

**ATOMIC ENERGY**

**Peaceful Uses of Nuclear Energy**

**Agreement Between the  
UNITED STATES OF AMERICA  
and BANGLADESH**

**Signed at Dacca September 17, 1981**

*with*

**Agreed Minute**



## **BANGLADESH**

**Atomic Energy: Peaceful Uses of Nuclear Energy**

*Agreement signed at Dacca September 17, 1981;*

*Entered into force June 24, 1982.*

*With agreed minute.*

AGREEMENT FOR COOPERATION BETWEEN  
THE UNITED STATES OF AMERICA  
AND THE PEOPLE'S REPUBLIC OF BANGLADESH  
CONCERNING PEACEFUL USES OF NUCLEAR ENERGY

The Government of the United States of America and the  
Government of the People's Republic of Bangladesh,

Mindful of their respective obligations under the  
Treaty on the Non-Proliferation of Nuclear Weapons<sup>[1]</sup> ("NPT"),<sup>2</sup>  
to which both the United States and Bangladesh are parties;

Reaffirming their commitment to ensuring that the  
international development and use of nuclear energy for  
peaceful purposes are carried out under arrangements  
which will to the maximum possible extent further the  
objectives of the NPT;

Affirming their support of the objectives of the  
International Atomic Energy Agency ("IAEA") and their  
desire to promote universal adherence to the NPT;

Desiring to cooperate in the development, use and  
control of peaceful uses of nuclear energy; and

Mindful that peaceful nuclear activities must be  
undertaken with a view to protecting the international  
environment from radioactive, chemical and thermal  
contamination;

Have agreed as follows:

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<sup>1</sup> Done July 1, 1968. TIAS 6839; 21 UST 483. [Footnote added by the Department of State.]

Article 1Definitions

For the purposes of this agreement:

(a) "byproduct material" means any radioactive material (except special material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material;

(b) "component" means a component part of equipment or other item, so designated by agreement of the parties;

(c) "equipment" means any reactor, other than one designed or used primarily for the formation of plutonium or uranium 233, or any other item so designated by agreement of the parties;

(d) "high enriched uranium" means uranium enriched to twenty percent or greater in the isotope 235;

(e) "low enriched uranium" means uranium enriched to less than twenty percent in the isotope 235;

(f) "major critical component" means any part or group of parts essential to the operation of a sensitive nuclear facility;

(g) "material" means source material, special nuclear material or byproduct material, radioisotopes other than byproduct material, moderator material, or any other such substance so designated by agreement of the parties;

(h) "moderator material" means heavy water, or graphite or beryllium of a purity suitable for use in a reactor to slow down high velocity neutrons and increase the likelihood of further fission, or any other such material so designated by agreement of the parties;

(i) "parties" means the Government of the United States of America and the Government of the People's Republic of Bangladesh;

(j) "peaceful purposes" include the use of information, material, equipment and components in such fields as research, power generation, medicine, agriculture and industry but do not include use in, research on or development of any nuclear explosive device, or any military purpose;

(k) "person" means any individual or any entity subject to the jurisdiction of either party but does not include the parties to this agreement;

(l) "reactor" means any apparatus, other than a nuclear weapon or other nuclear explosive device, in which a self-sustaining fission chain reaction is maintained by utilizing uranium, plutonium or thorium or any combination thereof;

(m) "restricted data" means all data concerning (1) design, manufacture or utilization of nuclear weapons, (2) the production of special nuclear material, or (3) the use of special nuclear material in the production of energy, but shall not include data of a party which it has declassified or removed from the category of restricted data;

(n) "sensitive nuclear facility" means any facility designed or used primarily for uranium enrichment, reprocessing of nuclear fuel, heavy water production, or fabrication of nuclear fuel containing plutonium;

(o) "sensitive nuclear technology" means any information (including information incorporated in equipment or an important component) which is not in the public domain and which is important to the design, construction, fabrication, operation or maintenance of any sensitive nuclear facility, or other such information which may be so designated by agreement of the parties;

(p) "source material" means (1) uranium, thorium, or any other material so designated by agreement of the parties, or (2) ores containing one or more of the foregoing materials in such concentration as the parties may agree from time to time;

(q) "special nuclear material" means (1) plutonium, uranium 233, or uranium enriched in the isotope 235, or (2) any other material so designated by agreement of the parties.

