

TEXT OF A PROPOSED AGREEMENT BETWEEN THE  
GOVERNMENT OF THE UNITED STATES OF AMER-  
ICA AND THE PEOPLE'S REPUBLIC OF CHINA CON-  
CERNING PEACEFUL USES OF NUCLEAR ENERGY

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MESSAGE

FROM

**THE PRESIDENT OF THE UNITED STATES**

TRANSMITTING

THE TEXT OF A PROPOSED AGREEMENT FOR COOPERATION BE-  
TWEEN THE GOVERNMENT OF THE UNITED STATES OF AMER-  
ICA AND THE GOVERNMENT OF THE PEOPLE'S REPUBLIC OF  
CHINA CONCERNING PEACEFUL USES OF NUCLEAR ENERGY,  
PURSUANT TO SUBSECTIONS 123 b. AND 123 d. OF THE ATOMIC  
ENERGY ACT OF 1954, AS AMENDED (42 U.S.C. 2153(b), (d))



APRIL 22, 2015.—Message and accompanying papers referred to the  
Committee on Foreign Affairs and ordered to be printed

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U.S. GOVERNMENT PUBLISHING OFFICE



*To the Congress of the United States:*

I am pleased to transmit to the Congress, pursuant to subsections 123 b. and 123 d. of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2153(b), (d)) (the “Act”), the text of a 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 (the “Agreement”). I am also pleased to transmit my written approval, authorization, and determination concerning the Agreement, and an unclassified Nuclear Proliferation Assessment Statement (NPAS) concerning the Agreement. (In accordance with section 123 of the Act, as amended by Title XII of the Foreign Affairs Reform and Restructuring Act of 1998 (Public Law 105–277), two classified annexes to the NPAS, prepared by the Secretary of State, in consultation with the Director of National Intelligence, summarizing relevant classified information, will be submitted to the Congress separately.) The joint memorandum submitted to me by the Secretaries of State and Energy and a letter from the Chairman of the Nuclear Regulatory Commission stating the views of the Commission are also enclosed. An addendum to the NPAS containing a comprehensive analysis of China’s export control system with respect to nuclear-related matters, including interactions with other countries of proliferation concern and the actual or suspected nuclear, dual-use, or missile-related transfers to such countries, pursuant to section 102A(w) of the National Security Act of 1947 (50 U.S.C. 3024(w)), is being submitted separately by the Director of National Intelligence.

The proposed Agreement has been negotiated in accordance with the Act and other applicable law. In my judgment, it meets all applicable statutory requirements and will advance the nonproliferation and other foreign policy interests of the United States.

The proposed Agreement provides a comprehensive framework for peaceful nuclear cooperation with China based on a mutual commitment to nuclear nonproliferation. It would permit the transfer of material, equipment (including reactors), components, information, and technology for nuclear research and nuclear power production. It does not permit transfers of any Restricted Data. Transfers of sensitive nuclear technology, sensitive nuclear facilities, and major critical components of such facilities may only occur if the Agreement is amended to cover such transfers. In the event of termination, key nonproliferation conditions and controls continue with respect to material, equipment, and components subject to the Agreement.

The proposed Agreement would obligate the United States and China to work together to enhance their efforts to familiarize commercial entities in their respective countries about the requirements of the Agreement as well as national export controls and policies applicable to exports and imports subject to the Agreement.

It would have a term of 30 years from the date of its entry into force. Either party may terminate the proposed Agreement on at least 1 year's written notice to the other party.

Since the 1980s, China has become a party to several non-proliferation treaties and conventions and worked to bring its domestic export control authorities in line with international standards. China joined the Treaty on the Non-Proliferation of Nuclear Weapons in 1992 as a nuclear weapon state, brought into force an Additional Protocol to its International Atomic Energy Agency safeguards agreement in 2002, and joined the Nuclear Suppliers Group in 2004. China is a party to the Convention on the Physical Protection of Nuclear Material, which establishes international standards of physical protection for use, storage, and transport of nuclear material, and has ratified the 2005 Amendment to the Convention. A more detailed discussion of China's civil nuclear program and its nuclear nonproliferation policies and practices, including its nuclear export policies and practices, is provided in the NPAS and in two classified annexes to the NPAS submitted to you separately. As noted above, the Director of National Intelligence will provide an addendum to the NPAS containing a comprehensive analysis of the export control system of China with respect to nuclear-related matters.

I have considered the views and recommendations of the interested departments and agencies in reviewing the proposed Agreement and have determined that its performance will promote, and will not constitute an unreasonable risk to, the common defense and security. Accordingly, I have approved the proposed Agreement and authorized its execution and urge that the Congress give it favorable consideration.

This transmission shall constitute a submittal for purposes of both sections 123 b. and 123 d. of the Act. My Administration is prepared to begin immediately the consultations with the Senate Foreign Relations Committee and the House Foreign Affairs Committee as provided in section 123 b. Upon completion of the 30 days of continuous session review provided for in section 123 b., the 60 days of continuous session review provided for in section 123 d. shall commence.

BARACK OBAMA.

THE WHITE HOUSE, *April 21, 2015.*

**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 (hereinafter referred to as the "Parties"),

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 between two nuclear weapon states;

Noting the 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, signed at Washington on July 23, 1985 (the "1985 Agreement");

Recognizing that the expansion and enhancement of cooperation between the United States of America and the People's Republic of China on an equal footing will help strengthen international stability as well as promote political and economic progress;

Taking into account that both the United States of America and the People's Republic of China have achieved an advanced level in the use of nuclear energy for production of electric power and in the development of nuclear industry and scientific research in this field, guided by the common goals of achieving a higher level of safety and protection of populations and the environment;

Noting the Agreement between the Department of Energy of the United States of America and the State Development Planning Commission of the People's Republic of China on Cooperation Concerning Peaceful Uses of Nuclear Technologies, signed at Beijing on June 29, 1998 (the "PUNT Agreement");

Noting the exchange of diplomatic notes between the Parties on September 12, 2003, regarding their understanding concerning assurances for transfers of nuclear technology (the “2003 Exchange”);

Noting the Memorandum of Understanding between the Government of the United States of America and the Government of the People’s Republic of China Concerning Cooperation in the Area of Advanced Pressurized Water Reactor Nuclear Power Projects in China and Related Technology Transfer, signed at Beijing on December 16, 2006;

Noting the United States–China Bilateral Civil Nuclear Energy Cooperative Action Plan, signed at Vienna on September 18, 2007;

Noting the Implementing Arrangement between the Government of the United States of America and the Government of the People’s Republic of China under the 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, signed at Washington November 22, 2013, and at Beijing December 9, 2013 (the “Implementing Arrangement”);

Recognizing the importance of international cooperation in promoting the peaceful uses of nuclear energy, and noting that the Parties intend to cooperate jointly or independently, as appropriate, in the development of safe and secure civilian nuclear energy programs that are subject to International Atomic Energy Agency (IAEA) safeguards;

Mindful of their respective rights and obligations under the Treaty on the Non-Proliferation of Nuclear Weapons of July 1, 1968 (“NPT”), to which both the United States of America and the People’s Republic of China are State Parties;

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

Affirming their support for the IAEA and its safeguards system, including the Additional Protocol;

Affirming their support for the objectives and Statute of the IAEA and their commitment to the Guidelines of the Nuclear Suppliers Group;

Desiring to cooperate in the development, use, and control of the peaceful uses of nuclear energy on a stable, predictable, and reliable basis;

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

Affirming in particular the goal of pursuing the safe, secure, and environmentally sustainable development of civil nuclear energy for peaceful purposes and in a manner that supports nuclear nonproliferation and international safeguards; and

Noting a mutual interest in scientific research and development in the field of controlled thermonuclear fusion, including multilateral cooperation;

Have agreed as follows:

#### ARTICLE 1 — DEFINITIONS

For the purposes of this Agreement and the Agreed Minute, the terms below shall have the following meanings:

- (1) “Agreed Minute” means the minute annexed to this Agreement, which is an integral part hereof;
- (2) “Competent authorities” means government departments designated respectively by the Parties to implement this Agreement. For the Government of the People’s Republic of China, the competent authorities are China National Energy Administration and China Atomic Energy Authority; for the Government of the United States of America, the competent authorities are the U.S. Department of State, the U.S. Department of Energy, and the U.S. Nuclear Regulatory Commission. Each Party may change its competent authorities or add one or more additional competent authorities by written notice to the other Party;

- (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) "Reactor" means any apparatus, other than a nuclear weapon or other nuclear explosive device, in which a self-sustaining fission chain reaction is maintained by utilizing uranium, plutonium, or thorium or any combination thereof, or any other apparatus so designated by agreement of the Parties;
- (5) "Equipment" means any reactor as a complete unit (other than one designed or used primarily for the formation of plutonium or uranium 233), pressure vessels, calandrias, complete reactor control rod systems, primary coolant pumps, on-line refueling mechanisms, or any other item so designated by agreement of the Parties;
- (6) "Component" means a component part of equipment or other item so designated by agreement of the Parties;
- (7) "Source material" means uranium containing the mixture of isotopes occurring in nature; uranium depleted in the isotope 235; thorium; any of the foregoing in the form of metal, alloy, chemical compound, or concentrate; any other material containing one or more of the foregoing in such concentration as the Board of Governors of the IAEA shall from time to time determine; and such other material as the Board of Governors of the IAEA shall from time to time determine or as may be agreed by the appropriate competent authorities of both Parties. Any determination by the Board of Governors of the IAEA under Article XX of the IAEA's Statute or otherwise that amends the list of materials considered to be "source material" shall only have effect under this Agreement when both Parties to this Agreement have informed each other in writing that they accept such an amendment;
- (8) "Special fissionable material" means plutonium, uranium 233, uranium enriched in the isotopes 233 or 235, any material containing one or more of the foregoing, and such other material as the Board of Governors of the IAEA shall from time to time determine or as may be agreed by the appropriate competent authorities of both Parties, but the term "special fissionable material" does not include source material. Any determination by the Board of Governors of the IAEA under Article XX of the IAEA's Statute or otherwise that amends the list of materials considered to be "special fissionable material" shall only have effect under this Agreement when both



Parties to this Agreement have informed each other in writing that they accept such an amendment;

(9) "Nuclear material" means source material and special fissionable material;

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

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

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

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

(14) "Material" means nuclear material, moderator material, byproduct material, radioisotopes other than byproduct material, or any other such substance so designated by agreement of the Parties;

(15) "Conversion" means any of the normal operations in the nuclear fuel cycle, preceding fuel fabrication and excluding enrichment, by which uranium is transformed from one chemical form to another -- for example, from UF<sub>6</sub> to UO<sub>2</sub> or from uranium oxide to metal;

(16) "Decommissioning" means the actions taken at the end of a facility's useful life to retire the facility from service in a manner that provides adequate protection for the health and safety of the decommissioning workers and the general public and for the environment. These actions can range from closing down the facility and a minimal removal of nuclear material coupled with continuing maintenance and surveillance to a complete removal of residual radioactivity in excess of levels acceptable for unrestricted use of the facility and its site;

- (17) "Technology" means specific information related to the design, development, production, operation, maintenance, shutdown, or decommissioning of a reactor, equipment, or component;
- (18) "Information" means scientific, commercial, or technical data or information in any form that is appropriately designated by agreement of the Parties or their competent authorities to be provided or exchanged under this Agreement;
- (19) "Sensitive nuclear facility" means any facility designed or used primarily for uranium enrichment, reprocessing of nuclear fuel, heavy water production, or fabrication of nuclear fuel containing plutonium;
- (20) "Major critical component" means any part or group of parts essential to the operation of a sensitive nuclear facility;
- (21) "Sensitive Nuclear Technology" means any information (including information incorporated in equipment or an important component) that is not in the public domain and that is important to the design, construction, fabrication, operation, or maintenance of any sensitive nuclear facility, or any other such information that may be so designated by agreement of the Parties;
- (22) "Restricted Data" means all data concerning (i) design, manufacture, or utilization of nuclear weapons, (ii) the production of special fissionable material, or (iii) the use of special fissionable material in the production of energy, but shall not include data of a Party that it has declassified or removed from the category of Restricted Data;
- (23) "Peaceful purposes" include the use of information, technology, material, equipment, and components, in such fields as research, power generation, medicine, agriculture, and industry, but do not include use in, research on, or development of any nuclear explosive device, or any military purpose.

