

Appendix

Nuclear Cooperation Agreement and Supporting Documents

Nuclear Cooperation Agreement and Supporting Documents

Agreement for Cooperation Between
The Government of the United States of America and
The Government of the People's Republic of China
Concerning Peaceful Uses of Nuclear Energy

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

Desiring to establish extensive cooperation in the peaceful uses
of nuclear energy on the basis of mutual respect for sovereignty,
non-interference in each other's internal affairs, equality and
mutual benefit,

Noting that such cooperation is one between two nuclear weapon
states,

Affirming their support of the objectives of the statute of the
International Atomic Energy Agency (IAEA)/

Affirming their intention to carry out such cooperation on a
stable, reliable and predictable basis,

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:

Article 1
Definitions

For the purposes of this agreement:

(1) 'parties' means the Government of the United States of America and the Government of the People's Republic of China;

(2) 'authorized person' means any individual or any entity under the jurisdiction of either party and authorized by that party to receive, possess, use, or transfer material, facilities or components;

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

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

(5) "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;

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

(7) "special nuclear material" means (i) plutonium, uranium 233, or uranium enriched in the isotope 235, or (ii) any other material so designated by agreement of the parties;

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

(9) "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;

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

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

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

(13) "reactor" is defined in Annex I, which may be modified by mutual consent of the parties.

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

(15) "component" means a component part Of a facility *or other* item, so designated by agreement of the parties;

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

(17) 'sensitive nuclear technology" means any information (including information incorporated in a facility 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~~ such other information so designated by agreement of the parties.

Article 2 Scope of Cooperation

1. The parties shall cooperate in the use of nuclear energy for peaceful purposes in accordance with the provisions of this agreement. , Each party shall implement this agreement in accordance with its respective applicable treaties, national laws, regulations and license requirements concerning the use of nuclear energy for peaceful purposes. The parties recognize, with respect to the observance of this agreement, the principle of international law that provides that a party may not invoke the provisions of its internal law as justificaton for its failure to perform a treaty.

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

3. Material, facilities and components will be regarded as having been transferred pursuant to this agreement only upon receipt of confirmation by the supplier party, from the appropriate Government authority of the recipient party, that such material, facilities or components will be subject to this agreement and that the proposed recipient of such material, facilities or components, if other than the recipient party, is an authorized person.

4. Any transfer of sensitive nuclear technology, sensitive nuclear facilities, or major critical components will, subject to the principles of this agreement, require additional provisions as an amendment to this agreement.

Article 3 Transfer of Information and Technology

Information and technology concerning the use of nuclear energy for peaceful purposes may be transferred. Transfers of such information and technology shall be that which the parties are permitted to transfer and may be accomplished through various means, including reports, data banks, computer programs, conferences,

visits and assignments of persons to facilities. Fields which may be covered include, but shall not be limited to, the following:

(1) research, development, experiment, design, construction, operation, maintenance and use and retirement of reactors and nuclear fuel fabrication technology;

(2) the use of material in physical and biological research, medicine, agriculture and industry;

(3) nuclear fuel cycle research, development and industrial application to meet civil nuclear needs, including multilateral approaches to guaranteeing nuclear fuel supply and appropriate techniques for management of nuclear wastes;

(4) health, safety, environment, and research and development related to the foregoing;

(5) assessing the role nuclear power may play in international energy plans;

(6) codes, regulations and standards for the nuclear energy industry; and

(7) such other fields as may be agreed by the parties.

Article 4 Transfer of Material, Facilities and Components

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

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

3. The quantity of special nuclear material transferred under this agreement shall be the quantity which the parties agree is necessary for. any of the following purposes: the loading of reactors or use in reactor experiments, the efficient and continuous operation of such reactors or conduct of such reactor experiments, and the accomplishment of such 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, radiation sources and for such other purposes as the parties may agree.

Article 5
Retransfers, Storage, Reprocessing, Enrichment,
Alteration, and No Use for Military Purposes

1. Material, facilities, components or special nuclear material transferred pursuant to this agreement and any special nuclear material produced through the use of such material or facilities may be retransferred by the recipient party, except that any such material, facility, components or special nuclear material shall not be retransferred to unauthorized persons or, unless the parties agree, beyond its territory.

2. Neither party has any plans to enrich to twenty percent or greater, reprocess, or alter in form or content material transferred pursuant to this agreement or material used in or produced through the use of any material or facility so transferred. Neither party has any plans to change locations for storage of plutonium, uranium **233** (except as contained in irradiated fuel elements), or high enriched uranium transferred pursuant to this agreement or used in or produced through the use of any material or facility so transferred. In the event that a party would like at some future time to undertake such activities, the parties will promptly hold consultations to agree on a mutually acceptable arrangement. The parties undertake the obligation to consider such activities favorably, and agree to provide pertinent information on the plans during the consultations. Inasmuch as any such activities will be solely for peaceful purposes and will be in accordance with the provisions of this agreement, the parties will consult immediately and will seek agreement within six months on long-term arrangements for such activities. In the spirit of cooperation the parties agree not to act within that period of time. If such an arrangement is not agreed upon within that period of time, the parties will promptly consult for the purpose of agreeing on measures which they consider to be consistent with the provisions of the agreement in order to undertake such activities on an interim basis. The

parties agree to refrain from actions which either party believes would prejudice the long-term arrangements for undertaking such activities or adversely affect cooperation under this agreement. The parties agree that the consultations referred to above will be carried out promptly and mutual agreement reached in a manner to avoid hampering, delay or undue interference in their respective nuclear programs. Neither party will seek to gain commercial advantage. Nothing in this article shall be used by either party to inhibit the legitimate development and exploitation of nuclear energy for peaceful purposes in accordance with this agreement.

3. Material, facilities or components transferred pursuant to this agreement and material used *in* or produced through the use of any material, facility or components so transferred shall not be used for any nuclear explosive device, for research specifically on or development of any nuclear explosive device, or for any military purpose.

Article 6 Physical Security

1. Each party shall maintain adequate physical security with respect to any material, facility or components transferred pursuant to this agreement and with respect to any special nuclear material used in or produced through the use of any material or facility *so* transferred.

2. The parties agree to the levels for the application of physical security set forth in Annex 11, 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, as minimum protection measures, shall be comparable to the recommendations set forth in IAEA document INFCIRC/225/Revision 1 entitled "The Physical Protection of Nuclear Material", or in any revision of that document agreed to by the parties.

3. The parties shall consult at the request of either party regarding the adequacy of physical security measures maintained pursuant to this article.

4. Each party shall identify those agencies or authorities responsible 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 physical security matters of mutual concern.

Article 7
Cessation of Cooperation

1. Each party shall endeavor to avoid taking any actions that affect cooperation under this agreement. If either party at any time following entry into force of this agreement does not comply with the provisions of this agreement, the parties shall promptly hold consultations on the problem, it being understood that the other party shall have the rights to cease further cooperation under this agreement.

2. If either party decides to cease further cooperation under this agreement, the parties shall make appropriate arrangements as may be required.

Article 8
Consultations

1. The parties shall consult at the request of either party regarding the implementation of this agreement, the development of further cooperation in the field of peaceful uses of nuclear energy, and other matters of mutual concern.

2. The parties *recognize* that this cooperation in the peaceful uses of nuclear energy is between two nuclear-weapon states and that bilateral safeguards are not required. In order to exchange experience, strengthen technical cooperation between the parties,

ensure that the provisions of this agreement are effectively carried out, and enhance a stable, reliable, and predictable nuclear cooperation relationship, in connection with transfers of material, facilities and components under this agreement the parties will use diplomatic channels to establish mutually acceptable arrangements for exchanges of information and visits to material, facilities and components subject to this agreement.

3. The parties shall exchange views and information on the establishment and operation of their respective national accounting and control systems for source and special nuclear material subject to this agreement.

Article 9 Environmental Protection

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 or thermal contamination arising from peaceful nuclear cooperation under this agreement and in related matters of health and safety.

Article 10 Entry Into Force and Duration

1. This agreement shall enter into force on the date of mutual notifications of the completion of legal procedures by the parties and shall remain in force for a period of thirty years. This term

may be extended by agreement of the parties in accordance with their respective applicable procedures.

2. Notwithstanding the suspension, termination or expiration of this agreement or any cooperation hereunder for any reason, the provisions of articles 5, 6, 7, and 8 shall continue in effect so long as any material, facility or components subject to these articles remain in the territory of the party concerned or any material, facility or components subject to these articles remain subject to that party's right to exercise jurisdiction or to direct disposition elsewhere.