## Article 2

### Scope of Cooperation

1. The United States and Bangladesh shall cooperate in the use of nuclear energy for peaceful purposes in accordance with the provisions of this agreement and their applicable treaties, national laws, regulations and license requirements.

2. Transfers of information, material, equipment and components under this agreement may be undertaken directly between the parties or through authorized persons. Such transfers shall be subject to this agreement and to such additional terms and conditions as may be agreed by the parties.

## Article 3

### Transfer of Information

1. Information concerning the use of nuclear energy for peaceful purposes may be transferred. Transfers of information may be accomplished through various means, including reports, conferences, experts meetings, visits of personnel, and assignments of staff to facilities. Fields which may be covered include, but shall not be limited to the following:

(a) development, design, construction, operation, maintenance and use of reactors and reactor experiments;

(b) the production and use of radioisotopes and other material in physical and biological research, medicine, agriculture and industry;

(c) fuel cycle studies of ways to meet future world-wide civil nuclear needs, including multilateral approaches to guaranteeing nuclear fuel supply and appropriate techniques for management of nuclear wastes;

(d) safeguards and physical security of materials and equipment;

(e) health, safety and environmental considerations related to the foregoing;

(f) assessing the role nuclear power may play in national energy plans and cooperation in the generation of nuclear power; and

(g) exploration for and development of uranium and other mineral resources used in nuclear activities.

2. This agreement does not require the transfer of any information which the parties are not permitted to transfer.

3. Restricted data shall not be transferred under this agreement.

4. Sensitive nuclear technology shall not be transferred under this agreement unless provided by an amendment to this agreement.

#### Article 4

##### Transfer of Material, Equipment and Components

1. Material, equipment and components may be transferred for applications consistent with this agreement. Any special nuclear material transferred to Bangladesh under this agreement shall be low enriched uranium, except as provided in paragraph 4. Sensitive

nuclear facilities and major critical components shall not be transferred under this agreement unless provided by an amendment to this agreement.

2. Low enriched uranium may be transferred for use as fuel in reactor experiments and in reactors or for such other purposes as may be agreed by the parties.

3. The quantity of special nuclear material transferred under this agreement shall not at any time be in excess of that quantity the parties agree is necessary for any of the following purposes: use in reactor experiments or the loading of reactors, the efficient and continuous conduct of such reactor experiments or operation of such reactors, and the accomplishment of other purposes as may be agreed by the parties.

4. Small quantities of special nuclear material may be transferred for use as samples, standards, detectors, targets and for such other purposes as the parties may agree. Transfers pursuant to this paragraph shall not be subject to the quantity limitations in paragraph 3.

5. The United States shall take such actions as necessary and feasible to ensure a reliable supply of nuclear fuel to Bangladesh, including the export of nuclear material on a timely basis and the availability of the capacity to carry out this undertaking during the period of this agreement.

#### Article 5

##### Storage and Retransfers

1. Material transferred pursuant to this agreement and material used in or produced through the use of any material or equipment transferred pursuant to this agreement may be stored,

except that each party guarantees that no such plutonium or uranium 233 (except as contained in irradiated fuel elements) or high enriched uranium, over which it has jurisdiction, shall be stored in any facility that has not been agreed to in advance by the parties.

2. Material, equipment or components transferred pursuant to this agreement and any special nuclear material produced through the use of any such material or equipment may be transferred, except that each party guarantees that any such material, equipment, components or special nuclear material, over which it has jurisdiction, shall not be transferred to unauthorized persons or, unless the parties agree, beyond its territorial jurisdiction.

#### Article 6

##### Reprocessing and Enrichment

1. Each party guarantees that source and special nuclear material transferred to and under its jurisdiction pursuant to this agreement and source and special nuclear material used in or produced through the use of any material or equipment so transferred and under its jurisdiction shall not be reprocessed unless the parties agree.