## ARTICLE 2 - SCOPE OF COOPERATION

1. The Parties shall cooperate in the uses of nuclear energy for peaceful purposes in accordance with the provisions of this Agreement and their applicable treaties, national laws, regulations, and license requirements.
2. The areas, contents, details, and conditions of cooperation under this Agreement may be determined by the agreement in writing of the appropriate competent authorities of the Parties after negotiation, to the extent consistent with the terms and conditions of this Agreement.
3. Transfer of material, equipment, components, technology, and information under this Agreement may be undertaken directly between the Parties or through authorized Persons. Such transfers shall be subject to this Agreement and to such additional terms and conditions as may be agreed by the Parties.

#### ARTICLE 3 - TRANSFER OF TECHNOLOGY AND INFORMATION

1. Technology and information concerning the use of nuclear energy for peaceful purposes may be transferred pursuant to this Agreement. Transfers of technology and information may be accomplished through various means, including reports, data banks, computer programs, conferences, visits, and assignments of staff to facilities. Fields that may be covered may include, but shall not be limited to, the following:
  - (a) Development, design, construction, operation, maintenance, and use of reactors, reactor experiments, and decommissioning;
  - (b) The use of material in physical and biological research, medicine, agriculture, and industry;
  - (c) Fuel cycle studies of ways to meet future world-wide civil nuclear needs, including multilateral approaches to guaranteeing nuclear fuel supply and appropriate techniques for management of nuclear wastes;
  - (d) Development of advanced fuels and materials, such as structural, component, absorber, circuit, and clad materials;
  - (e) Development of advanced fuel cycle and fuel fabrication technologies;

- (f) Advancing state-of-the-art technology with respect to nuclear reactor and nuclear fuel safety using computer simulation and modeling;
- (g) Safeguards and physical protection of nuclear material, equipment, and components;
- (h) Health, safety, and environmental considerations related to the foregoing; and
- (i) Assessing the role nuclear power may play in national energy plans.

2. This Agreement does not require the transfer of any technology or information that the Parties are not permitted to transfer under their respective treaties, national laws, or regulations.

3. Transfers of technology and information under this Agreement shall be carried out in accordance with the Principle-Based Approach to Nuclear Technology Transfer Assurances attached to the 2003 Exchange, as adjusted with respect to certain technology and information in the "Technology and Information Exchanges" section of the Agreed Minute to this Agreement.

4. Restricted Data shall not be transferred under this Agreement. Sensitive Nuclear Technology may be transferred under this Agreement if provided for by an amendment to this Agreement.

#### ARTICLE 4 - TRANSFER OF MATERIAL, EQUIPMENT, AND COMPONENTS

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

2. Low enriched uranium may be transferred, including, *inter alia*, by sale or lease, 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 fissionable material transferred under this Agreement shall be the quantity that 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, or the accomplishment of such other purposes as may be agreed by the Parties.

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

5. Sensitive nuclear facilities and major critical components may be transferred under this Agreement if provided for by an amendment to this Agreement.

#### ARTICLE 5 - STORAGE AND RETRANSFERS

1. Plutonium and uranium 233 (except as contained in irradiated fuel elements) and high enriched uranium transferred pursuant to this Agreement or used in or produced through the use of material or equipment so transferred shall only be stored in facilities to which the Parties agree.

2. Material, equipment, components, technology, and information transferred pursuant to this Agreement and any special fissionable material produced through the use of any such material, equipment, technology or information shall not be transferred to unauthorized Persons or, unless the Parties agree, beyond the recipient Party's territorial jurisdiction.

3. In order to facilitate spent fuel, nuclear material, or nuclear-related waste management, material transferred or produced through the use of equipment or components transferred pursuant to this Agreement may be transferred to the United States of America if the Government of the United States of America agrees and designates a storage or disposition option. In the event of transfer to the United States of America, the Parties shall make appropriate implementing arrangements.

#### ARTICLE 6 — REPROCESSING, OTHER ALTERATION IN FORM OR CONTENT, AND ENRICHMENT

1. Nuclear material transferred pursuant to this Agreement and nuclear material used in or produced through the use of material or equipment so transferred shall not be reprocessed or otherwise altered in form or content (except by irradiation or further irradiation), unless the Parties agree.
2. The Parties grant each other consent to reprocess or otherwise alter in form or content nuclear material transferred pursuant to this Agreement and nuclear material used in or produced through the use of material or equipment so transferred. To bring these rights into effect, the Parties shall agree on arrangements and procedures under which such reprocessing or other alteration in form or content will take place. The Parties agree that reprocessing or other alteration in form or content of nuclear material subject to this Agreement shall take place only at facilities to which IAEA safeguards are applied. If no such safeguarded facilities exist, or if the appropriate competent authorities of the Parties agree in writing that existing safeguarded facilities do not have sufficient capacity to conduct reprocessing or alteration in form or content of nuclear material subject to this Agreement in a timely manner or are otherwise not suitable for reprocessing or alteration in form or content of such nuclear material, then reprocessing or alteration in form or content, as the case may be, of nuclear material subject to this Agreement may take place at facilities that have been made eligible for IAEA safeguards pursuant to the safeguards agreement with the IAEA referred to in paragraph 1 of Article 9 of this Agreement. These arrangements and procedures shall include provisions with respect to physical protection standards set out in Article 7, storage standards set out in Article 5, and environmental standards set out in Article 11 of this Agreement, and such other provisions as may be agreed by the Parties. Any nuclear material separated through reprocessing or other alteration in form or content to which the Parties have agreed in this Article may only be utilized at facilities to which the appropriate competent authorities of the Parties agree in writing.
3. The Parties are committed to the management of separated safeguarded plutonium in ways that are consistent with their respective national decisions on the civil nuclear fuel cycle. In managing their separated safeguarded plutonium, the Parties shall take into account the need to avoid contributing to the risks of nuclear proliferation; the need to protect the environment, workers and the public; the potential of the nuclear material for further energy generation; and the importance of balancing

supply and demand, including demand for reasonable working stocks for civil nuclear operations.

4. The Parties agree that conversion, enrichment to less than twenty percent in the isotope uranium 235, fabrication of low enriched uranium fuel, post-irradiation examination, blending or downblending of uranium to produce low enriched uranium, and separation of radioisotopes from irradiated targets are permissible alterations in form or content for purposes of this Agreement.

#### ARTICLE 7 - PHYSICAL PROTECTION

1. Adequate physical protection shall be maintained with respect to any nuclear material and equipment transferred pursuant to this Agreement and any special fissionable material used in or produced through the use of material or equipment so transferred.

2. To comply with the requirement in paragraph 1, each Party shall apply at a minimum measures in accordance with (i) levels of physical protection at least equivalent to the recommendations published in IAEA document INFCIRC/225/Rev.5 entitled "The Physical Protection of Nuclear Material and Nuclear Facilities" and in any subsequent revisions of that document agreed to by the Parties, and (ii) the provisions of the Convention on the Physical Protection of Nuclear Material adopted October 26, 1979, and any amendments to the Convention that enter into force for both 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. The Parties shall keep each other informed through diplomatic channels of those agencies or authorities having responsibility for ensuring that levels of physical protection for nuclear material in their territory or under their jurisdiction or control are adequately met and having responsibility for coordinating response and recovery operations in the event of unauthorized use or handling of nuclear material subject to this Article. The Parties shall inform each other through diplomatic channels, as well, of the designated points of contact within their respective competent authorities to cooperate on matters of out-of-country transportation and other matters of mutual concern.

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

#### ARTICLE 8 - NO EXPLOSIVE OR MILITARY APPLICATION

1. Material, equipment, components, technology, and information transferred pursuant to this Agreement and material used in or produced through the use of any material, equipment, components, technology, or information so transferred shall not be used for any nuclear explosive device, for research on or development of any nuclear explosive device, or for any military purpose.
2. Military purposes shall not include provision of power for a military base drawn from any power network, production of radioisotopes to be used for medical purposes in a military hospital, and other similar purposes as may be agreed by the Parties.

#### ARTICLE 9 - SAFEGUARDS

1. Nuclear material transferred to the People's Republic of China pursuant to this Agreement and any nuclear material used in or produced through the use of material, equipment, components, technology, or information so transferred shall be subject to the Agreement between the People's Republic of China and the International Atomic Energy Agency for the Application of Safeguards in China (IAEA INFCIRC/369), signed on September 20, 1988, (the "China-IAEA Safeguards Agreement"), which entered into force on September 18, 1989, and the Additional Protocol thereto, which entered into force on March 28, 2002.
2. Nuclear material transferred to the United States of America pursuant to this Agreement and any nuclear material used in or produced through the use of material, equipment, components, technology, or information so transferred shall be subject to the Agreement between the United States of America and the International Atomic Energy Agency for the Application of Safeguards in the United States of America (IAEA INFCIRC/288), signed



on November 18, 1977, (the "U.S.-IAEA Safeguards Agreement") which entered into force on December 9, 1980, and the Additional Protocol thereto, which entered into force on January 6, 2009.

3. In the event that the China-IAEA Safeguards Agreement referred to in paragraph 1 of this Article or the U.S.-IAEA Safeguards Agreement referred to in paragraph 2 of this Article is not being implemented, the Parties shall consult and establish a mutually acceptable alternative to that agreement consistent with their status as nuclear weapon State Parties to the NPT.

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

#### ARTICLE 10 - MULTIPLE SUPPLIER CONTROLS

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

#### ARTICLE 11 – CONSULTATIONS AND ENVIRONMENTAL PROTECTION

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

2. The Parties shall consult, with regard to activities under this Agreement, to identify the international environmental implications arising from such activities and shall cooperate in protecting the international environment from radioactive, chemical, or thermal contamination arising

from peaceful nuclear activities under this Agreement and in related matters of health and safety.

#### ARTICLE 12 - SETTLEMENT OF DISPUTES

Any dispute concerning the interpretation or implementation of the provisions of this Agreement shall be promptly negotiated by the Parties with a view to resolving that dispute. If either Party does not comply with the provisions of this Agreement, the Parties shall promptly hold consultations on the problem. In such cases, it is understood that the other Party shall have the right to temporarily suspend or to cease further cooperation under this Agreement.

#### ARTICLE 13 - ADMINISTRATIVE ARRANGEMENT

1. Upon request by either Party, the appropriate competent authorities of the Parties shall (i) establish an Administrative Arrangement by mutual consent in order to provide for the effective implementation of the provisions of this Agreement, and (ii) provide a report annually on the status of all inventories subject to this Agreement.
2. The principles of proportionality, fungibility, and equivalence shall apply to nuclear material and moderator material subject to this Agreement. Detailed provisions for applying these principles shall be set forth in the Administrative Arrangement.
3. The Administrative Arrangement established pursuant to this Article may be amended in writing by the appropriate competent authorities of the Parties.

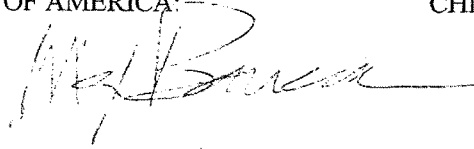
#### ARTICLE 14 - ENTRY INTO FORCE AND DURATION

1. This Agreement shall enter into force on the date of the last written note, in an exchange of diplomatic notes between the Parties, indicating completion of their internal procedures necessary for its entry into force.