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

DONE at *Washington* this *23rd* day of *July*, *1985*, *5H*
in English and Chinese, both equally authentic

FOR THE GOVERNMENT OF THE
UNITED STATES OF AMERICA:

John S. Quincy

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

[Signature]

Annex I -- Definition of "Reactor"

"Reactor" means:

1. 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; or
2. any of the following major parts of an apparatus described in paragraph 1:
 - (1) a pressure vessel designed to contain the core;
 - (2) primary coolant pumps;
 - (3) fuel charging or discharging machines;
 - (4) control rods.

A "reactor" does not include the steam turbine generator portion of a nuclear power plant.

Annex 11

pursuant to paragraph 2 of article 6, 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 responsibility.

Category I

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

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

Transportation under special precautions as identified above for transpiration 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.

Agreed Minute

During the negotiation of the Agreement for Cooperation between the United States of America and the People's Republic of China Concerning Peaceful Uses of Nuclear Energy signed today, the following understanding, which shall be an integral part of the agreement, was reached.

The parties agree that the interpretation and implementation of article 5(3) shall not involve any nuclear activities and related research and development carried out by either party, as a nuclear weapon state, through the use of material, facilities, components and technology not subject to the agreement.

TABLE: CATEGORIZATION OF NUCLEAR MATERIAL^c

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

^a All plutonium except that with isotopic concentration exceeding 80% in plutonium-236.

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

^c Less than a radiologically significant quantity should be exempted.

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

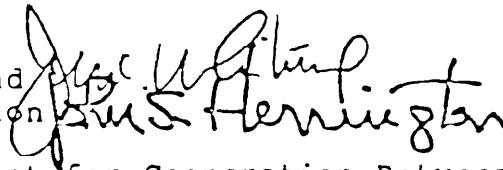
^e Irradiated fuel should be protected as Category I, II or III nuclear material depending on the category of the fresh fuel. However, fuel which by virtue of original fissile material content is included as Category I or II before irradiation should only be reduced one Category level, while the radiation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

^f The State's competent authority should determine if there is a credible threat to disperse plutonium malevolently. 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 in 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.

Deputy Secretary of State
Washington, D.C. 20520
July 20, 1985

MEMORANDUM FOR: THE PRESIDENT

FROM: John C. Whitehead
John S. Herrington



SUBJECT: Proposed Agreement for Cooperation Between the United States and the People's Republic of China Concerning Peaceful Uses of Nuclear Energy

A proposed new agreement for peaceful nuclear cooperation between the United States and the People's Republic of China (PRC), including an accompanying agreed minute which is an integral part of the agreement, is at attachment 3. A summary of the basic provisions of the proposed agreement is at attachment 4.

The agreement was negotiated by the Department of State, with the technical assistance and concurrence of the Department of Energy and in consultation with the Arms Control and Disarmament Agency (ACDA), whose views and recommendations are at attachment 5. The Nuclear Proliferation Assessment Statement concerning the agreement is being submitted to you directly by the Director of ACDA.

The agreement was initialed in Beijing on April 30, 1984. While recent amendments to section 123 of the Atomic Energy Act would permit you to transmit the agreement to Congress for "consultations" before the agreement had been signed, we recommend that you approve the agreement, authorize it for signature, determine that it will promote, and not constitute an unreasonable risk to, the common defense and security and have the agreement signed before it is transmitted to Congress. If you approve our recommendation, the agreement will be signed and then transmitted to Congress for 90 days of continuous session. If you agree with our conclusion that the agreement meets all the applicable requirements of the Atomic Energy Act of 1954, as amended by the Nuclear Non-Proliferation Act of 1978, it may be transmitted to Congress without an exemption of any of those requirements. An agreement without exemptions may be brought into force after 90 days of continuous session unless, during that time, there has been enacted a joint resolution of disapproval (which would require presentation to you for signature or veto).

The Nuclear Non-Proliferation Act of 1978 (NNPA) contains requirements for new or amended agreements for peaceful nuclear cooperation. In our judgment, the proposed agreement meets all the requirements applicable to such agreements with nuclear-weapon states. It is the first peaceful nuclear cooperation agreement with a Communist country and the only such agreement applicable solely to another nuclear-weapon state (the UK and France are covered by U.S. agreements with EURATOM).

China intends to make nuclear power one of its major energy sources by the year 2000. China has announced plans to build, by that year, nuclear power plants with a total capacity of 10,000 MWe. In the first stage of development, the PRC plans to build a Chinese-designed, 300 MWE reactor at Qinshan, Zhejiang (near Shanghai). China also plans on the construction of two much larger reactor projects: the twin 1000 MWE "Sunan" plant, to be built in Southern Jiangsu Province; and the Daya Bay, Guangdong plant, to include twin 900 MWE reactors. China is negotiating with a number of countries for assistance to its program, but it is clear that China regards U.S. nuclear equipment and technology very highly and would like to be able to buy such equipment and technology from the United States.

The purpose of the agreement is to permit such peaceful nuclear cooperation to take place between the United States and the PRC. It has a term of 30 years, subject to extension by the parties in accordance with their respective requirements, and provides for the transfer of facilities (including reactors), components and material (including fuel) for both nuclear research and power purposes. The agreement does not provide for any transfer of sensitive nuclear technology, sensitive nuclear facilities or major critical components.

The agreement contains provisions which satisfy the requirements of section 123 a. of the Atomic Energy Act as they apply to nuclear-weapon states. Paragraph (1) of section 123 (a) requires that safeguards "as set forth in the agreement" will be maintained for the life of items subject to the agreement, irrespective of the duration of the agreement itself. Under the Nuclear Non-Proliferation Treaty and section 127 (1) of the Atomic Energy Act, International Atomic Energy Agency (IAEA) safeguards are only required as a condition for nuclear exports to non-nuclear-weapon states. Therefore, IAEA safeguards are not provided for in the agreement. Article 8 (2), however, provides for arrangements for exchanges of information and visits by U.S. Government officials to material, facilities and components subject to the agreement. Mutually acceptable arrangements on such visits and information exchange will be established prior to the approval of any U.S.

exports under the agreement. This provision, together with article 10 (2), which provides that this provision and others continue for the life of the items to which they apply, meets the requirement of section 123 (a) (1).

Legally required provisions precluding retransfers without U.S. consent and precluding any military or explosive use are contained in article 5 (1) and (3). The required provisions on the physical protection of items subject to the agreement are in article 6. Paragraphs (2) and (4) of section 123 (a) of the Atomic Energy Act, pertaining to IAEA safeguards on all nuclear activities and a right of return of items in certain circumstances, do not by their terms apply to agreements with nuclear-weapon states, and consequently are not reflected in the U.S.-PRC agreement.

Subsections 123 (a) (7) and (8) of the Atomic Energy Act require that the U.S. have prior approval rights with regard to reprocessing, enrichment, alteration in form and content and (for weapons-usable material) storage of material subject to the agreement. These requirements are met in article 5 (2) of the agreement, although the text of this provision is different from the formulations in previous agreements. The effect of the provision is that none of these activities may be undertaken unilaterally; prior approval of the United States is required.

In accordance with section 407 of the Nuclear Non-Proliferation Act, the agreement contains a provision relating to identification of environmental implications and protection of the international environmental aspects of activities under the agreement, and in related matters of health and safety.

The proposed agreement will, in our view, further the non-proliferation and other foreign policy interests of the United States. During the period of our negotiations, China took several important steps which clarify its non-proliferation and nuclear export policies and practices. Chinese Premier Zhao made important statements of China's non-proliferation policy which make clear that China will not contribute to proliferation. The Premier's statements were subsequently endorsed by the National People's Congress, thereby giving them official status. In conjunction with China's membership in the International Atomic Energy Agency effective January 1, 1984, China said that it will require safeguards on its future nuclear export commitments to non-nuclear weapon states and is implementing that policy.

Entry into force of this agreement will provide a framework for a continuation of our discussions on non-proliferation matters with the Chinese. It also will have a significant, positive impact on overall U.S.-China relations, and thus will promote important U.S. foreign policy interests. It will also provide U.S. companies an opportunity to participate in another aspect of China's energy program with possibly substantial economic benefit.

We believe the proposed agreement, including the agreed minute, meets all statutory requirements. It will also serve United States non-proliferation and other foreign policy interests. Therefore, pursuant to section 123 (b) of the Atomic Energy Act, as amended, we recommend that you determine that performance of the agreement will promote, and will not constitute an unreasonable risk to, the common defense and security, approve the agreement, and authorize its execution.

ACDA Director Adelman concurs in this recommendation. His views are at attachment 5.

Recommendation

That you sign the determination, approval and authorization at attachment 1 and the transmittals to the Congress at attachment 2. (The transmittals will be held until the agreement itself is signed.)