2. Each party guarantees that any plutonium, uranium 233, high enriched uranium or irradiated source or special nuclear material transferred to and under its jurisdiction pursuant to this agreement or used in or produced through the use of any material or equipment so transferred and under its jurisdiction shall not be altered in form or content, except by irradiation or further irradiation, unless the parties agree.

3. Each party guarantees that uranium transferred to and under its jurisdiction pursuant to this agreement and uranium used in any equipment so transferred and under its jurisdiction shall not be enriched after transfer unless the parties agree.

#### Article 7

##### Physical Security

1. Each party guarantees that adequate physical security shall be maintained with respect to any material and equipment transferred to and under its jurisdiction pursuant to this agreement and with respect to any special nuclear material used in or produced through the use of any material or equipment so transferred and under its jurisdiction.

2. The parties agree to the levels for the application of physical security set forth in the Annex, which levels may be modified by mutual consent of the parties. The parties shall maintain adequate physical security measures in accordance with such levels. These measures shall as a minimum provide protection comparable to the recommendations set forth in IAEA document INFCIRC/225/Revision 1 concerning the physical protection of nuclear material, or in any revision of that document agreed to by the parties.

3. The adequacy of physical security measures maintained pursuant to this article shall be subject to review and consultation by the parties periodically and whenever either party is of the view that revised measures may be required to maintain adequate physical security.

4. Each party shall identify those agencies or authorities having responsibility for ensuring that levels of physical security are adequately met and having responsibility for coordinating response and recovery operations in the event of unauthorized use or handling of material subject to this article. Each party shall also designate points of contact within its national authorities to cooperate on matters of out-of-country transportation and other matters of mutual concern.

5. The provisions of this article shall be implemented in such a manner as to avoid hampering, delay or undue interference in the parties' nuclear activities and so as to be consistent with prudent management practices required for the economic and safe conduct of their nuclear programs.

#### Article 8

##### No Explosive or Military Application

Each party guarantees that no material, equipment or components transferred to and under its jurisdiction pursuant to this agreement and no material used in or produced through the use of any material, equipment or components so transferred and under its jurisdiction shall be used for any nuclear explosive device, for research on or development of any nuclear explosive device, or for any military purpose.

Article 9Safeguards

1. Cooperation under this agreement shall require the application of IAEA safeguards with respect to all nuclear activities within the territory of Bangladesh, under its jurisdiction or carried out under its control anywhere. Implementation of a safeguards agreement pursuant to article III(4) of the NPT shall be considered to fulfill the requirement stated in the foregoing sentence.

2. Material transferred to Bangladesh pursuant to this agreement and any source or special nuclear material used in or produced through the use of any material, equipment or components so transferred shall be subject to safeguards in accordance with the agreement between Bangladesh and the IAEA for the application of safeguards in connection with the NPT.

3. If Bangladesh or the United States becomes aware of circumstances which demonstrate that the IAEA for any reason is not or will not be applying safeguards in accordance with the agreement as provided for in paragraph 2, to ensure effective continuity of safeguards the parties shall immediately enter into arrangements which conform with IAEA safeguards principles and procedures and with the coverage required by that paragraph and which provide assurance equivalent to that intended to be secured by the system they replace.

4. Each party guarantees that it shall take such measures as are necessary to maintain and facilitate the application of safeguards provided for under this article.

5. Each party shall establish and maintain a system of accounting for and control of all material transferred pursuant to this agreement and any material used in or produced through the use of any material, equipment or components so transferred, the procedures of which shall be comparable to those set forth in IAEA document INFCIRC/153 (corrected), or in any revision of that document agreed to by the parties.

6. Upon the request of either party, the other party shall report or permit the IAEA to report to the requesting party on the status of all inventories of any materials subject to this agreement.

7. The provisions of this article shall be implemented in such a manner as to avoid hampering, delay or undue interference in the parties' nuclear activities and so as to be consistent with prudent management practices required for the economic and safe conduct of their nuclear programs.

#### Article 10

##### Multiple Supplier Controls

If an agreement between either party and another nation or group of nations provides such other nation or group of nations rights equivalent to any or all of those set forth under articles 5, 6, or 7 with respect to material, equipment or components subject to this agreement, the parties may, upon request of either of them, agree that the implementation of any such rights will be accomplished by such other nation or group of nations.