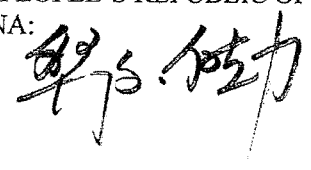
2. This Agreement shall remain in force for a period of 30 years unless terminated by either Party on at least one year's written notice to the other Party.
3. The 1985 Agreement, including paragraph 2 of Article 10 thereof, shall terminate on the date this Agreement enters into force.
4. Cooperation under the 1985 Agreement shall continue in accordance with the provisions of this Agreement. All the provisions of this Agreement shall apply to material, equipment, components, information and technology which were subject to the 1985 Agreement immediately prior to its termination.
5. Notwithstanding Article IX.1 of the Implementing Arrangement, the Implementing Arrangement shall not terminate upon the termination or expiration of the 1985 Agreement, and cooperation under the Implementing Arrangement shall continue under and be governed by, *mutatis mutandis*, the provisions of this Agreement.
6. Notwithstanding Article I.2 of the PUNT Agreement, cooperation under the PUNT Agreement shall continue under and be governed by, *mutatis mutandis*, the provisions of this Agreement.
7. Notwithstanding the termination or expiration of this Agreement or any cessation of cooperation hereunder for any reason, Articles 5, 6, 7, 8, and 9 and the Agreed Minute shall continue in effect so long as any material, equipment, or components subject to these Articles remains in the territory of the Party concerned or under its jurisdiction or control anywhere, or until such time as the Parties agree that such items are no longer usable for any nuclear activity relevant from the point of view of international safeguards or have become practicably irrecoverable, or in the case of equipment or components, are no longer usable for nuclear purposes.
8. Either Party may propose an amendment by means of written notice through diplomatic channels to the other Party. Amendments to this Agreement shall enter into force according to the procedure stipulated in paragraph 1 of this Article.

DONE at Beijing, this 13th day of April, 2015, in duplicate, in the Chinese and English languages, both texts being equally authentic.

FOR THE GOVERNMENT OF  
THE UNITED STATES OF  
OF AMERICA:



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



## AGREED MINUTE

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

**Coverage of Agreement**

Material, equipment, components, technology, and information transferred from the territory of one Party to the territory of the other Party, whether directly or through a third country, shall be regarded as having been transferred pursuant to the Agreement only upon confirmation, by the appropriate competent authority of the recipient Party to the appropriate competent authority of the supplier Party, that such material, equipment, components, technology, or information shall be subject to the Agreement.

With respect to the definition of "Restricted Data" in paragraph 22 of Article 1 of the Agreement, it is the understanding of the Parties that all information on the use of special fissionable material in the production of energy from standard civilian reactors has been declassified or removed from the category of "Restricted Data".

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

**Safeguards**

If either Party becomes aware of circumstances referred to in paragraph 3 of Article 9 of the Agreement, either Party shall have the rights listed below, which rights shall be suspended if both Parties agree that the need to

exercise such rights is being satisfied by the application of IAEA safeguards under arrangements pursuant to paragraph 3 of Article 9 of the Agreement:

- (1) To review in a timely fashion the design of any equipment transferred pursuant to the Agreement or produced through the use of any technology or information transferred pursuant to the Agreement, or of any facility that is to use, fabricate, process, or store any nuclear material so transferred or any nuclear material used in or produced through the use of such material or equipment;
- (2) To require the maintenance and production of records and of relevant reports for the purpose of assisting in ensuring accountability for nuclear material transferred pursuant to the Agreement and any nuclear material used in or produced through the use of any material or equipment so transferred; and
- (3) To designate personnel acceptable to the other Party (hereinafter “the safeguarded Party”), who shall have access to places and data necessary to account for the nuclear material referred to in paragraph (2), to inspect any equipment or facility referred to in paragraph (1), and to install essential devices and make such independent measurements as may be deemed necessary to account for such nuclear material. The safeguarded Party shall not unreasonably withhold its acceptance of personnel designated by the Party exercising its rights under this paragraph. Such personnel shall, if either Party so requests, be accompanied by personnel designated by the safeguarded Party.

#### **Byproduct Material**

The Parties agree that reporting and exchanges of information on byproduct material subject to the Agreement shall be carried out under the Administrative Arrangement and shall be limited to the following:

- (1) Both Parties will comply with the provisions as contained in the IAEA document GOV/1999/19/Rev.2, with regard to byproduct material subject to the Agreement.
- (2) With regard to tritium subject to the Agreement, the Parties shall exchange annually information pertaining to its disposition for peaceful purposes consistent with Article 8 of this Agreement.

**Retransfers**

1. In accordance with paragraph 2 of Article 5 of the Agreement, prior to the transfer of any material, equipment, or components (collectively, “items”), or any technology or information subject to the Agreement by either Party to a specific third country or a destination beyond the other Party’s territorial jurisdiction, the Party proposing to make the transfer (“the transferring Party”) shall request the written consent of the other Party (“the non-transferring Party”) to the transfer of the specified items, technology or information to the identified third country or destination. Prior to any such transfer of items, technology, or information subject to this Agreement, the Parties shall by mutual agreement define the conditions (“transfer conditions”) in accordance with which such items, technology, or information may be transferred to the jurisdiction of a third country or destination beyond the territorial jurisdiction of the transferring Party. Any transfer to which the non-transferring Party consents in writing shall be subject to the transfer conditions agreed to by the Parties.

2. The transferring Party shall ensure prior to the transfer that the appropriate governmental authority in the identified third country or destination beyond the transferring Party’s territorial jurisdiction is informed that the technology, information, or items being transferred are under obligation to the non-transferring Party under the Agreement.

3. Each Party shall keep and provide to the other Party an annual inventory of all technology or other information transferred to a third country or destination beyond the transferring Party’s territorial jurisdiction pursuant to the Agreement.

4. The Parties agree to enhance their efforts, working together, to familiarize commercial entities in their respective countries about the requirements of the Agreement as well as national export controls and policies applicable to exports and imports subject to the Agreement.

**Technology and Information Exchanges**

1. The Parties agree to implement a process, described below, for obtaining government assurances needed for certain technology or information transfers as described in this Agreed Minute and further

identified in the Administrative Arrangement to be established pursuant to this Agreement by appropriate competent authorities of the Parties. Transfers of certain technology or information for inclusion on the Pre-Approved Activity and Nuclear Technology List described in subparagraph b of this paragraph shall be jointly identified by the appropriate competent authorities of the Parties.

a. When a Party (“the Supplier Party”) authorizes a transfer of technology or information on the Pre-Approved Activity and Nuclear Technology List to a recipient on the Pre-Approved Entity List described in subparagraph b of this paragraph, the Supplier Party shall notify the other Party and the other Party shall confirm in writing to the Supplier Party its awareness of the transfer or activity authorized.

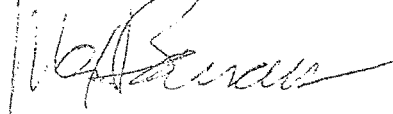
b. The Pre-Approved Activity and Nuclear Technology List and the Pre-Approved Entity List shall be jointly developed by the appropriate competent authorities of the Parties, and jointly reviewed and, as necessary, revised on a yearly basis.

c. To be eligible for inclusion on the Pre-Approved Activity and Nuclear Technology List, technology or information shall fall within one of the following categories of the Nuclear Suppliers Group’s Trigger List (IAEA INFCIRC/254/Part 1, as amended):

- i. Nuclear Reactors and equipment therefor;
- ii. Plants and equipment for the conversion of nuclear material; or
- iii. Nuclear fuel fabrication not containing plutonium.

2. In any case where one Party authorizes the transfer pursuant to this Agreement of technology or information listed on the Pre-Approved Activity and Nuclear Technology List to the other Party or its authorized recipients, any material or equipment produced through the use of the transferred technology or information shall be subject to the conditions in Articles 7, 8, and 9 of the Agreement.

FOR THE GOVERNMENT OF  
THE UNITED STATES OF  
AMERICA:



FOR THE GOVERNMENT OF  
THE PEOPLE’S REPUBLIC  
CHINA:





## 美利坚合众国政府和中华人民共和国政府 和平利用核能合作协定

美利坚合众国政府和中华人民共和国政府（下称“双方”），  
期望在互相尊重主权、互不干涉内政和平等互利的基础上，在  
和平利用核能方面建立广泛的合作；

注意到这是两个有核武器国家之间的合作；

注意到一九八五年七月二十三日在华盛顿签订的《美利坚合众  
国政府和中华人民共和国政府和平利用核能合作协定》（“《1985年协  
定》”）；

认识到美利坚合众国和中华人民共和国之间在平等基础上扩大  
和增进合作将有助于加强国际稳定、促进政治和经济发展；

考虑到美利坚合众国和中华人民共和国在利用核能发电、核工  
业和科研发展方面已经达到先进水平，并且在安全、保护公众与环  
境方面有着朝更高水平发展的共同目标；

注意到一九九八年六月二十九日在北京签订的《美利坚合众国  
能源部和中华人民共和国国家发展计划委员会和平利用核技术合作  
协定》（“《核技术合作协定》”）；

注意到二〇〇三年九月十二日双方关于核技术转让担保谅解的

外交换文（“《2003年换文》”）；

注意到二〇〇六年十二月十六日在北京签订的《美利坚合众国政府和中华人民共和国政府关于在中国合作建设先进压水堆核电项目及相关技术转让的谅解备忘录》；

注意到二〇〇七年九月十八日在维也纳签订的《美国-中国双边民用核能合作行动计划》；

注意到二〇一三年十一月二十二日在华盛顿和二〇一三年十二月九日在北京签署的《美利坚合众国政府和中华人民共和国政府关于在〈美利坚合众国政府和中华人民共和国政府和平利用核能合作协定〉项下的执行安排》（“《执行安排》”）；

认识到国际合作在推动和平利用核能方面的重要性，并注意到双方意图酌情独自或共同开展安全可靠民用核能项目的合作并遵从国际原子能机构（“机构”）保障监督；

注意到美利坚合众国和中华人民共和国均是一九六八年七月一日《不扩散核武器条约》（“《条约》”）的缔约国以及各自在《条约》下的权利和义务；

重申各自承诺，确保出于和平目的核能国际开发与利用都是在最大程度落实《条约》目标的安排之下开展的；

确认对于包括附加议定书在内的机构保障监督体系的支持；

确认他们支持机构的目标和《规约》，并遵守核供应国集团准则；

希望在稳定、可预期、可信赖的基础上，开展和平利用核能领域的开发、利用和控制合作；

注意到和平核活动必须在考虑保护国际环境不受放射性、化学和热污染的前提下开展；

特别确认关于从事安全、可靠、环境可持续民用核能和平发展的目标，并通过有助于核不扩散和国际保障监督的方式实现；

注意到双方对可控热核聚变领域的科研开发具有共同的兴趣，包括多边合作；

达成协议如下：

### 第一条 定义

为本协定和商定纪要之目的，下列术语应当有如下含义：

（一）“商定纪要”系指本协定附件中的纪要，是本协定的完整组成部分。

（二）“主管部门”系指双方政府分别指派执行本协定的政府部门。对中华人民共和国政府而言，主管部门是中国国家能源局和中国国家原子能机构；对美利坚合众国政府而言，主管部门是美国国务院、美国能源部和美国核管理委员会。任一方可书面通知对方调整或额外增加一个或多个主管部门。

（三）“人员”系指任一方管辖下的任何个人或实体，但不包括本协定的双方。

（四）“反应堆”系指除核武器或其他核爆炸装置以外，任何利用铀、钚、钍及其混合物维持自持链式裂变反应的装置，或双方同意指称的任何其他装置。

(五)“设备”系指任何完整的反应堆(除主要为生产钚或铀-233而设计或使用的反应堆以外)、压力容器、加热管、完整的反应堆控制棒系统、主冷却剂泵、在线换料机构,或双方同意指称的其他物项。

(六)“部件”系指设备的组成部分,或双方同意指称的其他物项。

(七)“源材料”系指同位素混合为天然丰度的铀,同位素铀-235贫化的铀,钍,形态为金属、合金、化合物或精矿的任何上述物质,含有上述一种或数种物质且其浓度为机构理事会随时确定的任何其它材料,以及机构理事会随时确定或双方相关主管部门同意指称的其他此类材料。机构理事会根据机构《规约》第二十条所做出的任何定义或对“源材料”材料清单的修订,只有在本协定的双方均以书面方式相互通知接受该修订时,方可在本协定项下生效。

(八)“特种裂变材料”系指钚、铀-233、铀-233或铀-235丰度提高的浓缩铀、含有上述一种或多种物质的任何材料以及机构理事会随时确定或双方相关主管部门同意指称的其他此类物质。“特种裂变材料”不包含源材料。机构理事会根据机构《规约》第二十条所做出的任何定义或对“特种裂变材料”材料清单的修订,只有在本协定的双方均以书面方式相互通知接受该修订时,方可在本协定下生效。