Attachments

1. Draft Determination, Approval and Authorization
2. Draft Transmittals to the Congress
3. Proposed Agreement for Cooperation Between the Government of the United States of America and the Government of the People's Republic of China Concerning Peaceful Uses of Nuclear Energy, including Agreed Minute
4. Summary of Basic Provisions
5. Views and Recommendations of Director of the Arms Control and Disarmament Agency

United States - People's Republic of China
Peaceful Nuclear Cooperation Agreement

Summary of Basic Provisions

Article 1 and Annex I contain definitions;

Article 2 sets forth the scope of cooperation in the use of nuclear energy for peaceful purposes. The parties state their intent to cooperate in this area in accordance with the provisions of the agreement. Information, technology, material, facilities and components may be transferred under the agreement directly between the parties **or** through authorized persons, and shall be subject to the terms of the agreement and to such additional terms and conditions as may be agreed by the parties. Material, facilities and components will be regarded as having been transferred pursuant to the agreement only upon confirmation by the recipient party that such item or items are to be subject to the terms of the agreement. Sensitive nuclear technology, sensitive nuclear facilities, and major critical components cannot be transferred under the agreement; their transfer would require additional provisions as an amendment to the agreement. Each party will implement the agreement in accordance with its respective applicable treaties, national laws, regulations and license requirements concerning the use of nuclear energy for peaceful purposes.

Article 3 provides for the transfer of information in a variety of fields involving the peaceful uses of nuclear energy. These fields include research, development and use of reactors and nuclear fuel fabrication technology, the use of material and physical and biological research, medicine, agriculture and industry, nuclear fuel cycle research, including waste management techniques, health, safety, and environmental research and development assessing the role nuclear power may play in international energy plans, and codes, regulations and standards for the nuclear energy industry. The agreement limits transfers of information and technology to that which the parties are permitted to transfer, thus excluding the transfer of restricted data, since special procedures under section 144 of the Atomic Energy Act must be followed to authorize such transfers-- - .

Article 4 provides the basic enabling framework for the transfer of material, facilities and components. Except for small quantities of special nuclear material for use as samples, standards, detectors, targets, radiation sources and such other agreed purposes, the agreement limits authorized

transfers of special nuclear material to low-enriched uranium. Low-enriched uranium may be transferred for use **as** fuel in reactors and reactor experiments, for conversion or fabrication, or for such other purposes as may be agreed by the parties. The quantity of nuclear material transferred shall not at any time be in excess of the quantity necessary for reactors or reactor experiments, and such other purposes as may be agreed by the parties.

Article 5 requires the parties' agreement for the retransfer of any material, facilities, components or special nuclear material transferred pursuant to the agreement and any special nuclear material produced through the use of any such material or facilities.

This article also specifies that neither party has any plans to enrich to 20 percent or greater, reprocess, or alter in form or content material transferred pursuant to the agreement or material used in or produced through the use of any material or facility so transferred. In addition, neither party has any plans to change locations for storage of plutonium, uranium 233 (except as contained in irradiated fuel elements), or high-enriched uranium transferred pursuant to the agreement or used in or produced through the use of any material or facility so transferred. If plans change, the parties will consult immediately and seek agreement within six months on long-term arrangements for such activities. The parties undertake to consider the activities favorably, and agree to provide pertinent information on their plans. Each party agrees not to act during this period. If a long-term arrangement is not agreed, the parties will promptly consult for the purpose of agreeing on an interim arrangement. Both parties agree to refrain from actions which either party believes would prejudice the long-term arrangement or adversely affect cooperation under the agreement. In essence, consequently, none of the activities referred to in this paragraph may be undertaken unilaterally; prior approval of the other party is required;

Finally, article 5 precludes the use of material, facilities or components transferred pursuant to the agreement and material used in or produced through the use of any material, facility or component so transferred for any nuclear explosive device, for research specifically on or development of any nuclear explosive device, or for any military purpose. The agreed minute makes clear that this obligation does not involve any nuclear activities and related research and development carried out by either party, as a nuclear weapon state, through the use of material, facilities, components and technology not subject to the agreement.

Article 6 requires that each party maintain adequate physical security measures, in accordance with the levels of protection set forth in Annex II, with respect to any material, facility or components transferred pursuant to the agreement **and with** respect to any special nuclear material used in or produced through the use of any material **or** facility so transferred. The measures applied shall, as a minimum, be comparable to the recommendations set forth in IAEA document INFCIRC/225/Rev.1, "The Physical Protection of Nuclear Material," or in any revision of that document agreed to by the parties. The Annex describes physical security levels applicable with respect to the use, storage, and transport of nuclear materials classified as categories I (requiring the most stringent levels of protection), II, and III. The parties agree to consult at the request of either party regarding the adequacy of physical security measures, and agree to identify those agencies and authorities responsible 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 materials subject to the article.

Article 7 accords each party the right to cease cooperation if the other party does not comply with the provisions of the agreement. Each party undertakes to endeavor to avoid taking actions that would affect cooperation under the agreement.

Article 8 provides that parties shall consult at the request of either party regarding the implementation of the agreement, the development of further peaceful nuclear cooperation, and other matters of mutual concern. It is recognized that since the parties are both nuclear-weapon states, bilateral safeguards are not required. However, in order to exchange experience, strengthen technical cooperation between the parties, ensure that the provisions of the agreement are effectively carried out, and enhance a stable, reliable and predictable nuclear cooperation relationship, in connection with transfers under the agreement the parties will use diplomatic channels "to establish mutually acceptable arrangements for exchanges of information and visits to material, facilities and components subject to the agreement. The parties also agree to exchange views and information on the establishment and operation of their respective national accounting and control systems for source and special nuclear material subject to the agreement.

Article 9 provides that the parties shall consult to identify the international environmental implications arising from activities under the agreement, and shall cooperate in protecting the international environment from radioactive,

chemical or thermal contamination arising from such activities and in related matters of health and safety.

Article 10 establishes a thirty-year term for the agreement which may be extended by agreement of the parties in accordance with their respective applicable procedures. In the event of suspension? termination or expiration of the agreement or of cooperation thereunder for any reason, articles 5, 6, 7, and 8 shall continue in effect so long as any material, facility or components subject to these articles remains in the territory of the party concerned or any material, facility or components subject to these articles remain subject to that party's right to exercise jurisdiction or direct disposition elsewhere.

UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY
WASHINGTON

July 19, 1985

TO : THE DIRECTOR

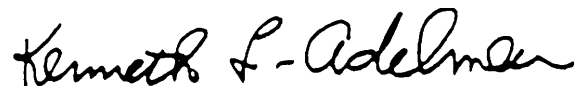
MEMORANDUM FOR THE PRESIDENT

SUBJECT : Nuclear Proliferation Assessment Statement for
the Peaceful Nuclear Cooperation Agreement
Between the United States and China

Pursuant to Section 123a. of the Atomic Energy Act of 1954, as amended, I am submitting to you an unclassified Nuclear Proliferation Assessment Statement on the agreement for cooperation between the United States and China. This statement addresses the background (Part I), the statutory requirements (Part II), and the non-proliferation policy issues (Part III) as they relate to the agreement.

China has recently taken major and welcome steps in adopting policies that advance non-proliferation objectives. The prospect of peaceful nuclear cooperation with the United States and others played an important role in encouraging China to adopt these policies. China understands that US cooperation under the agreement is contingent upon China's implementation of these policies in a manner fully consistent with those basic non-proliferate on practices and standards that were discussed and clarified during the negotiations with China.

I have concluded that the agreement meets all statutory requirements, and I have reached a favorable assessment of the adequacy of the provisions in the agreement to ensure that any assistance furnished under it will not be used to further any military or nuclear explosive purpose. The agreement substantially benefits US non-proliferate on objectives, and it will provide a good opportunity for continuing consultations with China on non-proliferation issues. In light of all the above, I recommend that it be approved.



Kenneth L. Adelman

Attachment:

Nuclear Proliferation Assessment Statement.

NUCLEAR PROLIFERATION ASSESSMENT STATEMENT

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Pursuant to Section 123 a. of the
Atomic Energy Act of 1954, as Amended,
With Respect to the proposed Agreement for Cooperation
Between the United States of America
and the People's Republic of China
Concerning Peaceful Uses of Nuclear Energy

This Nuclear Proliferation Assessment Statement relates to the proposed Agreement for Cooperation between the United States of America and the People's Republic of China Concerning Peaceful Uses of Nuclear Energy. This agreement for cooperation (which, together with its accompanying Agreed Minute, is hereinafter called the "proposed Agreement") is concurrently being submitted to the President for his authorization for execution.