Article 11Cessation of Cooperation

1. If either party at any time following entry into force of this agreement:

(a) does not comply with the provisions of article 5, 6, 7, 8, or 9, or

(b) terminates, abrogates or materially violates a safeguards agreement with the IAEA, the other party shall have the rights to cease further cooperation under this agreement and to require the return of any material, equipment or components transferred under this agreement and any special nuclear material produced through their use.

2. If Bangladesh at any time following entry into force of this agreement detonates a nuclear explosive device, the United States shall have the same rights as specified in paragraph 1.

3. If either party exercises its rights under this article to require the return of any material, equipment or components, it shall, after removal from the territory of the other party, reimburse the other party for the fair market value of such material, equipment or components. In the event this right is exercised, the parties shall make such other appropriate arrangements as may be required which shall not be subject to any further agreement between the parties as otherwise contemplated under articles 5 and 6.

Article 12Consultations And Environmental Protection

1. The parties undertake to consult at the request of either party regarding the implementation of this agreement and the development of further cooperation in the field of peaceful uses of nuclear energy.

2. The parties shall consult, with regard to activities under this agreement, to identify the international environmental implications arising from such activities and shall cooperate in protecting the international environment from radioactive, chemical and thermal contamination arising from peaceful nuclear activities under this agreement and in related matters of health and safety.

Article 13Entry Into Force and Duration

1. This agreement shall enter into force on the date on which the parties exchange diplomatic notes informing each other that they have complied with all applicable requirements for its entry into force,<sup>1</sup> and shall remain in force for a period of ten years. This term may be extended for such additional periods as may be agreed between the parties in accordance with their applicable requirements.

2. Notwithstanding the suspension, termination or expiration of this agreement or any cooperation hereunder for any reason, articles 5, 6, 7, 8, 9 and 11 shall continue in effect so long as any material, equipment or components subject to these articles remains

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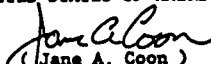
<sup>1</sup> June 24, 1982. [Footnote added by the Department of State.]

in the territory of the party concerned or under its jurisdiction or control anywhere, or until such time as the parties agree that such material, equipment or components are no longer useable for any nuclear activity relevant from the point of view of safeguards.


IN WITNESS WHEREOF, the undersigned being duly authorized have signed this agreement.

DONE AT        Dacca , this 17 day of Sept., 1981

FOR THE GOVERNMENT OF THE  
UNITED STATES OF AMERICA:

  
( Jane A. Coon )  
Ambassador of the  
United States of America  
to Bangladesh

FOR THE GOVERNMENT OF THE  
PEOPLE'S REPUBLIC OF BANGLADESH:

  
(Dr. Anwar Hossain)  
Secretary (Natural Science Wing)  
Science and Technology Division

## ANNEX

Pursuant to paragraph 2 of article 7, the agreed levels of physical security to be ensured by the competent national authorities in the use, storage and transportation of the materials listed in the attached table shall as a minimum include protection characteristics as below.

Category III

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

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

Category II

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

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

Category I

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

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

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

TABLE: CATEGORIZATION OF NUCLEAR MATERIAL<sup>a</sup>

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

<sup>a</sup> All plutonium except that with isotopic concentration exceeding 80% in plutonium-238.

<sup>b</sup> Material not irradiated in a reactor or material irradiated in a reactor but with a radiation level equal to or less than 100 rads/hour at one meter unshielded.

<sup>c</sup> Less than a radiologically significant quantity should be exempted.

<sup>d</sup> Natural uranium, depleted uranium and thorium and quantities of uranium enriched to less than 10% not falling in Category III should be protected in accordance with prudent management practice.

<sup>e</sup> Irradiated fuel should be protected as Category I, II or III nuclear material depending on the category of the fresh fuel. However, fuel which by virtue of its original fissile material content is included in Category I or II before irradiation should only be reduced one Category level, while the radiation level from the fuel exceeds 100 rads/h at one meter unshielded.