(九)“核材料”系指源材料和特种裂变材料。

(十)“慢化剂材料”系指重水、石墨、铍,或双方同意指称的

其他物质，其纯度适合用在反应堆中慢化高速中子并增加进一步裂变的可能性。

(十一)“副产品”系指在生产或使用特种裂变材料过程中因暴露在放射条件下而生成的或产生放射性的任何放射性材料（特种裂变材料除外）。

(十二)“低浓铀”系指同位素铀-235 含量低于百分之二十的浓缩铀。

(十三)“高浓铀”系指同位素铀-235 含量大于或等于百分之二十的浓缩铀。

(十四)“材料”系指核材料、慢化剂材料、副产品材料、副产品材料以外的放射性同位素，或双方同意指称的其他物质。

(十五)“转化”系指核燃料循环中燃料制造之前、除浓缩之外的任何常规操作，在此过程中铀的化学形态发生变化，例如从六氟化铀转化为二氧化铀，或从铀的氧化物转化为金属铀。

(十六)“退役”系指在一处设施使用寿命结束时采取的结束该设施服役状态的活动，在此期间要为退役工作者和公众的健康与安全以及环境提供充分保护。此项活动的范围可包括从关闭设施、少量移除核材料、持续维护与监视，到完全移除残留放射性，使其不超过无限制使用该设施及其厂址所能要求的水平。

(十七)“技术”系指与设计、开发、生产、运行、维护、关闭或退役反应堆、设备或部件相关的信息。

(十八)“信息”系指在本协定下提供或交流的科学、商业或技

术数据，或双方或其主管部门同意酌情指称的任何形式信息。

(十九)“敏感核设施”系指任何以铀浓缩、核燃料后处理、重水生产或含钚核燃料制造为主要目的而设计或使用的设施。

(二十)“主要关键部件”系指运行敏感核设施必不可少的任何单个或一组零件。

(二十一)“敏感核技术”系指与任何未公开并且与任何敏感核设施的设计、建设、制造、运行或维护相关的信息(包括设备或重要部件中包含的信息)，或双方同意指称的任何其他此类信息。

(二十二)“受限数据”系指所有涉及(1)设计、制造或使用核武器，(2)生产特种裂变材料，或(3)利用特种裂变材料生产能源的数据，但不包括一方已解密或已从受限数据类别中剔除的数据。

(二十三)“和平目的”包括将信息、技术、材料、设备和部件用于研究、发电、医学、农业和工业等领域，但不包括在任何核爆炸装置中使用或用于研究、开发任何核爆炸装置，或者用于任何军事目的。

## 第二条 合作范围

一、双方应根据本协定的规定和各自适用的条约、国内法律、法规和许可要求，开展和平利用核能合作。

二、本协定项下合作的具体领域、内容、细节和条件可由双方相关主管部门在本协定的条款和条件范围内进行协商，并以书面协议方式予以确定。

三、本协定项下转让材料、设备、部件、技术和信息可直接由双方或通过被授权人员执行。此类转让应受本协定及双方同意的附加条款和条件约束。

### 第三条 技术和信息的转让

一、依照本协定，和平利用核能相关的技术和信息可以转让。技术和信息转让可通过多种方式实现，包括报告、数据库、计算机程序、会议、参观，以及指派雇员到设施工作。涉及领域可包括但不限于以下方面：

（一）开发、设计、建设、运行、维护和使用反应堆，反应堆实验和退役；

（二）在物理和生物学研究、医学、农业和工业中使用材料；

（三）开展燃料循环研究以探索满足未来世界范围民用核需求的途径，包括通过多边途径保障核燃料供应和核废物管理的适用技术；

（四）开发先进燃料和材料，如结构、部件、吸收体、电子线路和包壳的材料；

（五）开发先进的燃料循环和燃料制造技术；

（六）利用计算机模拟仿真和建模，提升核反应堆和核燃料安全的技术水平；

（七）核材料、设备与部件的保障监督与实物保护；

（八）上述合作相关的健康、安全与环境考虑；

(九) 评估核电在国家能源规划中可能发挥的作用。

二、本协定不要求转让双方各自条约、国内法律或法规不允许转让的任何技术或信息。

三、本协定项下转让技术和信息应按照《2003 年换文》附件中的“核技术转让担保原则途径”执行，并根据本协定商定纪要“技术与信息交换”章节中提及的特定技术和信息予以调整。

四、本协定项下不应转让受限数据。如果本协定的修订案另有规定，本协定项下可以转让敏感核技术。

#### 第四条 材料、设备和部件的转让

一、材料、设备和部件可根据本协定转让使用。除本条第四款规定外，本协定项下转让的特种裂变材料应当是低浓铀。

二、低浓铀的转让方式包括但不限于出售、租赁，可用作反应堆和反应堆实验的燃料，可用于转化或制造，或用于双方同意的其他目的。

三、本协定项下转让特种裂变材料的数量应当由双方同意，并且是下列目的必需的数量：反应堆装料或用于反应堆实验，此类反应堆有效连续运行或开展此类反应堆实验，或实现双方同意的其他此类目的。

四、少量特种裂变材料可转让用作样品、标准、探测器、靶件或放射源，以及双方同意的其他类似目的。

五、如果本协定的修订案另有规定，本协定项下可以转让敏感



核设施和主要关键部件。

### 第五条 贮存和再转让

一、按照本协定转让的、通过使用本协定项下转让的材料或设备生产的或在其中使用的钚和铀-233（包含在辐照燃料元件中的除外）以及高浓铀应当只贮存在双方同意的设施中。

二、除非双方同意，按照本协定转让的材料、设备、部件、技术和信息，以及通过使用任何此类材料、设备、技术或信息生产的任何特种裂变材料不应转让给非授权人员或转让至接收方管辖领土之外。

三、为了便于乏燃料、核材料或核相关废物管理，若美利坚合众国政府同意并确定了贮存或处置方案，按照本协定转让或通过使用转让设备或部件生产的材料可转让至美利坚合众国。若转让至美利坚合众国，双方应制定相应执行安排。

### 第六条 后处理，其他形态或成分变化，浓缩

一、除非双方同意，按照本协定转让的核材料、通过使用本协定项下转让的材料或设备生产的或在其中使用的核材料不应进行后处理或改变其形态或成分（辐照或进一步辐照除外）。

二、双方准许对方对按照本协定转让的核材料、通过使用转让材料或设备生产的或在其中使用的核材料进行后处理或改变其形态或成分。为了行使该权利，双方应商定相关安排和程序，并按此开

展后处理或改变形态或成分的操作。双方同意，在本协定约束下对核材料进行后处理或改变其形态或成分，应仅限在实施机构保障监督的设施进行。如果此类设施不存在，或如果双方适当主管部门书面同意现有受保障设施对受本协定约束核材料进行后处理或改变形态或成分的能力不足或不适合对此类核材料进行后处理或改变形态或成分，此种情况下，对本协定约束核材料进行后处理或改变形态或成分的操作可依照本协定第九条第一款提及的与机构缔结的保障监督协定在已具有资格得到机构保障监督的设施进行。这些安排和程序应包括本协定第七条关于实物保护标准、第五条关于贮存标准、第十一条关于环境标准的规定，以及双方同意的其他类似规定。通过本条中双方同意开展的后处理或改变形态或成分操作分离出的任何核材料只能在双方相关主管部门书面同意的设施使用。

三、双方将致力于按各自国内民用核燃料循环决策，对分离出并接受保障监督的钚进行管理。在管理分离出并接受保障监督的钚时，双方应考虑以下因素：要避免提升核扩散风险；要保护环境、作业者和公众；将核材料用于进一步生产能源的潜力；平衡供需的重要性，包括民用核运行相应合理周转库存的需求。

四、为本协定的目的，双方同意将转化、铀-235 丰度浓缩至低于百分之二十、制造低浓铀燃料，辐照或进一步辐照、辐照后检验、混合或稀释铀用于生产低浓铀以及从辐照靶中分离放射性同位素作为许可的改变形态或成分方式。

## 第七条 实物保护

一、对于按照本协定转让的核材料和设备，以及通过使用本协定项下转让的材料或设备生产的或在其中使用的特种裂变材料，应维持充分的实物保护。

二、为遵守本条第一款的要求，各方应依照(1)至少与机构文件《核材料和核设施的实物保护》(INFCIRC/225/Rev. 5)及双方同意的该文件后续修订本所推荐相当的实物保护水平，(2)1979年10月26日缔结的《核材料实物保护公约》及双方同意生效的任何修订案的规定，采取最低限度的措施。

三、经任一方要求，双方应就按照本条维持的实物安保措施是否充分进行磋商。

四、双方应通过外交途径相互告知负责确保其领土内或其管辖、控制下的核材料得到充分实物保护，以及负责协调应对受本条约束的核材料被擅自使用或处理的情况及追回工作的组织或机构。双方还应在各自主管部门中指定联络点，并通过外交途径告知对方，以便双方就国外运输和共同关注的其他问题开展合作。

五、执行本条有关规定，应避免不恰当地妨碍双方核领域活动，并采用谨慎管理的做法以安全、经济地开展其核领域项目。

## 第八条 非爆炸或军事应用

一、按照本协定转让的材料、设备、部件、技术和信息，以及通过使用本协定项下转让的材料、设备、部件、技术或信息生产的

或在其中使用的材料不得用于任何核爆炸装置，不得用于任何核爆炸装置的研究或开发，不得用于任何军事目的。

二、军事目的不应包括通过电网向军事基地送电、生产在军队医院用于医疗目的的放射性同位素，以及双方同意的其他类似目的。

### 第九条 保障监督

一、按照本协定转让至中华人民共和国的核材料，以及通过使用本协定项下转让的材料、设备、部件、技术或信息生产的或在其中使用的任何核材料，应受 1988 年 9 月 20 日签署、1989 年 9 月 18 日生效的《中华人民共和国和国际原子能机构关于在中国实施保障的协定》（机构文件 INFCIRC/369，“《中国和机构保障监督协定》”）及其 2002 年 3 月 28 日生效的附加议定书约束。

二、按照本协定转让至美利坚合众国的核材料，以及通过使用本协定项下转让的材料、设备、部件、技术或信息生产的或在其中使用的任何核材料，应受 1977 年 11 月 18 日签署、1980 年 12 月 9 日生效的《美利坚合众国和国际原子能机构关于在美利坚合众国实施保障的协定》（机构文件 INFCIRC/288，“《美国和机构保障监督协定》”）及其 2009 年 1 月 6 日生效的附加议定书约束。

三、在本条第一款提及的《中国和机构保障监督协定》或本条第二款提及的《美国和机构保障监督协定》不能执行的情况下，双方应磋商并建立一种双方均能接受且符合两国根据《条约》明确的有核武器国家地位的变通方式，代替上述协定。

四、本条有关规定的实行，应避免妨碍、耽搁或过度影响双方核领域活动，并采用谨慎管理的做法以安全、经济地开展其核领域项目。

#### **第十条 多边供应商管控**

如果任一方与其他国家或国家集团达成协议，就受本协定约束的材料、设备、部件、技术或信息，向该国或该国家集团赋予了与第五条或第六条规定内容部分或全部相当的权利，经任一方要求，双方可同意该国或该国家集团行使任何相关的权利。

#### **第十一条 磋商和环境保护**

一、应任一方要求，双方应就本协定的执行和在和平利用核能领域开展进一步合作的问题进行磋商。

二、双方应就本协定项下活动进行磋商，以确定该活动对国际环境的连带影响，并就保护国际环境不因本协定项下和平核能活动而受到放射性、化学或热污染，以及与健康和安​​全相关事宜进行合作。

#### **第十二条 争议解决**

双方应以解决争议为目的，及时磋商对本协定规定的解释和执行存在的争议。如果一方不遵守本协定的规定，双方应立即就此问题举行磋商。双方谅解，此时另一方有权暂时中止或终止本协定项下的进一步合作。

### 第十三条 行政安排

一、应一方要求，双方相关主管部门应(1)制定一份双方同意的行政安排，以便有效执行本协定的规定，(2)提供一份受本协定约束的所有库存状态的年度报告。

二、均衡、等量和替代原则应适用于受本协定约束的核材料和慢化剂材料。应用这些原则的具体条款应在行政安排中予以规定。

三、按照本条制定的行政安排可由双方相关主管部门以书面形式予以修改。

### 第十四条 生效和有效期

一、本协议自双方就此交换的最后一份书面外交照会发出之日起生效，该照会表明双方已完成本协议生效所需的国内程序。

二、本协议有效期为 30 年，除非任一方提前至少一年书面通知对方终止本协议。

三、《1985 年协定》包括其中第十条第二款应自本协议生效之日起终止。

四、《1985 年协定》项下合作应继续按照本协议规定执行。在《1985 年协定》终止时，本协议的所有规定应立即适用于受《1985 年协定》约束的材料、设备、部件、信息和技术。