Section 123 a. of the Atomic Energy Act of 1954, as amended ("Atomic Energy Act"), provides that a Nuclear Proliferation Assessment Statement shall address the "adequacy of safeguards and other control mechanisms and the peaceful use assurances contained in the agreement for cooperation to ensure that any assistance furnished thereunder will not be used to further any military or nuclear explosive purpose." This assessment statement addresses the background on the nuclear program and policies of China (Part I); the nature and scope of cooperation contemplated in the proposed Agreement (Part II A), and how the applicable substantive requirements of the Nuclear Non-Proliferation Act (NNPA) and the Atomic Energy Act are met by the proposed Agreement (Part II B); other non-proliferation policy issues pertinent to this agreement (Part III); and the assessment, conclusions, views and recommendations of the United States Arms Control and Disarmament Agency (Part V). Part II B. responds to the requirements for a Proliferation Assessment Statement in Section 123a. of the Atomic Energy Act, as amended by both the Nuclear Non-proliferation Act of **1978** and, more recently, by the Export Administration Amendments Act of 1985.

I. BACKGROUND

A. China's Civil Nuclear Program

China has recently begun to develop a civilian nuclear energy program and has ambitious plans for the installation of substantial nuclear electric power capacity by the year 2000. China hopes to double total energy output and efficiency of energy use by that time. The construction of nuclear power plants in energy-poor areas would help China reach those goals.

China sees its nuclear power program as a necessary part of its development and modernization efforts. China is faced with severe electric power shortages. This has not only limited the amount of electricity available for household consumption, but it has also adversely affected industrial production. Future industrial and economic growth will require increased electric power.

China has relied primarily on coal-generated electricity, especially in the northern and central portions of the country which possess rich fossil fuel deposits. In 1984, China's coal production increased 8% over 1983 to 772 million metric tons. However, the growing demands for coal from a spreading industrial base have begun to tax the transportation sector's infrastructure, particularly the railroads. As a result, coal-generated energy has become increasingly costly.

Petroleum usage as a percentage of total energy production has fallen. The output of petroleum has remained flat since 1978 and now accounts for 21% of the national energy supply, down from 24% in 1978. China has continued to export crude oil and some petroleum products in order to acquire badly needed foreign currency. It is estimated that oil and petroleum products constitute some 25% of current export earnings. Growing internal demands for oil may force China to reconsider its oil export policy.

Hydroelectric power also provides energy in China. However, the large dams required to expand China's present hydroelectric power supplies are regarded as costly to construct and often result in the loss of valuable agricultural land.

Because of these perceived energy requirements and conditions, the nuclear power alternative has gained acceptance in China. The Chinese leadership will consider the cost and benefits of foreign technological assistance necessary to

build modern nuclear power plants and the longstanding traditions of Chinese self-reliance. Thus, China's nuclear power program most likely will be a two-track effort: some foreign plant's will eventually be constructed, and an indigenous effort at reactor construction and fuel fabrication will be advanced.

It is estimated that China possesses sufficient uranium deposits to maintain a modest civil nuclear program. Specific and detailed information on uranium deposits is presently unavailable, largely because China has yet to explore fully the regions where uranium is likely to be found.

China's technological base for peaceful nuclear activities is primarily an outgrowth of its cooperation with the Soviet Union in the 1950's. During that time, hundreds of Chinese engineers and technicians were trained at Soviet universities and research facilities. The Soviets also provided the research reactor for the Beijing Institute of Atomic Energy (BIAE) .

Three main centers of nuclear power research are located in Beijing, Shanghai, and Sichuan. Beijing has two nuclear research facilities -- BIAE and one at Qinghua University. BIAE has a heavy water research reactor furnished by the Soviet Union in 1958 and is focused largely on the development of heavy water reactor technology. The Nuclear Energy Institute of Qinghua University is the primary facility for training nuclear engineers in China.

The primary research facility near Shanghai is the Shanghai Nuclear Physics Institute (SNPI). It cooperates closely with the 728 Reactor Research and Design Institute described below. Both groups are working on the design of a light water nuclear power reactor similar to those used in the United States. The 728 Institute maintains a small research reactor to study control rod design, power distribution, and hydraulics.

The Southwest Reactor Engineering Research and Design Center (SWERC) is located in Chengdu, Sichuan Province. Like the facilities near Shanghai, SWERC is involved in research on nuclear power reactors. In addition, a large research and test reactor is operated at Ziajiang. In February 1981, China announced that the reactor had gone into high power operation; it is used to produce radioactive isotopes for oil exploration and medical uses.

China has announced plans to build at least ten nuclear power plants with a total generating capacity of 10,000 megawatts by the year 2000. PRC officials have stated that many

Of these projects will import foreign equipment and engineering services.

Chinese officials at various levels have announced plans for reactors in at least a dozen locations, from Hainan Island in the south to the Liaoning Peninsula in the north. However, it appears that only three projects are likely to be started in the near future:

Qinshan, Zhejiang ("728 Project"). This 300-megawatt, "Chinese-designed" power plant has been advertised as the prototype for China's indigenous nuclear industry. Two major reactor components -- the pressure vessel and the cooling pumps -- are to be supplied by Japan and West Germany, respectively. The Chinese press reported that construction began January 25, 1985, with the laying of the plant's cornerstone. The press account reported that all roads, water, and electricity lines for the plant were completed by the end of 1984, ahead of schedule.

Daya Bay, Guangdong. A joint venture company was formed January 18, 1985, for the purpose of constructing this power plant with twin 900 MW pressurized water reactors. Named the "Guangdong Nuclear Power Joint Venture Company", the company is owned 75% by the Guangdong Nuclear Power Investment Company (a PRC corporation) and 25% by the Hong Kong Nuclear Investment Company (a wholly-owned subsidiary of Hong Kong Power and Light). Years of negotiations have not yet resulted in any final contracts between the Chinese and the likely suppliers of equipment and services for the Daya Bay project.

Sunan ("Southern Jiangsu" or "East China"), Jiangyin County, Jiangsu. The Chinese press has announced the establishment of the "Dongnan Nuclear Power Development Company", responsible for constructing this plant on the southern bank of the Yangtze River, north of Shanghai. It will hold twin 1000 MW pressurized water reactors. Earlier this year, requests for quotation for construction of the Sunan Project were issued to France and West Germany. In the absence of an agreement for cooperation, US companies were not invited to bid.

The Chinese have had commercial consultations on the supply of nuclear power-related equipment with France, the United Kingdom, Canada, Sweden, the Federal Republic of Germany (FRG), Italy, Belgium, and **Japan**. Belgium, the FRG, and the UK have agreements for peaceful nuclear cooperation with China. China has also concluded such agreements with Argentina and Brazil that could lead to reciprocal supply arrangements.

The proposed Agreement is the culmination of over four years of U.S.-China talks. Six rounds of intensive negotiations

were held, both in Washington and Beijing, prior to initialling of the proposed Agreement on April 30, 1984, by Ambassador Kennedy and Commissioner Jia during President Reagan's visit to China.

Prior to seeking formal presidential approval, it became necessary to engage in further discussions with China for the purpose of clarifying matters related to implementation of China's nuclear policies. These discussions took place through diplomatic channels and during visits of senior US officials to Beijing. The discussions concluded successfully on June 27, 1985. With a resolution of these additional questions, it was then appropriate to proceed with obtaining Presidential authority to sign the proposed Agreement.

B. Non-Proliferation Policy

China's non-proliferation policy and statements have evolved since the end of the Cultural Revolution. With the rise of the post-Mao leadership of Deng Xiaoping, China has moved toward more responsible and active participation on disarmament issues in general, and most recently on non-proliferation in particular.

During the 1960's and 1970's, China's declaratory posture argued that the spread of nuclear weapons to additional countries would diminish the power of the United States and the Soviet Union, and rejected the view that an increase in the number of nuclear-weapon states would enhance the risk of nuclear war. Chinese declarations even postulated that the introduction of nuclear weapons to nations in the Third World could increase the opportunity of revolution. During the negotiations of the Nuclear Non-Proliferation Treaty, and subsequently, China has criticized the Treaty as discriminatory. But at the same time, China's actions were more restrained than its declaratory policy.

In the early 1980's, the possibility of Chinese involvement in international nuclear commerce became a reality. This development presented a serious problem. China had assumed no international legal obligation nor had it adopted a policy to require International Atomic Energy Agency (IAEA) safeguards or other controls on its nuclear exports. Also, its broader posture on non-proliferation continued to raise concerns about whether China would avoid actions that could help another country acquire nuclear explosives.

Recently, China has taken a series of positive non-proliferation steps, moving to accept those basic non-proliferation practices and norms common to all suppliers. During the January 1984 visit to Washington of Premier Zhao, he stated that China does not "engage in nuclear proliferation

ourselves , nor do we help other countries to develop nuclear weapons."

