.C. Section 2155.

8 It should be noted that the present fuel shipments are not immediately necessary to the continued operation of the Tarapur reactors. I understand that India already has sufficient fuel on hand to continue operation of these reactors until the beginning of 1985. If the President grants a waiver from the full-scope safeguards requirement for these two shipments, India will have sufficient fuel to operate the Tarapur reactors until about 1985. In this connection, it should be noted that the Senate section-by-section analysis of Section 128 states that "[i]f the NRC should also not permit any other highly unusual proposals which are intended to circumvent this statutory provision." (S. Rept. No. 94-407, 94th Congress, 1st session, at 15.)

7 In his Comments to the Senate Committee on Energy and Natural Resources, the Executive Branch stated that full-scope safeguards were of "... crucial and pivotal importance ... in an effective non-proliferation policy." (S. Rept. No. 95-407, 95th Congress, 1st session, at 40.) This House report termed the full-scope safeguards requirement "indispensable to any comprehensive nuclear nonproliferation policy." (H. Rept. No. 95-587, 95th Congress, 1st session at 25.)

* * * U.S.C. Section 2155. See the views I expressed in Fellow International Company, CLI-70-4, 0 N.R.C 200 (1970), at 200 (attached).
haps even lapse, in the supply of fuel for the Tarapur reactors, it will consider itself free of the contractual obligations of the Agreement for Cooperation and at liberty to reprocess as it sees fit the 200 tons of fuel it already holds hostage. It has not excluded making explosive use of the more than one ton of plutonium that can be separated from the U.S.-supplied fuel. Commissioner Bradford is in basic agreement with the points made in this opinion.

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9 Letter of May 7, 1980, from Deputy Assistant Secretary of State, Louis V. Nosenco to James R. Shea, Director of International Programs, United States Nuclear Regulatory Commission.
10 Letter of May 7, 1980 from Deputy Assistant Secretary of State, Louis V. Nosenco to James R. Shea, Director of International Programs, United States Nuclear Regulatory Commission.
AGREEMENT BETWEEN FRANCE AND INDIA, 1982

Within the framework of the 1963 agreement for cooperation between India and the United States, France in lieu of USA has agreed to supply enriched uranium for the Tarapur plant. India shall use the special nuclear material supplied by France or by-products derived from it only for peaceful purposes and research and production of electricity energy as had been provided for in the said agreement.

This commitment shall be subject to the safeguards provided for in the 1963 cooperation agreement between India and USA and in the 1971 trilateral agreement between USA, India and IAEA.

During the life of the 1963 agreement, France and India shall consult with a view to agreeing on the arrangements to ensure the implementation as may be necessary of the provisions of the preceding paragraphs.

For and on behalf of the Government of India

HOMI N. SETHNA
Principal Secretary
Department of Atomic Energy
Government of India
November 26, 1982

For and on behalf of the Government of the Republic of France

ANDRE ROSS
Ambassador of France
New Delhi, India
November 26, 1982
The Department of Energy (DOE) has received a 10 CFR Part 810 request from the Singer Link-Miles Simulation Corporation to provide a Rod Worth Minimizer (RWM) system and related services for the Tarapur Nuclear Power Station in India.

The RWM system is used by a power plant operator to guide and monitor the proper sequences for reactor control rod withdrawal and insertion. The system incorporates a control rod block feature that prevents overtravel and possible damage to the reactor.

A more detailed description of the Singer proposal is included in the September 28, 1989, Part 810 application at Enclosure 1.

In reviewing the Singer request, DOE staff considered the following factors:

- India has an agreement for nuclear cooperation with the United States.
- Although India is not a party to the nuclear Non-Proliferation Treaty, the Tarapur plant is under International Atomic Energy Agency (IAEA) safeguards.
- The RWM system would enhance the safe operation of the Tarapur reactor, which is U.S.-supplied (General Electric).
- The United States could be vulnerable to serious international criticism were an accident to occur at Tarapur that could be linked to U.S. refusal to supply a safety-related system.
- The proposed assistance is consistent with the U.S. post-Chernobyl policy for reactor safety-related assistance.
- The RWM would be specifically designed for Tarapur and could not be installed at another Indian plant without major redesign.
- Comparable assistance to that proposed by Singer is available from several foreign and domestic companies.
The PC accompanying the RWM would have a processing data rate (PDR) of 68, within the limit for export to India under distribution license.

A DOE staff analysis of the Singer request is at Enclosure 2.