五、尽管有《执行安排》第九条第一款，《执行安排》不应在《1985 年协定》失效或终止时终止。《执行安排》项下的合作应归于本协议规定（经必要修改）的管辖之下而得以继续。

六、尽管有《核技术合作协定》第一条第二款，《核技术合作协定》项下的合作应归于本协定规定（经必要修改）的管辖之下而得以继续。

七、在本协定终止、到期或因任何原因中断合作的情况下，只要受第五条、第六条、第七条、第八条、第九条和商定纪要约束的任何材料、设备或部件仍在这一方领土之内或仍受其管辖、控制，上述条款应继续有效，直到双方同意这些物项从国际保障监督角度考虑已经无法再用于任何核活动、或实际上已经不可回收利用、或设备或部件无法再用于核目的时为止。

八、任一方可通过外交途径以书面方式向另一方提出修正案。本协定的修正案应根据本条第一款规定的程序生效。

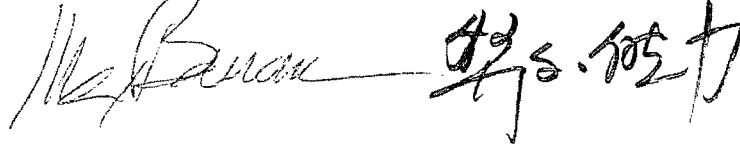
本协定于二〇一五年四月十三日在北京签订，一式两份，用中文和英文写成，两种文本同等作准。

美利坚合众国政府

中华人民共和国政府

代 表

代 表

The image shows two handwritten signatures. The signature on the left is in cursive and appears to be 'M. Barron'. The signature on the right is in Chinese characters and appears to be '李. 锐力'.

## 商定纪要

在磋商今天签署的《中华人民共和国政府和美利坚合众国政府和平利用核能合作协定》（“《协定》”）过程中，达成以下谅解，并作为《协定》的完整组成部分。

### 《协定》适用范围

从一方领土转让到另一方领土的材料、设备、部件、技术和信息，无论直接转让或通过第三国转让，只有在接收方主管部门向供方主管部门确认该材料、设备、部件、技术或信息受《协定》约束，才应认作是根据《协定》转让的。

关于《协定》第一条第二十二款中“受限数据”的定义，双方谅解，使用特种裂变材料在标准民用反应堆中生产能源的所有信息已经解密或从“受限数据”类别中剔除。

为行使《协定》第五条、第六条规定的权利，对于通过使用根据《协定》转让的核材料生产的，但不是通过使用根据《协定》转让的设备、技术、信息生产的或在其中使用的特种裂变材料，实际操作中，上述权利应适用于部分所生产的特种裂变材料，该部分的比例等于生产特种裂变材料时使用的转让核材料在所用核材料总量中所占比重，后续产物的比例也依此法类推。

### 保障监督



如果任何一方认为存在《协定》第九条第三款的情形，任何一方应享有如下权利，但如果双方同意，行使该权利的需要已通过执行按照《协定》第九条第三款安排的机构保障监督得以满足，则该权利应予中止：

（一）及时审查任何按照《协定》转让的设备的的设计，或任何通过使用按照《协定》转让的任何技术或信息生产的设备的设计；及时审查任何用于使用、制造、处理或贮存如此转让的任何核材料的设施的设计，或任何通过使用此类材料或设备生产的或在其中使用的核材料。

（二）要求编制和提交记录及相关报告，以便协助确保对按照《协定》转让的核材料及通过使用如此转让的任何材料或设备生产的或在其中使用的任何核材料进行衡算。

（三）指定另一方（下称“受保障监督方”）能够接受的职员，为计算第二款提及的核材料，能够前往相关地点并查阅计算第二款提及的核材料所必需的数据，检查第一款提及的任何设备或设施，并安装必要装置和进行确信是是计算此类核材料所必需的独立测量。受保障监督方不应无理拒绝接受本款项下实施保障监督权一方所指定的职员。如果任何一方要求，该职员应由受保障监督方指定的职员陪同。

#### 副产品材料

双方同意，报告和交换受《协定》约束的副产品材料的信息应

在行政安排框架内进行，并仅限于如下内容：

（一）对于受《协定》约束的副产品材料，双方将遵守机构文件 GOV/1999/19/Rev.2 中包含的规定。

（二）对于受《协定》约束的氙，双方应按照《协定》第八条，每年交流和平目的进行的氙处置情况。

### 再转让

一、按照《协定》第五条第二款，任一方在向指定的第三国或另一方管辖领土之外的目的地转让任何受《协定》约束的材料、设备或部件（统称“物项”），或技术、信息之前，意图进行转让的一方（“转让方”）应向另一方（“非转让方”）请求关于允许向指定的第三国或目的地转让具体物项、技术或信息的书面同意。在转让任何受《协定》约束的物项、技术或信息之前，双方应就具体条件（“转让条件”）达成协议，据此，上述物项、技术或信息可以转让到转让方管辖领土之外的第三国或目的地。任何非转让国书面同意的转让行为均应满足双方同意的转让条件。

二、转让方在转让之前，应确保转让方管辖领土之外的指定第三国或目的地有关政府部门已经知悉转让的技术、信息或物项要履行《协定》项下的义务。

三、各方应根据《协定》保持并每年向另一方提供所有转让至转让国管辖领土之外第三国或目的地的技术或其他信息的年度盘点清单。

四、双方同意加强合作，帮助各自国家的商业实体熟悉《协定》有关要求，以及适用于受《协定》约束的进出口活动的国家出口控制规定和政策。

### 技术和信息交流

一、双方同意实施以下程序，以便获得本商定纪要提及转让特定技术或信息所需的政府担保，该政府担保将在根据《协定》建立的行政安排中由双方相关主管部门进一步明确。包含在本节第二段所提及《预先批准活动和核技术清单》中的特定技术或信息转让应由双方相关主管部门共同确定。

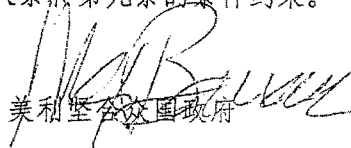
（一）当一方（“供应方”）授权将《预先批准活动和核技术清单》中的技术或信息转让至本节第二段所提及《预先批准实体清单》中的接收者时，供应方应通知另一方，另一方应向供应方书面确认其知晓此项转让或授权活动。

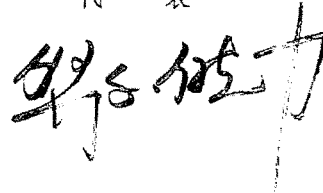
（二）《预先批准活动和核技术清单》和《预先批准实体清单》应由双方相关主管部门共同制定、审阅并根据需要进行年度修订。

（三）能够包含在《预先批准活动和核技术清单》中的技术或信息应属于《核供应国集团触发清单》（机构文件 INFCIRC/254/Part 1）的下列类别之一：

1. 核反应堆及其设备；
2. 核材料转化厂和设备；
3. 不含钚的核燃料制造。

二、任何情况下，当一方根据《协定》授权将《预先批准活动和核技术清单》中的技术或信息转让至另一方或其授权接收者时，任何通过使用转让技术或信息生产的材料或设备应受《协定》第七条、第八条和第九条的条件约束。

  
美利坚合众国政府 中华人民共和国政府  
代 表 代 表



[Presidential Determination No. 2015-05]

THE WHITE HOUSE,  
*Washington, April 10, 2015.*

Memorandum for the Secretary of State, the Secretary of Energy.  
Subject: Presidential Determination on the 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.

I have considered the 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 (the "Agreement"), along with the views, recommendations, and statements of the interested departments and agencies.

I have determined that the performance of the Agreement will promote, and will not constitute an unreasonable risk to, the common defense and security. Pursuant to section 123 b. of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2153(b)), I hereby approve the proposed Agreement and authorize the Secretary of State to arrange for its execution.

The Secretary of State is authorized to publish this determination in the *Federal Register*.

BARACK OBAMA.

THE SECRETARY OF STATE  
WASHINGTON

March 26, 2015

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MEMORANDUM FOR THE PRESIDENT

FROM: John F. Kerry, Secretary of State *JFK*  
Ernest Moniz, Secretary of Energy *Ernie*

SUBJECT: 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

The United States and China have completed negotiation of a 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 (the "Agreement"). There is an existing agreement for peaceful nuclear cooperation between the United States and China that entered into force in 1985 that will expire according to its terms on December 30, 2015. The proposed Agreement is to succeed the current agreement to allow for continued peaceful nuclear cooperation between the United States and China. If you authorize execution of the Agreement, it will be signed by representatives of the United States and China. After signature, in accordance with Sections 123 b. and d. of the Atomic Energy Act (the "Act"), the Agreement must lie before both houses of Congress for 90 days of continuous session. Unless a joint resolution of disapproval is enacted, the Agreement may be brought into force upon completion of the review period.

The proposed Agreement provides a comprehensive framework for peaceful nuclear cooperation with China based on a mutual commitment to nuclear nonproliferation. It would permit the transfer of material, equipment (including reactors), components, information, and technology for nuclear research and nuclear power production. It does not permit transfers of any Restricted Data. Transfers of sensitive nuclear technology, sensitive nuclear facilities, and major critical components of such facilities may only occur if the Agreement is amended to cover such transfers. In the event of termination, key nonproliferation

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conditions and controls continue with respect to material, equipment, and components subject to the Agreement.

The proposed Agreement contains all of the requirements established by Section 123 a. of the Act, and would obligate the United States and China to work together to enhance their efforts to familiarize commercial entities in their respective countries about the requirements of the Agreement as well as national export controls and policies applicable to exports and imports subject to the Agreement. It would have a term of 30 years from the date of its entry into force. Either party may terminate the Agreement on at least one year's written notice to the other party.

Since the 1980s, China has become a party to several nonproliferation treaties and conventions, and has worked to bring its domestic export control authorities in line with international standards. China joined the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) in 1992 as a nuclear weapon state, brought into force an Additional Protocol to its International Atomic Energy Agency (IAEA) safeguards agreement in 2002, and joined the Nuclear Suppliers Group (NSG) in 2004. China is a party to the Convention on the Physical Protection of Nuclear Material, which establishes international standards of physical protection for use, storage, and transport of nuclear material, and has ratified the 2005 Amendment to the Convention. A more detailed discussion of China's civil nuclear program and its nuclear nonproliferation policies and practices, including its nuclear export policies and practices, is provided in the Nuclear Proliferation Assessment Statement (NPAS), and in two classified annexes to the NPAS submitted to you separately. A separate addendum to the NPAS containing a comprehensive analysis of the export control system of China with respect to nuclear-related matters, including interactions with countries of proliferation concern and the actual or suspected nuclear, dual-use, or missile-related transfers to such countries, pursuant to Section 102A(w) of the National Security Act of 1947 (50 U.S.C. § 3024(w)), is being submitted to you separately by the Director of National Intelligence.

In accordance with the provisions of Section 123 of the Act, the proposed Agreement was negotiated by the Department of State, with the technical assistance and concurrence of the Department of Energy. The proposed Agreement has also been reviewed by the members of the Nuclear Regulatory Commission. The Commission's views are being submitted to you separately.

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In our judgment, the proposed Agreement satisfies all requirements of U.S. law for agreements of this type. We also believe U.S. cooperation with China in the peaceful uses of nuclear energy will be supportive of U.S. nonproliferation, foreign policy, and commercial interests. Therefore, pursuant to Subsection 123 b. of the Act, we recommend that you determine the performance of the proposed Agreement will promote, and will not constitute an unreasonable risk to, the common defense and security. We also recommend that you approve the proposed Agreement and authorize its execution.

Recommendation

That you sign the determination, approval, and authorization at Tab 1 and the transmittal letter to Congress at Tab 2.