On May 15, 1984, in an address to the Sixth National People's Congress, Zhao repeated that China does not "engage in such proliferation by helping other countries to develop nuclear weapons." This statement to the People's Congress and its subsequent endorsement by the Congress is the Chinese Government's highest vehicle for the pronouncement of public policy.

China's position on nuclear non-proliferation was most recently stated publicly by Vice Premier Li Peng in January 1985. According to an interview published in Beijing, he said China has no intention, now or in the future, to help non-nuclear nations develop nuclear weapons. He also said that China's present and future nuclear cooperation with other countries would be confined exclusively to peaceful purposes.

Discussions have been held with the Chinese, since the proposed Agreement was initialed last year, in order to clarify implementation of certain aspects of its non-proliferation policy. These discussions made clear that the two governments have a common understanding of the essential steps needed to implement these policies, consistent with their mutual commitment to non-proliferation . Thus, we can expect that China's policy of not assisting non-nuclear-weapon states to acquire nuclear explosives will be implemented in a manner consistent with the basic non-proliferate on practices common to the United States and other suppliers.

These discussions also provided the Chinese with a more complete description of US policies and laws that form the basis for peaceful nuclear cooperation with a country like China. Finally, these consultations also permitted discussion of China's intentions regarding IAEA safeguards on its civil nuclear program.

On January 1, 1984, China joined the IAEA. Chinese officials said during the course of negotiations on the proposed Agreement and in the ensuing discussions that, as a member of the IAEA, China would require IAEA safeguards on its nuclear exports to non-nuclear-weapon states. This policy was formally implemented in late 1984 when the China-Brazil civil nuclear cooperation agreement incorporated a reciprocal IAEA safeguards requirement for items transferred under the agreement.

II. COMPLIANCE WITH STATUTORY REQUIREMENTS

As shown below, the proposed Agreement meets all applicable requirements of the NNPA and the Atomic Energy Act, as amended.

Section 123 a. of the Atomic Energy Act, as amended by Section 401 of the NNPA, requires new or amended agreements for cooperation to include the terms, conditions, duration, nature and scope of the cooperation.

The nature and scope of the cooperation authorized by the proposed Agreement is described in Section A below.

The duration of the proposed Agreement is 30 years from its entry into force. Notwithstanding the suspension, termination or expiration of the proposed Agreement for any reason, certain specified articles will (as discussed below) continue in effect as long as any material, equipment or components subject to those articles remain subject to the People's Republic of China's right to exercise jurisdiction or to direct disposition elsewhere.

The most pertinent terms and conditions of the cooperation are discussed in Sections B, C, F, and G of this Part below.

A. Nature and Scope of Cooperation

(1) Permitted Cooperation

Article 2 sets forth in general terms the scope of the cooperation envisaged, and paragraph 3 thereof sets forth a procedure with respect to such cooperation as follows:

Material, facilities and components will be regarded as having been transferred pursuant to this agreement only upon receipt of confirmation by the supplier party, from the appropriate Government authority of the recipient party, that such material, facilities or components will be subject to this agreement and that the proposed recipient of such material, facilities or components, if other than the recipient party, is an authorized person.

Nuclear material and equipment which under US law may be exported only under an agreement for cooperation are so designated in the licensing process, and confirmation that such items will be subject to the relevant agreement takes place during that time. The purpose of the above-quoted provision is to ensure that such nuclear exports are subject to the

proposed Agreement and in addition to provide a procedure for bringing under the proposed Agreement other nuclear exports which the parties agree should be so transferred pursuant to the proposed Agreement.

Article 4 sets forth in more specific terms the scope of cooperation covered by the proposed Agreement. Article 4(1) states that the only special nuclear material to be transferred will be low enriched uranium ("LEU") (i.e., uranium enriched to less than 20% in the isotope 235) except as provided in subparagraph 4 of Article 4.

Article 4(4) authorizes the transfer of small amounts of special nuclear material for use as samples, standards, detectors, targets and other purposes as the parties may agree.

(2) Types of Cooperation Not Authorized

The proposed Agreement excludes the transfer of sensitive facilities and technologies. Article 2(4) provides that sensitive nuclear technology, sensitive nuclear facilities or major critical components "will require additional provisions as an amendment to this agreement." This constitutes a preclusion of such transfers under this proposed Agreement. The law does not require such a prohibition; but if such cooperation is authorized, the law requires that certain criteria be met in the agreement. If such transfers were to be contemplated at any time in the future, additional control mechanisms would need to be obtained either in an amendment to the proposed Agreement or in a new agreement. The term "sensitive nuclear technology" is defined at Article 1(17), "sensitive nuclear facilities" at Article 1(14) and "major critical components" at Article 1(16).

B. Specific Requirements for a New Agreement for Cooperation

Section 123 a. of the Atomic Energy Act provides that a new agreement for cooperation shall include nine specific requirements. These are quoted below, together with an explanation of how they are satisfied by the proposed Agreement.

(1) Safeguards and their Durability

Subparagraph (1) of Section 123 a. requires:

"a guaranty by the cooperating party that safeguards as set forth in the agreement for cooperation will be maintained with respect to all nuclear materials and equipment transferred pursuant thereto, and with

respect to all special nuclear material used in or produced through the use of such nuclear materials and equipment, so long as the material or equipment remains under the jurisdiction or control of the cooperating party, irrespective of the duration of other provisions in the agreement or whether the agreement is terminated or suspended for any reason."

(2) Scope of Safeguards

Subparagraph (2) of Section 123 a. provides:

"in the case of non-nuclear-weapon states, a requirement, as a condition of continued United States nuclear supply under the agreement for cooperation, that IAEA safeguards be maintained with respect to all nuclear materials in all peaceful nuclear activities within the territory of such state, under its jurisdiction, or carried out under its control anywhere;"

Since China is a nuclear weapon state, the requirement for IAEA safeguards set forth in subparagraph 2 of Section 123 a. is not applicable.

Subparagraph (1) mandates that whatever safeguards are set forth in the agreement for cooperation shall apply to the items specified in that subparagraph as long as those items remain under the jurisdiction or control of the cooperating party. paragraph 2 of Article 10 (2) of the proposed Agreement states:

2. Notwithstanding the suspension, termination or expiration of this agreement or any cooperation hereunder for any reason, the provisions of article 5, 6, 7, and 8 shall continue in effect so long as any material, facility or components subject to these articles remain in the territory of the party concerned or any material, facility or components subject to these articles remain subject to that party's right to exercise jurisdiction or to direct disposition elsewhere.

Article 5 deals with retransfers, reprocessing, enrichment, alteration and no use for military purposes. This article is examined in detail in the analysis of subparagraphs 3, 5, 7, and 8 of 123 a. Article 6 deals with physical security and is examined under the analysis of subparagraph 6 of 123 a.

Article 7 states in pertinent part:

If either party at any time following entry into force of this agreement does not comply with the

provisions of this agreement, the parties shall promptly hold consultations on the problem, It being understood that the other Party shall have the right to cease further cooperation under this agreement.

Finally., Article 8 states:

1. The parties shall consult at the request of either party regarding the implementation of this agreement, the development of further cooperation in the field of peaceful uses of nuclear energy, and other matters of mutual concern.

2. The parties recognize that this cooperation in the peaceful use of nuclear energy is between two nuclear-weapon states and that bilateral safeguards are not required. In order to exchange experience, strengthen technical cooperation between the parties, ensure that the provisions of this agreement are effectively carried out, and enhance a stable, reliable, and predictable nuclear cooperation relationship, in connection with transfers of material, facilities and components under the agreement the parties will use diplomatic channels to establish mutually acceptable arrangements for exchanges of information and visits to material, facilities and components subject to the agreement.

3. The parties shall exchange views and information on the establishment and operation of their respective national accounting and control systems for source and special nuclear material subject to this agreement.

Thus, Article 10 of the proposed agreement would apply U.S. rights regarding retransfer, storage, reprocessing, enrichment, alteration, physical security, exchanges of information and visits and the Chinese guaranty against military or explosive use irrespective of the duration of other provisions in the agreement or "whether the agreement is terminated or suspended for any reason.

The right set forth in Article 8 for the United States to conduct visits to material, facilities and components subject to the proposed Agreement is an important means of assuring that the provisions of the proposed Agreement are carried out, in particular, the Chinese guaranty against military or explosive use. Indeed, Article 8 specifically states that one of the purposes of visits is to ensure that the provisions of the proposed Agreement are effectively carried out. Moreover, Article 8 states that visits shall be arranged "in connection with transfers" of items under the proposed Agreement. Mutually acceptable arrangements on visits will be established before exports under the proposed Agreement are approved. Also valuable for the

purpose of assuring that the provisions of the proposed Agreement are carried out are those provisions calling for frequent consultations and for exchanges of information on national accounting and control systems. The requirements of subparagraph 1 of Section 123 a. are satisfied by the proposed Agreement.