In recent years it has been overall U.S. policy not to assist Indian nuclear activities. Because that policy has not been reviewed in some time, DOE staff believe it appropriate to ask interested agencies to weigh the merits of the Singer request, especially because of the safety-related nature of the equipment involved and the U.S. origin of the recipient facility. Depending upon the Department of State's readiness to concur and the views of the other interested agencies, DOE staff would be prepared to recommend that the Secretary of Energy determine it will not be inimical to the interest of the United States to approve the Singer request.

Your views on such a recommendation are requested within 30 days of receipt of this letter. In response, please refer to case 891N0001.

Please treat the estimated final price of the RWM system as proprietary information.

Sincerely,

John M. Rooney
Director
Technology Policy Division
Office of Classification and Technology Policy

Enclosures:
1. Singer Part 810 Application
2. DOE Staff Analysis
The Department of Energy (DOE) has received an application (89IN001) from the Singer Link-Miles Simulation Corporation, a subsidiary of the Singer Company, to design and develop a Rod Worth Minimizer (RWM) to replace the inoperable unit in the Tarapur Atomic Power Station in India.

The RWM system is used by a nuclear power plant operator to guide and monitor the proper sequences for reactor control rod withdrawal and insertion. The RWM system is designed to prevent overtravel of the control rods during either withdrawal or insertion by the plant operator. The RWM also displays the status of control rods, compares actions relative to prescribed sequences and initiates alarms and error messages and shows next steps to be performed.

A more detailed description of the Singer proposal is included in the Part 810 application at Enclosure 1.

In reviewing the Singer request, the DOE staff took into consideration the following factors that are specified in Section 810.1 of Part 810.

1. Whether the United States has an agreement for nuclear cooperation with the nation or group of nations involved.

   The United States has an agreement for cooperation with India.

2. Whether the country involved is a party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), or is a country for which the Treaty for the Prohibition of Nuclear Weapons in Latin America (Tlatelolco) is in force.

   India is not a party to the NPT.

3. Whether the country involved has entered into an agreement with the International Atomic Energy Agency (IAEA) for the application of safeguards on all its nuclear facilities.

   India does not have an agreement with the IAEA for the application of safeguards on all its nuclear facilities.

4. Whether the country involved, if it has not entered into such an agreement, has agreed to accept IAEA safeguards when applicable to the proposed activity.

   India accepts IAEA safeguards on the Tarapur Nuclear Power Station that would receive the Singer RWM.
5. Other nonproliferation controls or conditions applicable to the proposed activity.

We are not aware of any additional controls or conditions applicable to the proposed activity.

6. The relative significance of the proposed activity.

The RWM system is designed to monitor the withdrawal and insertion of the reactor control rods by the plant operator and to prevent control rod overtravel and possible damage to the reactor. The RWM system is intended to enhance the safe operation of the Tarapur reactor. Its primary significance therefore is safety-related.

7. The availability of comparable assistance from other sources.

Singer lists in the Part 810 application several foreign and domestic companies capable of providing an RWM system for Tarapur.

8. Any other factors that may bear upon the political, economic, or security interests of the United States, including U.S. obligations under international agreements or treaties.

**Political**

Equipping the U.S.-supplied (General Electric) Tarapur plant with the Singer RWM system would enhance the safe operation of the plant. Therefore, there presumably would be a political benefit to the United States if this proposal were treated as an exception to the U.S. policy of not assisting the Indian nuclear program. In addition, making an exception for this clearly safety-related assistance would be consistent with the U.S. Post-Chernobyl policy of promoting the safety of civilian nuclear power worldwide. Conversely, the United States would be vulnerable to international criticism were an accident to occur at Tarapur that could be linked to U.S. refusal to supply a safety-related system.

**Economic**

The total contract price for the RWM system and related services is estimated by Singer to be $200,000. However, DOE staff do not believe the monetary value of the contract should be a major consideration in the determination on the Singer application.
Security

DOE staff does not believe the security interests of the United States would be adversely affected if the Singer requested assistance were authorized. The RWM would be specifically designed for the Tarapur nuclear reactor, which is under IAEA safeguards. The control configuration and sensor points are fixed and peculiar to Tarapur and the RWM could not be installed on another Indian nuclear power plant without major redesign. Also, the PC accompanying the RWM would have a PDR of 78, which is within the limit of U.S. computers exported to India under DOC distribution license.

Recommendation

Based on the foregoing analysis, DOE staff believe it appropriate to seek the views of other interested agencies on whether the Singer request warrants an exception to the overall U.S. policy of non-support for Indian nuclear activities. Depending upon Department of State readiness to concur and the views of other agencies, DOE staff would be prepared to recommend that the Secretary of Energy determine that the proposed activity would not be inimical to the U.S. interest and the requested authorization be granted.