Attachments:

- Tab 1 – Draft Presidential Determination, Approval, and Authorization
- Tab 2 – Draft Transmittal Letter to the Congress (to be held until after the Agreement is signed)
- Tab 3 – Text of 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
- Tab 4 – Unclassified Nuclear Proliferation Assessment Statement

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**NUCLEAR PROLIFERATION ASSESSMENT STATEMENT****Pursuant to Section 123 a. of the Atomic Energy Act,  
With Respect to the 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****INTRODUCTION**

This Nuclear Proliferation Assessment Statement ("NPAS") relates to the proposed Agreement between the Government of the United States of America and the Government of the People's Republic of China for Cooperation Concerning Peaceful Uses of Nuclear Energy (the "Agreement"). This Agreement will replace the existing U.S.-China 123 Agreement which was signed in 1985 and is set to expire on December 30, 2015. The proposed Agreement is being submitted to the President jointly by the Secretary of State and Secretary of Energy for his approval.

Section 123 a. of the Atomic Energy Act (the "Atomic Energy Act" or "Act"), provides that an NPAS be submitted by the Secretary of State to the President on each new or amended agreement for cooperation concluded pursuant to that section. Pursuant to section 123 a., the NPAS must analyze the consistency of the text of the proposed agreement with all the requirements of the Act, with specific attention to whether the proposed agreement is consistent with each of the criteria set forth in that subsection, and address the adequacy of the 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.

With this statutory mandate in mind, this NPAS: (a) provides background information on China's civil nuclear program, on the nonproliferation policies of China including collaboration with the United States on important nonproliferation initiatives, and on existing Chinese civil nuclear cooperation with the United States (Part I); (b) describes the nature and scope of the cooperation contemplated in the proposed Agreement (Part II); (c) reviews the applicable substantive requirements of the Act and the Nuclear Non-Proliferation Act of 1978 (NNPA) and details how they are met by the proposed Agreement (Part III); and (d) addresses the adequacy of the safeguards and other control mechanisms and the peaceful use assurances contained in the agreement for cooperation and sets forth the net assessment and

conclusions of the Department of State as contemplated by section 123 a. of the Act (Part IV).

## **I. THE NONPROLIFERATION POLICIES AND NUCLEAR PROGRAM OF THE GOVERNMENT OF THE PEOPLE'S REPUBLIC OF CHINA**

### **Overview**

Over the past thirty years, China has undertaken a variety of efforts to enhance its global standing on nonproliferation issues and has undertaken a significant expansion of its civil nuclear sector. China has enacted domestic controls on the export of materials and technologies applicable to weapons of mass destruction (WMD), and has joined the Nuclear Suppliers Group and the Zangger Committee, formed in connection with the Treaty on the Non-Proliferation of Nuclear Weapons. China plays an important role in our efforts to denuclearize the Korean Peninsula and to address concerns about Iran's nuclear program. Shortcomings remain in enforcement of its domestic export control policies and regulations targeting proliferation, however, resulting in concerns about China's nonproliferation record and in the United States sanctioning a number of Chinese entities for proliferation activities. These problems stem in large part from a lack of capacity and willingness of the Chinese government to enforce its domestic export control policies and regulations targeting proliferation.

Since the late 1990s, China has worked collaboratively with the United States and other global suppliers of civil nuclear technology to expand its civil nuclear sector. Over the past ten years, China's civil nuclear power sector has nearly doubled in size, in partnership with U.S. and other foreign suppliers, and China plans for further expansion to meet domestic energy needs while addressing air pollution challenges and achieving climate change targets. The expansion of nuclear energy is an important component of China's development goals as outlined in the 2011-2015 5 Year Plan, as well as a critical element of its efforts to meet its climate change goals, as outlined in its 2013 White Paper on China's Policies and Actions Addressing Climate Change. Continuing peaceful nuclear cooperation with the United States under the proposed Agreement will be critical for China to achieve these goals. Beyond development and climate change goals, China is working to develop indigenous civil nuclear technology to increase independence in producing its own domestic nuclear power plants and to become a competitive global provider of civil nuclear reactors and nuclear fuel cycle

services. The proposed Agreement also ensures continued U.S. access to China's civilian nuclear complex, allowing for the continuing fostering of a culture of best practices on nuclear security and safety, as well as the opportunity to continue working to ensure Chinese nonproliferation policies are consistent with international nonproliferation norms.

A major element of cooperation under the existing U.S.-China 123 Agreement is the provision by Westinghouse Electric Company (WEC) of AP-1000 nuclear reactors to China. The Executive Branch, Congress, and the nuclear industry have, since the mid-1980s, supported development of nuclear power plants with enhanced, passive safety features. The development by WEC of the AP-600 nuclear reactor, a predecessor to the AP-1000, was partially funded by both the Electric Power Research Institute and the Department of Energy. Executive Branch foreign policy, articulated concurrent with the Energy Policy Act of 2005, strongly supported WEC's AP-1000 deal with China. Chinese construction of the AP-1000 was viewed as a critical step towards proving the commercial viability of the AP-1000 (especially for deployment within the United States). Consequently, in December 2006 then Secretary of Energy Bodman signed a Memorandum of Understanding with his Chinese counterpart specifically supporting the WEC AP-1000 reactor sale to China.

#### **Current U.S.-China Nonproliferation Programs**

The United States continues to deepen cooperation with China on nuclear security and safety capacity building, development of a more robust Chinese export control system, and industry outreach.

The State Department has focused nonproliferation and threat reduction efforts in China on export control and related border security (EXBS) assistance to improve control, detection, and interdiction capabilities related to transfers of WMD, conventional weapons, and related items, including the funding of industry outreach events, training of Chinese officials at U.S. think tanks, and the sponsorship of track II and track 1.5 conferences on nonproliferation issues. Through the Nonproliferation and Disarmament Fund (NDF), the Department has sponsored a wide range of training since 2005 for China's General Administration of Customs (GAC) both in the United States and in China with the assistance of the Department of Homeland Security, Customs and Border Protection (DHS/CBP). The NDF has also provided funding for strategic trade control outreach to Chinese companies with the assistance of the Department of Commerce, Bureau of Industry and Security (DOC/BIS). With continued collaboration with DHS/CBP, DOC/BIS,

and the Department of Energy (DOE), the NDF will continue providing training activities to GAC and strategic trade control outreach activities with a particular focus on small and mid-sized Chinese companies. The State Department is also working in collaboration with DOE and the Department of Defense (DoD) on the development of a Nuclear Security Center of Excellence (COE), a training facility outside of Beijing to which China committed at the 2010 Nuclear Security Summit.

***Nuclear Security Center of Excellence:*** The Center of Excellence is intended to serve as a central venue to meet the nuclear security training needs of China's growing civilian nuclear complex, as well as a venue for regional and International Atomic Energy Agency (IAEA) nuclear security cooperation. It will provide a location for further nuclear security cooperation between the U.S. and Chinese governments, as well as possible partnership between the U.S. Government and China's defense nuclear complex on similar nuclear security topics. The China Atomic Energy Authority created the State Nuclear Security Technology Center, which is the organization tasked to oversee construction and operation of COE and is the U.S. Government's main interlocutor. DOE is funding relevant material protection control and accounting (MPC&A) equipment, training aids, and curriculum development support for the COE's mock facility, mock bunker, mock entry control point, and analytical lab. DoD is funding relevant equipment, training aids, and curriculum development support for the Environmental Test Lab, Emergency Operations Center, and Guard Force Training building. The COE is currently scheduled to be completed by the end of 2015. The official opening is anticipated prior to the March 2016 Nuclear Security Summit.

***Peaceful Uses of Nuclear Technology:*** The DOE Office of International Material Protection, Office of Nuclear Energy, and Office of Environmental Management cooperate with China through the agency-level Agreement on Peaceful Uses of Nuclear Technology (PUNT) signed in 1998. This engagement works via five Joint Coordinating Committee Working Groups to increase awareness of our respective approaches to, and share best practices on, nuclear security issues; and to promote Chinese nuclear safety and security. The five groups are: nuclear energy technology (focused on nuclear safety), safeguards and security, environmental and waste management, nuclear emergency management, and radioactive source security. Primary collaboration is with the National Energy Administration (NEA), China Atomic Energy Authority (CAEA) and China Institute of Atomic Energy (CIAE).

***Second Line of Defense:*** In August 2013 DOE signed an arrangement with the GAC for cooperation with DOE's National Nuclear Security Administration (NNSA) to deter, detect and interdict illicit smuggling of special nuclear material and other radiological materials. This arrangement allows NNSA to continue cooperating with China Customs on NNSA's Second Line of Defense initiatives. For example, in January 2015 NNSA transitioned a radiation detection system to GAC at the port of Yangshan, China. Installed in 2011, this system over a three year period has enhanced GAC's ability to more effectively detect radiological materials passing through Chinese ports.

In January 2011, DOE signed a memorandum of understanding to support the establishment of a Radiation Detection Training Center (RDTC) at China Customs Academy located in Qinhuangdao, China. Commissioned in September 2014, the center has developed a curriculum, classrooms and a mock port of entry. With this Center, China Customs has a facility and national-level resources to provide uniform and specialized training to its officers in the detection of smuggled nuclear materials. The cost to establish the RDTC was shared with China, with China Customs providing land acquisition, classroom construction, and utilities and infrastructure. The RDTC trains Chinese Customs officials in radiation detection techniques that are now being applied at the Port of Yangshan, and elsewhere throughout China. GAC has recently been acquiring land near the existing RDTC to move and expand the Center and separate it from the China Customs Academy infrastructure.

***Material Protection, Control, and Accounting (MPC&A):*** Cooperation with China's civilian sector continues to be robust, with 6-8 MPC&A Best Practices workshops taught annually in China. Workshop topics cover key MPC&A areas, including, but not limited to: secure transportation, vulnerability assessment and design basis threat, domestic inspections, measurement controls, and nuclear security culture. The workshop student population pulls from across the civilian nuclear sector and will be incorporated into the COE after its commission.

***Office of Material Management and Minimization (M3):*** DOE is cooperating with the China Institute for Atomic Energy (CIAE) to convert Miniature Neutron Source Reactors (MNSRs) that run on highly enriched uranium (HEU) fuel to the use of low enriched uranium (LEU) fuel – both those that China has exported (one each to Ghana, Nigeria, Iran, Pakistan, Syria) and the two that are still HEU-fueled within China. An LEU fuel has been qualified; the first conversion in China, at the CIAE, is expected to occur in September 2015 while

the first MNSR conversion outside China is planned for late FY2016. Although these reactors contain only about 1 kg of HEU and nominally have lifetime cores, converting them to LEU and repatriating the HEU (which China has already told the IAEA that it is, in principle, willing to do) would be a useful step symbolically to support HEU minimization.

***International Nonproliferation Export Control Program- Commodity Identification Training:*** DOE cooperates with China to share international best practices in the areas of export licensing and risk analysis, industry outreach, and export enforcement. For example, DOE and China Customs hold joint Weapons of Mass Destruction Commodity Identification Training workshops that help front line officers identify WMD-related items that have fallen outside of regulatory control.

#### **Chinese Progress on Nonproliferation**

Since the 1980s, China has signed on to several nonproliferation treaties and conventions and worked to bring its domestic export control authorities in line with international standards. China joined the Treaty on the Non-Proliferation of Nuclear Weapons in 1992 as a nuclear weapon state, brought into force an Additional Protocol to its IAEA safeguards agreement in 2002, and joined the Nuclear Suppliers Group (NSG) in 2004. China has sought membership in the Missile Technology Control Regime but has not applied to join the Australia Group or Wassenaar Arrangement.

China has passed a number of statutes to regulate nuclear safety and material control, but lacks overarching nuclear legislation comparable to the U.S. Atomic Energy Act. China passed the *Foreign Trade Law* in 1994, which is the foundation of China's export control regulations and allows for control of certain goods based on Beijing's nonproliferation commitments, national security, or other interests. China subsequently promulgated and periodically updates regulations governing nuclear-, missile-, biological-, and chemical-related exports, and China has adopted a "catch-all" provision designed to prevent materials and technology from benefiting programs of concern, regardless of control status. These regulations stipulate that proliferation will be investigated and establish penalties for violations.

According to China's 2003 White Paper on Nonproliferation, China's export control process requires all exporters to register with the central government and to obtain an export license when exporting sensitive goods and materials. The

exporter is required to confine exports to exactly what is stipulated in the license and is also responsible for providing an end user certificate submitted by the intended end user.