(3) No Military or Explosive Use

Subparagraph (3) of Section 123 a . requires:

"a guaranty by the cooperating party that no nuclear materials and equipment or sensitive nuclear technology to be transferred pursuant to such agreement, and no special nuclear material produced through the use of any nuclear materials and equipment or sensitive nuclear technology transferred pursuant to such agreement, will be used for any nuclear explosive device, or for research on or development of any nuclear explosive device, or for any other military purpose;"

Article 5 meets this requirement wherein China guarantees that:

"Material, facilities or components transferred pursuant to this agreement and material used in or produced through the use of any material, facilities or components so transferred shall not be used for any nuclear explosive device, for research specifically on or development of any nuclear explosive device, or for any military purpose."

There is no reference to sensitive nuclear technology because, as noted above, Article 2(4) of the proposed Agreement provides that an amendment is required before sensitive nuclear technology could be transferred under the proposed Agreement.

During the negotiations, China sought assurance that the agreement did not affect its right, as a nuclear weapon state, to conduct nuclear explosive activities using materials, facilities, components, and technology that are not subject to the proposed Agreement. The Agreed Minute provided such assurance as follows:

Both parties agree that the interpretation and implementation of article 5(3) shall not involve any nuclear activities and related research and development carried out by either party, as a nuclear weapon state, through the use of material, facilities, components and technology not subject to the agreement.

(4) Right of Return

Subparagraph (4) of Section 123 a. requires:

"except in the case of those agreements for cooperation . . . with nuclear weapon states, a stipulation that the United States shall have the right to require the return of any nuclear materials and equipment transferred pursuant thereto and any special nuclear material produced through the use thereof if the cooperating party detonates a nuclear explosive device or terminates or abrogates an agreement providing for IAEA safeguards;"

Since China is a nuclear weapon state, the requirement for a right of return as set forth in subparagraph (4) of Section 123 a. is not applicable. Article 7, however, makes clear that the United States has the right to cease further cooperation if China does not comply with the provisions of the Agreement.

(5) Retransfer

Subparagraph (5) of Section 123 a. requires:

"a guaranty by the cooperating party that any material or any Restricted Data transferred pursuant to the agreement for cooperation and....any production or utilization facility transferred pursuant to the agreement for cooperation or any special nuclear material produced through the use of any such facility or through the use of any material transferred pursuant to the agreement, will not be transferred to unauthorized persons or beyond the jurisdiction or control of the cooperating party without the consent of the United States;"

Section 109 of the Atomic Energy Act requires that recipient nations also agree to obtain U.S. approval before retransferring any components, items and substances exported from the United States which the Nuclear Regulatory Commission ("NRC") has found to be "significant for nuclear explosive purposes." The NRC has identified a series of such components, items and substances in regulations contained in 10 CFR Part 110 which are subject to this retransfer requirement.

Article 5(1) of the proposed Agreement satisfies both retransfer criteria of the Atomic Energy Act by providing that material, facilities, or components or special nuclear material transferred pursuant to the proposed Agreement and special nuclear material produced through the use of such material or facilities, "shall not be retransferred to unauthorized persons or, unless the parties agree, beyond its territory."

(6) physical Security

Subparagraph **(6) of section 123 a. requires:**

"a guaranty by the cooperating party that adequate physical security will be maintained with respect to any nuclear material transferred pursuant to such agreement and with respect to any special nuclear material used in or produced through the use of any material, production facility, or utilization facility transferred pursuant to such agreement;"

Article 6(1) of the proposed Agreement meets this requirement by providing a guaranty by China 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 transferred to and under its jurisdiction pursuant to this agreement."

With respect to the meaning of "adequate," Section 127(3) of the Atomic Energy Act, as added to the law by Section 305 of the NNPA, provides that physical security measures shall be deemed adequate if they provide a level of protection equivalent to that required by regulations promulgated by the NRC establishing levels of physical security (see NNPA Section 304(d) and 10 CFR 110.43).

The balance of Article 6 and Annex II to the proposed Agreement contain implementing provisions, such as a description of the levels of physical security contemplated and measures to be taken. These provisions are consistent with the Guidelines for Nuclear Transfers published by the IAEA in February 1978 and the above-mentioned NRC regulations.

Article 6(3) permits the United States to consult with China concerning the adequacy of physical security measures in China, and, in accordance with Article **6(4)**, the Chinese authorities responsible for physical security will be made known to the United States. These provisions will facilitate cooperation between the United States and China on physical security matters of mutual interest, and will also enhance U.S. ability to be assured as to the level of physical protection being maintained.

(7) Reprocessing, Enrichment or other Alteration

Subparagraph (7) of Section 123 a. requires:

"a guaranty by the cooperating party that no material transferred pursuant to the agreement for cooperation and no material used in or produced through the use of any material, production facility, or utilization facility transferred pursuant to the agreement for cooperation will be reprocessed, enriched or (in the case of plutonium? uranium **233**, or uranium enriched to greater than twenty percent in the isotope **235**, or other nuclear materials which have been irradiated) otherwise altered in form or content without the prior approval of the United States;"

This criterion contains several restrictions. First, U.S. approval must be obtained prior to any reprocessing of material supplied under a new or amended agreement or of any material produced from such material or produced or used in a production or utilization facility so supplied (e.g., a reactor). Second, such approval must be obtained for enrichment, after export, of any uranium supplied under a new or an amended agreement. Third, such approval must be obtained for any alteration of weapons useable material or irradiated nuclear material which has either been supplied under a new or an amended agreement or produced from such material or used in any such equipment so supplied.

Paragraph 2 of Article 5 of the proposed Agreement states:

Neither party has any plans to enrich to twenty percent or greater, reprocess, or alter in form or content material transferred pursuant to this agreement or material or facility so transferred. Neither party has any plans to change locations for storage of plutonium, uranium 233 (except as contained in irradiated fuel elements), or highly enriched uranium transferred pursuant to this agreement or used in or produced through the use of any material or facility so transferred. In the event that a party would like at some future time to undertake such activities, the parties will promptly hold consultations to agree on a mutually acceptable arrangement. The parties undertake the obligation to consider such activities favorably, and agree to provide pertinent information on the plans during the consultations. Inasmuch as any such activities will be solely for peaceful purposes and will be in accordance with the provisions of this agreement, the parties will consult immediately and will seek agreement within

six months on long-term arrangements for such activities. In the spirit of cooperation the parties agree not to act within that period of time. If such an arrangement is not agreed upon within that period of time, the parties will promptly consult for the purpose of agreeing on measures which they consider to be consistent with the provisions of this agreement in order to undertake such activities on an interim basis. The parties agree to refrain from actions which either party believes would prejudice the long-term arrangements for undertaking such activities or adversely affect cooperation under this agreement. The parties agree that the consultations referred to above will be carried out promptly and mutual agreement reached in a manner to avoid hampering, delay or undue interference in their respective nuclear programs. Neither party will seek to gain commercial advantage. Nothing in this article shall be used by either party to inhibit the legitimate development and exploitation of nuclear energy for peaceful purposes in accordance with this agreement.

The first sentence in Article 5(2) states neither party intends to engage in any of the activities specified in Section 123 a. (7). Should China in the future desire to undertake reprocessing, enrichment or other alteration, consultations will be held to establish long-term arrangements for such activities and the United States has agreed to "consider such activities favorably. " No reprocessing, enrichment or alteration will be conducted during the period that such consultations are underway. If no long-term arrangements are agreed within six months of the initiation of consultations, the parties will consult on measures that would allow such activities on an interim basis. China agrees to refrain from any reprocessing, enrichment or alteration if the United States believes such activities "would prejudice the long-term arrangements for undertaking such activities or adversely affect cooperation" under the proposed Agreement. Although set forth in two stages, the text of Article 5(2) clearly precludes, for the first phase, any reprocessing, enrichment or alteration while seeking to establish long-term arrangements for such activities. During the second phase when the United States and China are seeking to make interim arrangements, the Chinese cannot undertake reprocessing, enrichment or alteration if the United States objects on grounds that such activity "would prejudice the long-term arrangements or adversely affect cooperation." Thus China cannot unilaterally proceed with reprocessing enrichment or alteration in the face of U.S. objection. Article 5(2) accordingly satisfies the criterion of subsection 7 of Section 123 a.