<sup>f</sup> The State's competent authority should determine if there is a credible threat to disperse plutonium inadvertently. The State should then apply physical protection requirements for category I, II or III of nuclear material, as it deems appropriate and without regard to the plutonium quantity specified under each category herein, to the plutonium isotopes in those quantities and forms determined by the State to fall within the scope of the credible dispersal threat.

## AGREED MINUTE

During the negotiation of the Agreement for Cooperation Between the United States of America and the People's Republic of Bangladesh Concerning Peaceful Uses of Nuclear Energy ("agreement") signed today, the following understandings, which shall be an integral part of the agreement, were reached.

Coverage of Agreement

Material, equipment and components transferred from the territory of one party to the territory of the other party for peaceful purposes, whether directly or through a third country, will be regarded as having been transferred pursuant to the agreement only upon confirmation by the appropriate government authority of the recipient party to the appropriate government authority of the supplier party, that such material, equipment or components will be subject to the agreement.

For the purposes of implementing the rights specified in articles 5, 6, and 7 with respect to special nuclear material produced through the use of material transferred pursuant to the agreement and not used in or produced through the use of equipment transferred pursuant to the agreement, such rights shall in practice be applied to that proportion of special nuclear material produced which represents the ratio of transferred material used in the production of the special nuclear material to the total amount of material so used, and similarly for subsequent generations.

The United States recognizes the intention of Bangladesh to acquire a nuclear research reactor and to establish a nuclear

research program for peaceful purposes in the near future. The United States notes its firm intention to cooperate fully with Bangladesh in supplying equipment and material needed for nuclear research programs for peaceful purposes in Bangladesh. In addition, Bangladesh notes that it has undertaken a number of studies related to energy development, in the context of its national development plan, and is considering the use of nuclear energy for the generation of electrical power.

#### Safeguards

If either party becomes aware of circumstances referred to in paragraph 3 of article 9, the United States shall have the rights listed below, which rights shall be suspended if the United States agrees that the need to exercise such rights is being satisfied by the application of IAEA safeguards under arrangements pursuant to paragraph 3 of article 9:

- (1) to review in a timely fashion the design of any equipment or of any facility which is to use, fabricate, process, or store any material transferred pursuant to the agreement or any special nuclear material used in or produced through the use of material or equipment transferred pursuant to the agreement;
- (2) to require the maintenance and production of records and of relevant reports for the purpose of assisting in ensuring accountability for material transferred pursuant to the agreement and any source material or special nuclear material used in or produced through the use of any material, equipment or components transferred pursuant to the agreement; and

- (3) to designate personnel acceptable to Bangladesh who shall have access to all places and data necessary to account for the material in paragraph 2, to inspect any equipment or facility referred to in paragraph 1, and to install any devices and make such independent measurements as may be deemed necessary to account for such material. Bangladesh shall not unreasonably withhold its acceptance of personnel designated by the United States under this paragraph. Such personnel shall, if either party so requests, be accompanied by personnel designated by Bangladesh.

With reference to article 9, it is confirmed that design information relevant to safeguards for new equipment or facilities where safeguards will be required under the agreement shall be provided to the IAEA in a timely fashion upon its request.

#### Transitional Arrangements

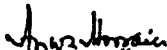
With reference to paragraph 1 and 2 of article 7, while most facilities in the United States provide physical protection comparable to that specified for materials classified as Category II and III in the table attached to the Annex, the regulations of the United States with respect to physical protection for these materials do not require implementation until July 1980. If any proposed recipient of Category II or III material transferred pursuant to the agreement does not provide physical protection as a minimum comparable to that set forth in INFCIRC/225/Revision 1, the United States shall so inform Bangladesh prior to shipment of such material and seek interim arrangements satisfactory to both parties.

FOR THE GOVERNMENT OF THE  
UNITED STATES OF AMERICA:



( Jane A. Coon )  
Ambassador of the  
United States of America  
to Bangladesh

FOR THE GOVERNMENT OF THE  
PEOPLE'S REPUBLIC OF BANGLADESH:



(Dr. Anwar Hossain)  
Secretary (Natural Science Wing)  
Science and Technology Division