Despite updates to regulations and improved actions in some areas, proliferation involving Chinese entities remains a significant concern. The U.S. Government has sanctioned multiple Chinese companies and individuals for proliferation activity since 1997. Chinese state-owned enterprises (SOEs), including China North Industries Corporation, China Precision Machinery Import Export Corporation, and China Great Wall Incorporated, have been sanctioned for proliferation on multiple occasions. SOEs have improved their proliferation records, though private small- and medium-sized companies make up the majority of Chinese firms currently subject to proliferation sanctions, most of which are proliferating dual-use materials and technologies. Some proliferators, such as Karl Lee, are under multiple sanctions. Ensuring greater cooperation from Chinese authorities in preventing proliferation by Chinese entities remains an important objective of our bilateral engagement with China on nonproliferation.

#### **Chinese Nuclear Cooperation with Pakistan**

Chinese nuclear cooperation with Pakistan dates back to 1976 when the two countries signed their first nuclear cooperation agreement. By 1991, China had signed an agreement to provide Pakistan with a 325 MWe power plant—Chasma I—under IAEA safeguards. The reactor, which is based on China's Qinshan 1 reactor, was supplied by China National Nuclear Corporation. Construction on Chasma I began in 1993 and the reactor was completed in 2000.

Throughout the 1990s, Chinese and Pakistani personnel also engaged in technical exchanges on nuclear issues, and Chinese entities supplied materials and dual-use equipment to unsafeguarded facilities affiliated with Pakistan's nuclear weapon program. For example, in 1996 a Chinese firm transferred ring magnets to Pakistan destined for use in gas centrifuges in nuclear-weapons-related facilities not under IAEA safeguards.

In 2004, prior to joining the NSG, China signed an additional contract with Pakistan for the building of Chasma II, which was completed in 2011 and is under IAEA safeguards.

China's provision to Pakistan of reactors beyond Chasma I and II is inconsistent with Chinese commitments made when it joined the NSG in 2004. At

that time, China described existing cooperation with Pakistan, which would be understood as grandfathered from the full-scope safeguards condition of supply to non-nuclear weapon states under the NSG Guidelines. The full-scope safeguards condition in the NSG Guidelines does not apply to agreements already in existence at the time a state adheres to those guidelines. In China's case, this existing safeguarded cooperation consisted of the construction of the Chasma II nuclear power plants, lifetime support, and fuel supply for the Chasma I and II nuclear power plants, replenishment of heavy water and operation safety service to Karachi Nuclear Power Plant, and replenishment of fuel and operation safety service to the two research reactors installed at the Pakistan Institute of Nuclear Science and Technology. China's ongoing construction of new nuclear power plants in Pakistan beyond the above declared projects is inconsistent with its commitments to the NSG. In 2008, in response to the U.S.-India Peaceful Nuclear Cooperation Agreement, China and Pakistan agreed to build two new power reactors, Chasma III and IV. The plants are estimated to cost \$1.9 billion, with over 80 percent financed by China. Construction on Chasma III and IV began in 2009 and 2011, respectively. In 2011, the IAEA approved a safeguards agreement for these reactors.

In 2013, China and Pakistan announced the planned construction of a civil nuclear complex in Karachi. Two plants, Karachi II and Karachi III, will cost approximately \$9 billion, with China financing over 70 percent of the project. The ACP-1000 reactors, each with a capacity of 1,100 MWe, will be the first of their kind to be built. China owns the intellectual property rights, and the reactors will be under IAEA safeguards.

As of early 2014, China and Pakistan were discussing Pakistan's acquisition of three additional nuclear reactors. These reactors are projected to cost \$13 billion and would be built in central Pakistan at Muzaffargarh.

### **Military Diversion**

China's strategy for strengthening its military involves the acquisition of foreign technology as well as greater civil-military integration, and both elements have the potential to decrease development costs and to accelerate military modernization. This strategy requires close scrutiny of all end users of U.S. technology under the proposed Agreement.

One notable area of interest is China's selection of domestic manufacturers for the AP-1000s canned motor pumps. A 1993 Chinese defense industry



publication specifically cited the involvement of the same domestic manufacturers as those contracted to manufacture the AP-1000 pumps in producing pumps for China's 1<sup>st</sup> generation nuclear-powered ballistic missile submarine (SSBN), the Type-092 SSBN.

### **Civil Nuclear Reactor Deployment**

Ensuring reliable, low-carbon sources of energy is a priority for China as China's electricity consumption continues to rise and as it strives to meet its climate change goals. In just the last 10 years, China has almost doubled the number of nuclear power plants in operation, and does not plan to slow this expansion. As of December 2014, China has 22 nuclear power plants in operation and 26 under construction. Despite the rapid growth of the nuclear sector, nuclear energy will remain a small part of China's total electricity production, estimated at around 4 percent of its total output. In November 2014, President Obama and President Xi announced post-2020 climate change targets, including China's target of achieving 20 percent non-fossil energy by 2030, which will demand continued expansion of China's use of nuclear energy.

China also intends to become a major supplier in the international civil nuclear reactor market, a key factor shaping the country's evolving nuclear energy sector. Over the last several decades China has collaborated with various international reactor vendors, including companies in Canada and Russia and most recently the United States and France. Chinese authorities announced the approval of a new indigenous reactor design, called the Hualong One. Although the Chinese expect to deploy the Hualong One widely throughout China, Chinese authorities also expect it to be an important Chinese brand for export. The Hualong One has elements of French reactor design, but is a Generation-III reactor with full Chinese intellectual property rights. It successfully passed IAEA generic reactor safety review in late 2014. Multiple Chinese firms – including China National Nuclear Corporation (CNNC), State Nuclear Power Technology Corporation, and China General Nuclear Power Corporation – hope to engage globally on the export of civil nuclear technology to countries including Argentina, United Kingdom, Pakistan, Romania, Saudi Arabia, South Africa, and Turkey.

### **Nuclear Fuel Cycle**

Another near-term goal for China is to develop a closed fuel cycle. Since 1987, as announced to the IAEA, China has sought to develop indigenous technology to close its nuclear fuel cycle. However, China currently relies on

foreign suppliers for most of the fuel cycle. Domestically China is rich in natural uranium, but continues to invest in global mining operations and sources of uranium in Kazakhstan, Uzbekistan, Australia, Namibia, and Canada. China has a Russia-supplied IAEA safeguarded enrichment plant in Shaanxi and Lanzhou, and it has since developed an indigenous centrifuge capacity. China also has plans for additional enrichment facilities to support its expanding nuclear power program. China's fuel fabrication is done at facilities developed by Canada, France, Russia, and the United States, but China will have to develop increased capacity to achieve its goal of self-sufficiency.

On the back end of the fuel cycle, China plans to reprocess most of its spent fuel domestically. In 2011, CNNC established a branch in Gansu province to industrialize spent fuel reprocessing and mixed-oxide fuel production. Additionally, since 2007 China has been working with the French company Areva to build additional IAEA safeguarded reprocessing facilities in Gansu.

#### **Nuclear Safety and Security**

Several organizations are responsible for oversight of China's civil nuclear sector. China Atomic Energy Authority (CAEA) is the primary agency responsible for regulating the nuclear energy industry and nuclear emergency preparedness, and engages the international community on matters related to nuclear energy. The Ministry of Environmental Protection (MEP) evaluates the environmental impact of new plant proposals. The National Nuclear Safety Administration (NNSA), which is located within MEP, is responsible for nuclear and radiation safety regulation, and CAEA and NNSA are jointly responsible for review and approval of nuclear power project applications. The National Energy Administration (NEA) under the National Development and Reform Commission is involved in the planning of nuclear power development and is therefore involved in the implementation of policies regarding security and nonproliferation.

Several organizations are responsible for ensuring the safety and security of the civil nuclear sector. Following the establishment of a civil nuclear facility, NNSA, MEP, and the National Health and Family Planning Commission are responsible for monitoring the safety of the environment, the population, and the general health conditions of the nuclear facilities. CAEA has oversight over the State Committee of Nuclear Accident Coordination, which develops national emergency preparedness plans; China's State Council and the NEA also have undertaken efforts to evaluate and improve nuclear safety-related technology and emergency response capabilities.

The State Council has adopted a number of statutes regulating safety, control of nuclear material, and environmental management in the event of a nuclear accident, which have been implemented over the last thirty years and continue to be developed to address China's nuclear regulatory needs. A \$12 billion investment into nuclear safety is already underway and the MEP published a road map to ensure Chinese nuclear safety reaches international standards by 2020. China has also been working since the 1980s to establish an overall legislative framework akin to the U.S. Atomic Energy Act, but it is unclear why no such legislation has been approved.

China in recent years has engaged international partners, both multilaterally and bilaterally, on nuclear security issues. In July 2010, at the request of the Chinese Government, the IAEA provided an evaluation of the framework for regulating safety of all nuclear facilities and activities and radioactive sources in China, and the effectiveness of the regulatory functions implemented. The IAEA identified good practices as well as areas where China could improve its regulatory system. Of notable mention was the suggestion of a national nuclear law, and the need for NNSA, within MEP, to have an elevated stature to provide the agency with decision-making functionality. China also participated in the 2010 and 2014 Nuclear Security Summits, at which the United States and China announced several bilateral and multilateral initiatives to promote nuclear safety and security, most notably the Nuclear Security Center of Excellence above. Separately, the United States and China continue to discuss and promote best practices on nuclear safety, regulatory, and commercial deployment issues in reactor design development, industry outreach, commodity identification training and other programs described above. For example, the United States and China identified more than ten outcomes deepening cooperation on these issues at the fifth U.S.-China Strategic and Economic Dialogue in July 2014.

#### **Implementation of Nuclear Safeguards in China**

As a nuclear weapon state under the NPT, China is under no legal obligation to place its nuclear facilities under IAEA safeguards. However, in 1988, China signed a "Voluntary Offer" Safeguards Agreement (VOA) with the IAEA, joining each of the other NPT nuclear weapon states. Like other VOAs, China's agreement gives the IAEA the right – but not the obligation – to apply safeguards to civil facilities identified by China as eligible for safeguards. Because of IAEA funding constraints, safeguards under China's VOA are applied at civil nuclear facilities only upon the request of relevant supplier states. In 1998, China signed

an Additional Protocol to the safeguards agreement with the IAEA, which entered into force in 2002. The IAEA currently applies safeguards at three Chinese facilities: Unit 1 of the Qinshan Nuclear Power Plant, the HTR-10 prototype pebble bed reactor at Tsinghua University in Beijing, and the Hanzhong uranium enrichment plant in Shaanxi Province.

## **II. THE NATURE AND SCOPE OF COOPERATION CONTEMPLATED IN THE PROPOSED AGREEMENT**

The scope of cooperation contemplated in the proposed Agreement is similar to the scope currently in place under the 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, signed at Washington on July 23, 1985 (the 1985 Agreement). In general, as set forth in Article 2 of the proposed Agreement, the parties (directly or through authorized persons) may transfer information, technology, material, equipment, and components, subject to terms and conditions set forth in the agreement and to further details and conditions that might be determined and agreed in writing subsequently by the parties. Sensitive nuclear technology or facilities or major critical components, however, may only be transferred if provided for by an amendment to the agreement. Restricted Data may not be transferred under the proposed agreement.

With respect to transfer of technology and information, new topics covered by the proposed Agreement include advanced fuels and materials; reactor and fuel safety including through computer simulation and modeling; and safeguards and physical protection. Topics for continued cooperation include reactor development and design; physical and biological research; medicine, agriculture, and industry; fuel cycle studies; and health, safety, and environmental considerations.

All transfers of technology and information are to be carried out in accordance with the "Principle-Based Approach to Nuclear Technology Transfer Assurances" included as part of a 2003 exchange of diplomatic notes between the parties, except as modified in the Agreed Minute of the proposed Agreement. Under the Principle-Based Approach, both countries created a process to identify when proposed transfers of technology would require the provision of written nonproliferation assurances and to expedite provision of such assurances. The Agreed Minute of the proposed Agreement expands on the 2003 diplomatic notes by outlining a process whereby transfers of certain technology or information – within the categories of nuclear reactors and equipment, plants and equipment for

conversion of nuclear material, or nuclear fuel fabrication not containing plutonium – could be further expedited through inclusion on a pre-approved activity and nuclear technology list to be jointly developed by the parties.