(8) Storage

Subparagraph (8) of Section 123 a. requires:

The proposed Agreement authorizes retransfer of only small quantities of plutonium, uranium **233** or uranium enriched to greater than 20 percent in the isotope **235**.

Article 4(1) provides:

"Any special nuclear material to be transferred under this agreement shall be low enriched uranium except as provided in paragraph 4 of this article."

Article 4(4) states:

4. Small quantities of special nuclear material may be transferred for use as samples, standards, detectors, targets, radiation sources and for such other purposes as the parties may agree.

Special nuclear material is defined in subparagraph (7) of Article 1 as follows:

"(i) plutonium, uranium 233, or Uranium enriched in the isotope 235, or (ii) any other material so designated by agreement of the parties."

The proposed Agreement addresses any change in storage location for such small quantities of uranium 233, uranium enriched greater than 20 percent in the isotope 235 or plutonium in the same manner as it addresses reprocessing, enrichment, or other **alteration**. **(All these subjects are dealt with in paragraph 2 of Article 5 of the proposed Agreement which is set forth on page 11-8 of this Assessment Statement.)** As with reprocessing, enrichment or other alteration, China has agreed not to undertake any change in storage location while the Parties are seeking to establish long-term arrangements for such storage. During the second phase while the Parties are seeking interim arrangements, the Chinese cannot change

the location for storage of the specified materials if the United States objects. Thus, U.S. approval for any change in storage locations for these materials is guaranteed.

The proposed Agreement contains a phrase excluding plutonium or uranium 233 in irradiated fuel elements from the approval requirements for changes in storage locations. This follows the approach set forth in other agreements for cooperation that the United States has entered into with other countries. This exclusion is consistent with the storage criterion in the Atomic Energy Act because it is designed to cover material directly useable in nuclear explosives. (Senate Report 95-467, pp. 22, 52-53.)

The proposed Agreement does not deal with initial storage locations, only changes in storage locations after the listed materials have been received. Normal practice with respect to the exports of the small quantities of the material specified in section 123(a)(7) includes specifying the storage location for such materials. Thus, at all times, storage locations will be approved by the United States.

(9) Sensitive Nuclear Technology

Subparagraph (9) of Section 123 a. requires:

"a guaranty by the cooperating party that' any special nuclear material, production facility, or utilization facility produced or constructed under the jurisdiction of the cooperating party by or through "the use of any sensitive nuclear technology transferred pursuant to such agreement for cooperation will be subject to all the requirements specified in this subsection."

Article 2(4) of the proposed Agreement provides that an amendment shall be required for any transfer of sensitive nuclear technology? sensitive nuclear facilities, or major critical components. Since the guaranty required by this criterion relates only to material or facilities produced or constructed through the use of sensitive nuclear technology transferred under the proposed Agreement, it is inapplicable to the proposed Agreement unless and until it is amended to provide for the transfer of such technology.

C. NNPA Section 402 -- Additional Requirements

Section 402(a) contains additional enrichment controls quoted and discussed below.

"Except as specifically provided in any agreement for cooperation, no source or special nuclear material hereafter exported

from the United States may be enriched after export without the prior approval of the United States for **such enrichment;**"

Article 5(2) of the proposed Agreement, which deals with this restriction, is discussed above. By limiting the need to obtain U.S. consent to enrichment of twenty percent or greater in the isotope 235, the United States is approving enrichment up to twenty percent of material subject to the proposed Agreement.

Section 402(a) further requires that:

"[N]o source or special nuclear material shall be exported for the purpose of enrichment or reactor fueling to any nation or group of nations which has, after the date of enactment of this Act, entered into a new or amended agreement for cooperation with the United States, except pursuant to such agreement."

As applied to the present case, this provision means that after entry into force of the proposed Agreement, no U.S. source or special nuclear material can be exported to China for enrichment or reactor fueling except pursuant to the proposed Agreement. This will foreclose transfers of source material for such purposes outside an agreement for cooperation, which would otherwise be possible under Section 64 of the Atomic Energy Act.

section 402(b) of the NNPA provides that:

"In addition to other requirements of law, no major critical component of any uranium enrichment, nuclear fuel reprocessing, or heavy water production facility shall be exported under any agreement for cooperation ...unless such agreement for cooperation specifically designates such components as items to be exported pursuant to the agreement for cooperation."

Article 2(4) of the proposed Agreement provides that there may be no transfer under the proposed Agreement of a "sensitive nuclear facility" -- defined in Article **2(14)** to include uranium enrichment, reprocessing, and heavy water production facilities as well as facilities for the fabrication of nuclear fuel containing plutonium -- or "major critical components" as defined in Article 2(16), unless the proposed Agreement is amended.

D. NNPA Section 307 -- Conduct Resulting in Termination of Nuclear Exports

Section 307 added Section 129 to the Atomic Energy Act, which prohibits nuclear exports to nations which engage in certain proscribed activities. The activities in Section 129 are those which are directly related to weapons acquisition or which could have a weapons-related motivation. Based on available information, it is believed that a finding under Section 129 that would preclude nuclear exports to China under the proposed Agreement is not warranted.

E. NNPA Section 309 -- Components, Items and Substances

Section 309 of the NNPA amended Section 109 of the Atomic Energy Act to authorize the NRC to determine that certain component parts, items and substances, because of their significance for nuclear explosive purposes, should be subject to its licensing authority. For such licenses, the NRC must find that the following criteria or their equivalent are met:

"(1) IAEA safeguards as required by Article III(2) of the [NPT] will be applied with respect to such component, substance, or item; (2) no such component, substance, or item will be used for any nuclear explosive device or for research on or development of any nuclear explosive device; and (3) no such component, substance or item will be retransferred to the jurisdiction of any other nation or group of nations unless the prior consent of the United States is obtained for such retransfer."

The NRC promulgated regulations on May 19, 1978 (10 CFR Part 110) which identified certain reactor components and two substances -- heavy water and nuclear graphite (moderator materials) -- the export of which would be subject to these criteria. In the case of China, the first criterion is met because Article III(2) of the NPT only requires IAEA safeguards on exports to non-nuclear weapon states. The second criterion (no explosive use) is met by the language in Article 5(3). The third criterion (retransfer) can be met by having components and moderator material identified as being exported under the proposed Agreement, in which case Article 5(1) would apply. (The Atomic Energy Act does not require that such exports be transferred under an agreement for cooperation; however, they may be so transferred.)

111. OTHER NON-PROLIFERATION ISSUES

Any decision by the United States to engage in nuclear cooperation with another nation can raise a number of non-proliferation policy issues in addition to questions about the legal rights, guarantees, and safeguards contained in the applicable agreement for cooperation. These issues will vary from case to case. They could involve, for example, the scope of the cooperation envisaged under such an agreement, the precedential implications of particular provisions of such an agreement, the degree to which extending nuclear cooperation may foster other non-proliferation interests, or the general role of the state concerned in non-proliferation efforts. This part of the assessment statement addresses those policy issues which relate to the proposed Agreement.

A. China's Non-Proliferation Policy

The central policy issue concerns the relationship of the proposed Agreement to China's non-proliferation policy. As outlined in Part I, over the recent past China has come to accept the most critical norms and practices at the heart of efforts to prevent the spread of nuclear explosives to additional countries. China joined the IAEA, stated that it would require safeguards on its exports to non-nuclear weapon states, and committed itself not to help other countries acquire nuclear explosives. Those positive and welcome steps went hand-in-hand with China's interest and activities in obtaining foreign assistance for its civil nuclear program.

During the talks, the US made clear that a shared understanding on non-proliferation was essential to provide a framework for assistance to China's peaceful nuclear program. Discussions with other countries, including the United States, on nuclear cooperation also provided an opportunity for substantial exchanges on non-proliferation issues, practices, and norms. These exchanges elevated the political importance of this issue, and created a better understanding by the PRC of the significance of certain non-proliferation principles and practices.

As a nuclear-weapon state, China has demonstrated that it has the technological and scientific ability to build a nuclear bomb and the capability of producing weapons-usable fissile material. Until recently, it had announced no policies against assisting another state to acquire nuclear explosives. China is not a party to the Nuclear Non-Proliferation Treaty which contains obligations not to assist non-nuclear-weapon states in the manufacture or acquisition of nuclear explosives.

Thus, the potential for great harm to global non-proliferation efforts and barriers has been present.

Since January 1984 China made a series of statements stressing that its policy is not to assist other to acquire nuclear weapons.*

Discussions with China that have taken place since the initialing of the proposed Agreement have contributed significantly to a shared understanding with China on what it means not to assist other countries to acquire nuclear explosives, and in facilitating China's steps to put all these new policies into place.

Thus, ACDA believes that the statements of policy by senior Chinese officials, as clarified by these discussions, represent a clear commitment not to assist a non-nuclear-weapon state in the acquisition of nuclear explosives. On the basis of the discussions with the PRC, the United States can expect that China's policy of not assisting a non-nuclear-weapon state to acquire nuclear explosives will be implemented in a manner consistent with those basic non-proliferation practices common to the United States and other major suppliers.

This commitment applies to all future Chinese assistance. Moreover, the Chinese are fully 'aware of the importance of their non-proliferation policies to future US-China nuclear relations. They know that should we find out about any action inconsistent with these basic non-proliferate on measures, including requiring IAEA safeguards on nuclear exports, we would not go forward with exports until the matter were resolved satisfactorily.

In joining the IAEA, China will be able to participate in implementing the basic principles of that Agency which include efforts to prevent the spread of nuclear explosives. China's presence in that international forum also will bring it into contact with other countries that support a strong non-proliferation and safeguards regime.

Because US-China peaceful nuclear cooperation must rest on shared principles of non-proliferation , it will be important for the United States to consult regularly with China on non-proliferation issues . We will also pay close attention to China's actions in this area. The United States has made

*See pages 4-5 of part 1.

clear to China that US-Chinese nuclear cooperation rests on strict adherence to these principles and common basic practices.

The proposed Agreement will provide a basis for further consultations between the United States and China on non-proliferation. These consultations can strengthen the mutual commitment to shared non-proliferation principles and establish a framework for cooperation in this area. Over time, such consultations may lead to further improvements in China's non-proliferation policies.

The United States has been cautious in cooperating with countries that are not parties to the Nuclear Non-Proliferation Treaty, given the importance of the Treaty in promoting non-proliferation. No such cooperation should be concluded in the absence of significant non-proliferation benefits. ACDA believes that the proposed Agreement meets this test.

In summary, as a country outside the non-proliferation regime, China posed a serious potential risk to international non-proliferation efforts. China has now declared its opposition to proliferation and taken concrete steps toward global non-proliferation norms and practices. Along with the discussions with other countries, the prospect of the proposed Agreement played an important role in bringing about this evolving attitude on the part of China.

B. "Consultations and Visits"

As noted in Part II, the proposed Agreement meets all of the requirements of US law, including a pledge that material and equipment subject to the agreement will not be used for nuclear explosives or any military purpose. The provisions of the proposed Agreement which relate to the ability of the United States to verify this assurance are unique and recognize that China is a nuclear-weapon state.

The United States is not obligated, either by domestic law or by the nuclear export provisions of the Nuclear Non-Proliferation Treaty, to condition nuclear exports to nuclear-weapon states on the acceptance of IAEA safeguards. Even so, the United States did seek Chinese acceptance of IAEA safeguards on US supply under the agreement, but the Chinese adamantly refused -- as they have to date with other nuclear-weapon states. (The Chinese reportedly did agree to IAEA safeguards on any "sensitive" assistance they receive from the UK. The US-China agreement does not permit cooperation in those areas defined as "sensitive nuclear technology" under US law, nor in other "sensitive" areas such as exports of significant quantities of highly enriched uranium or plutonium.)

Acceptance of IAEA safeguards by nuclear-weapon states can serve to minimize discrimination against non-nuclear weapon states, and thus can help to sustain broad political support for international non-proliferation institutions such as the IAEA safeguards system. For that reason, the United States, United Kingdom, France, and the Soviet Union have all voluntarily permitted the IAEA to apply its safeguards on at least some of their respective civil nuclear facilities. As noted above, it appears China has agreed in principle to accept IAEA safeguards on imports from certain non-nuclear-weapon states. As a practical matter, however, there are no such safeguards yet applied in China.

Article 8 of the agreement provides for "mutually acceptable arrangements for exchanges of information and visits" in connection with transfers under the agreement. These arrangements will be established through diplomatic channels prior to the licensing by the United States of nuclear exports under the agreement, and will include provision for exchanges of information and visits by US personnel to relevant sites in China where US material or equipment subject to the agreement is located. The United States and China will also exchange views and information on their respective national accounting and control systems for nuclear material subject to the agreement.

The scope of cooperation permitted by the proposed Agreement also is important when considering provisions related to verification. Cooperation under the agreement is limited to reactors, their major components, and low enriched uranium fuel. As noted previously, it does not authorize the export of more than gram quantities of plutonium and highly enriched uranium, nor does it authorize the export of sensitive facilities capable of producing such material. A separate agreement -- including Congressional review -- would be necessary to authorize the transfer of such items. Moreover, as described below, mutually agreed arrangements for reprocessing are provided in the agreement.

As a nuclear-weapon state, China has nuclear facilities dedicated to the production of fissile material for nuclear weapons. Any effort by China to divert material from a civil facility for military purposes would result in the termination of any US assistance to China's civil nuclear program, and in all probability that of other foreign suppliers as well. Both factors reduce any incentive for China to divert material or equipment from its civil program.

Given these circumstances, ACDA believes that the provisions of the proposed Agreement are adequate to provide confidence against the misuse of any items subject to the proposed Agreement. ACDA has considerable experience in

designing systems aimed at deterring the diversion of any nuclear material from peaceful to military uses, and expects to participate actively with other relevant agencies in establishing the mutually acceptable arrangements in connection with proposed exports under the agreement.

C. Consent Rights ,

As noted in Part II, ACDA believes that the relevant provision in the proposed Agreement (Article 5, paragraph 2) satisfies the statutory requirement of US consent rights over certain fuel cycle activities, including reprocessing. The Chinese have stated that they have no plan to undertake reprocessing of spent fuel from power reactors for at least fifteen years. In fact, there is no existing facility in China capable of reprocessing such fuel.

Should China desire to undertake any of these activities, the United States and China will attempt to reach agreement within six months on long-term **arrangements** to govern the conditions for such activity. These long-term arrangements could take many forms.

In particular, ACDA believes that in connection with any future discussions on long-term arrangements and the possible exercise of the United States consent rights over reprocessing, it will be important to ensure that the procedures called for under Article 8 are adequate to help verify that any separated plutonium is being used consistent with the provisions of the agreement. Any procedures for information exchange and visits previously agreed for the transfer of reactors and low enriched uranium fuel may not be sufficient for separated plutonium. However, the provisions of the proposed Agreement are fully adequate to ensure that such arrangements are agreed before any reprocessing takes place. ACDA fully supports the outcome on consent rights; it solved the last **major** obstacle in the negotiations prior to the April 1984 initialing, and preserved the significant non-proliferation benefits of the proposed Agreement.

D. Summary

The proposed Agreement is unique in comparison to other agreements for cooperation concluded since the Nuclear Non-Proliferation Act. It is the first such agreement with a nuclear weapon state since the **passage** of that Act. Further, China had only recently accepted the basic norms and practices of non-proliferation. An appreciation of this context is essential in making a balanced judgment on the non-proliferation benefits of the proposed Agreement.

China's desire to obtain foreign assistance for its civil nuclear program provided an opportunity for substantial discussions with the United States and other suppliers on the major features of the non-proliferation regime. Moreover, the prospect of assistance was a major incentive for considerable evolution of China's position on non-proliferation.

China has joined the IAEA, and stated that it will require IAEA safeguards on its nuclear exports. China has committed itself not to assist other countries to acquire nuclear explosives. And the United States can expect that China's policy of not assisting a non-nuclear-weapon state to acquire nuclear explosives will be implemented in a manner consistent with those basic non-proliferation practices common to the United States and other major suppliers. The Chinese are also fully aware that their continued support for and effective implementation of these basic practices is a sine qua non for US nuclear cooperation under the proposed Agreement.

Entry into force of the proposed Agreement would contribute importantly to the ability of the United States to continue working with China in non-proliferation. The agreement not only recognizes the evolution in China's non-proliferation policies, **but also** provides a framework for continued exchanges in this area.

IV. CONCLUSIONS

On the basis of the analysis in this assessment statement and all pertinent information of which he is aware, the Director of the United States Arms Control and Disarmament Agency has:

° concluded that the proposed Agreement meets all of the substantive requirements in the Atomic Energy Act and the NNPA applicable for new or amended agreements for cooperation.

° reached a favorable net assessment of the adequacy of the provisions of the proposed Agreement to ensure that any assistance furnished thereunder will not be used to further any military or nuclear explosive purpose.

° concluded that execution of the proposed Agreement would advance the non-proliferation program, policy, and objectives of the United States; and

° joined in the recommendation of the Secretary of State and the Secretary of Energy that the president determine that the performance of the proposed Agreement will promote, and will not constitute an unreasonable risk to, the common defense and security, and that the president approve and authorize the execution of the proposed Agreement.