With respect to material, equipment, and components, the scope of cooperation in the proposed Agreement is essentially unchanged from the 1985 Agreement. The only special fissionable material to be transferred is low enriched uranium, except for small quantities of special fissionable material for use as samples, standards, detectors, targets, radiation sources, and other purposes as agreed by the parties.

The proposed Agreement would cover transfers of material, equipment, components, technology, and information either directly between the parties or through authorized (i.e., licensed) persons. As is standard, however, specific items will be regarded as transferred pursuant to the agreement only upon confirmation by the appropriate competent authority of the recipient party.

The proposed Agreement would have a term of 30 years from the date of its entry into force, and would apply to all material, equipment, and components that were previously subject to the 1985 Agreement, which would be terminated upon entry into force of the proposed Agreement.

### **III. THE PROPOSED AGREEMENT MEETS THE SUBSTANTIVE REQUIREMENTS OF THE ATOMIC ENERGY ACT AND NUCLEAR NON-PROLIFERATION ACT OF 1978**

The provisions of proposed Agreement satisfy the applicable requirements of the Atomic Energy Act and the NNPA.

#### The Atomic Energy Act

Subsection 123 a. of the Atomic Energy Act sets forth nine specific requirements that must be met in most agreements for cooperation. As noted below, six of those requirements are relevant with respect to the proposed Agreement.

(1) Application in Perpetuity of Safeguards: Pursuant to paragraph 123 a.(1), China, as the “cooperating party,” must provide a guaranty:

“that safeguards as set forth in the agreement for cooperation will be maintained with respect to all nuclear materials and equipment transferred pursuant [to the Agreement], 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 [China], irrespective of the duration of the other provisions of the agreement or whether the agreement is terminated or suspended for any reason.”

Such guaranties are found in Articles 9 and 14 of the proposed Agreement.

Article 9(1) stipulates that nuclear material transferred to China pursuant to the agreement and any other such material used in or produced through the use of material, equipment, components, technology, or information so transferred shall be subject to the Agreement between the People’s Republic of China and the International Atomic Energy Agency for the Application of Safeguards in China, which entered into force on September 18, 1989, and the Additional Protocol thereto, which entered into force on March 28, 2002. This is a significant change from the 1985 Agreement, which was concluded before China had entered into either of the safeguards agreements with the IAEA. Under the 1985 Agreement, exchanges of information and visits enable the United States to obtain the information required to maintain an inventory of U.S.-supplied items and the material produced through their use, to confirm periodically, on-site, the accuracy of the inventory and specified uses, and to obtain that information and conduct on-site visits for as long as items remain in China or under its control.

In addition, the proposed Agreement provides in Article 9(3) that, in the event the IAEA-China safeguards agreement is not being implemented, the parties shall establish a mutually acceptable alternative. This requirement for creation of “fall-back” safeguards is further amplified in the Agreed Minute, which sets out that such fall-back safeguards would include, at a minimum, rights to review in a timely fashion covered equipment or material or relevant facilities, to require production of records to assist in ensuring accountability for covered material, and to designate personnel for inspection visits.

Both the primary safeguards requirement and the requirement to create fall-back safeguards would, according to Article 14, continue in effect so long as any material, equipment, or components subject to the agreement remains in the

territory of China or under its jurisdiction or control, unless the parties agree that the item is no longer usable for any nuclear activity relevant from the point of view of safeguards.

(2) “Full-Scope” Safeguards: Paragraph 123 a.(2) – which requires maintenance by the cooperating party of IAEA safeguards on all nuclear material in all peaceful activities in the state or under its jurisdiction or control – is only applicable to non-nuclear weapon states, and therefore not to China. China is a nuclear weapon state party to the Treaty on the Non-Proliferation of Nuclear Weapons, according to Article IX of that treaty.

(3) No Explosive or Military Use: Paragraph 123 a.(3) requires agreements for cooperation to include a guaranty that no nuclear material, equipment, or sensitive nuclear technology, and no special nuclear material produced from such transferred items, will be used for any nuclear explosive device, for research on or development of any nuclear explosive device, or for any other military purpose. Article 8 of the proposed Agreement satisfies this requirement. In two important respects it includes an even broader guaranty than is required under the Atomic Energy Act: (1) it applies to all material and all technology, as well as equipment, components, and information, transferred under the agreement; and (2) it applies to any material – not just special nuclear material, but also source material, byproduct material, and moderator material – used in or produced through any such transferred items.

Article 8 also clarifies that routine civilian uses do not become military uses just because they occur in connection with a military facility. So, for example, provision of power from a power network for a military base or the production of radioisotopes for medical use at a military hospital are not military uses.

(4) Right of Return: The requirement in paragraph 123 a.(4) that agreements for cooperation stipulate that the United States has a right to the return of any nuclear materials and equipment transferred pursuant to an agreement for cooperation and any special nuclear material produced through the use of such transferred items in the event of a nuclear detonation by the cooperating party or its termination or abrogation of an IAEA safeguards agreement is inapplicable to nuclear-weapon states such as China.

(5) Retransfer Consent: Paragraph 123 a.(5) requires agreements for cooperation to include a guaranty that certain transferred items – material, Restricted Data, and production or utilization facilities – and any special nuclear

material produced through use of such material or facilities will not be transferred to unauthorized persons or beyond the jurisdiction or control of the cooperating party without U.S. consent. Article 5 of the proposed Agreement includes exactly this requirement for an even broader category of items – all material, equipment, components, technology, and information transferred under the agreement as well as any special fissionable material produced through their use (and Article 3(4) makes clear that Restricted Data cannot be transferred under the Agreement).

The Agreed Minute provides more details on how the right to retransfer consent would be applied, including requirements that consent be given in writing and that conditions for transfers be agreed in advance by the parties. One of the conditions of any transfer would be that the transferring party ensure that the appropriate governmental authority in the recipient destination is informed that the items being transferred are under obligation to the non-transferring party to the agreement. In addition, the parties are to provide to each other an annual inventory of all technology and other information transferred to a third country or destination.

(6) Physical Security: Paragraph 123 a.(6) requires agreements for cooperation to include a guaranty that “adequate physical security” will be maintained with respect to any nuclear material transferred pursuant to an agreement of cooperation and any special nuclear material used in or produced through the use of nuclear material or equipment transferred. The term “adequate physical security” is not defined in section 123, but section 127(3) of the Atomic Energy Act states that physical security measures shall be deemed adequate if they “provide a level of protection equivalent to that required by the applicable regulations.” The NRC, in regulations set forth at 10 C.F.R. §110.44, requires that physical security measures in recipient countries provide protection at least comparable to the current IAEA recommendations, published at INFCIRC/225/rev.5.

Article 7 of the proposed Agreement meets this requirement. It requires maintenance of “adequate” physical protection with respect to transferred nuclear material and equipment as well as special fissionable material used in or produced from it, and further sets forth that compliance requires, at a minimum, measures in accordance with levels at least equivalent to the IAEA INFCIRC/225/rev.5 recommendations. Moreover, it requires measures to be in accordance with the provisions of the Convention on the Physical Protection of Nuclear Material and any amendments to that Convention that enter into force for both parties. And finally, it requires the parties to keep each other informed of the agencies or



authorities with responsibility for physical protection in their respective territories and to consult on the adequacy of measures whenever either party believes revised measures may be required.

(7) Enrichment/Reprocessing/Alteration Consent: Paragraph 123 a.(7) requires a guaranty that no material transferred pursuant to an agreement for cooperation or used in or produced through the use of any material, production facility, or utilization facility transferred pursuant to such an agreement “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 requirement is met by Article 6 of the proposed Agreement, which represents a significant change in approach from the 1985 Agreement.

At the time of the 1985 Agreement, the parties realized that, as a factual matter, the issue of implementing the consent rights required by this paragraph would not arise for substantially more than a decade. The text of the 1985 Agreement specified that neither party intended to enrich, reprocess, or alter in form material transferred under the agreement or used in or produced through such material or transferred equipment, and further set forth that in the event a party wanted to undertake such activities in the future, the parties would develop mutually acceptable arrangements. Although indirect, the 1985 Agreement did ensure that the activities in question could not be undertaken without the prior agreement of the United States.

Article 6 of the proposed Agreement, by contrast, uses direct language similar to that in other agreements for cooperation. It establishes a general rule that nuclear material transferred pursuant to the agreement, and nuclear material used in or produced through the use transferred material or equipment, shall not be reprocessed or otherwise altered in form or content (except by irradiation or further irradiation) unless the parties agree. It then sets forth the agreement of the parties to certain types of alteration that do not raise proliferation concerns in this case: conversion, enrichment to less than twenty percent in the isotope uranium-235, fabrication of low enriched uranium fuel, post-irradiation examination, and blending or downblending of uranium to produce low enriched uranium.

Article 6(2) of the proposed Agreement further establishes the consent of the parties for certain reprocessing, subject to development of arrangements and procedures establishing standards for physical protection, storage, and

environmental protection, among other provisions. Pre-approved reprocessing can only take place in facilities to which IAEA safeguards are applied or, if no such facilities are available and the parties agree in writing, at facilities that have been made eligible for such safeguards. Nuclear material separated through such reprocessing may subsequently be used only at agreed facilities. Such advance consents have been included in other agreements for cooperation, for example with India and the European Atomic Energy Community, and satisfy the Atomic Energy Act's requirement for a guaranty that these activities will not be conducted without prior consent of the United States.

(8) Storage: Paragraph 123 a.(8) requires agreements for cooperation to include a guaranty that specified nuclear materials – plutonium, uranium 233, and high enriched uranium – transferred or recovered from nuclear material that was transferred or used in transferred equipment will only be stored in facilities approved in advance by the United States. Article 5(1) of the proposed Agreement contains exactly this guaranty.

(9) Sensitive Nuclear Technology: Paragraph 123 a.(9) addresses the need for a guaranty applicable to certain situations that may result when sensitive nuclear technology is transferred pursuant to an agreement for cooperation. According to Article 3(4) of the proposed Agreement, however, sensitive nuclear technology may only be transferred if provided for by an amendment to the Agreement. Such an amendment would need to address, among other things, the requirements of paragraph 123 a.(9). For the proposed Agreement, however, this requirement is not applicable.

#### The Nuclear Nonproliferation Act

Sections 402 and 407 of the Nuclear Nonproliferation Act of 1978 (NNPA) also address the content of agreements for peaceful nuclear cooperation.

(1) Major Critical Components: Section 402(b) of the NNPA precludes the transfer under an agreement for cooperation of component parts determined to be essential to the operation of a uranium enrichment, nuclear fuel reprocessing, or heavy water production facility unless the agreement specifically designates such components as items to be exported. Article 4(5) of the proposed Agreement specifies that such “major critical components” may only be transferred under the agreement if provided for by an amendment to the Agreement. Such an amendment would need to address, among other things, the requirements of section 402(b).

(2) Environment: Section 407 of the NNPA urges the inclusion in agreements for cooperation of provisions for cooperation in protecting the environment from radioactive, chemical, or thermal contamination arising from peaceful nuclear activities. Article 11(2) of the proposed Agreement provides for consultation about such environmental implications and cooperation in protection of the international environment as well as in related matters of health and safety.

The proposed Agreement thus satisfies all the substantive requirements specified for agreements for cooperation by the Act and the NNPA.

#### **IV. CONCLUSION**

Entry into force of the proposed U.S.-China Agreement will renew a framework for mutually beneficial civil nuclear cooperation between the two countries and provide an avenue for continued collaboration on nuclear nonproliferation goals.

On the basis of the analysis in this NPAS and all pertinent information of which it is aware, the Department of State has arrived at the following assessment and conclusions:

1. The safeguards and other control mechanisms and the peaceful use assurances in the proposed Agreement are adequate to ensure that any assistance furnished thereunder will not be used to further any military or nuclear explosive purpose.
2. The Agreement meets all the legal requirements of the Act and the NNPA.
3. Execution of the proposed Agreement would be compatible with the nonproliferation program, policy, and objectives of the United States.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

CHAIRMAN

March 18, 2015

The President  
The White House  
Washington, DC 20500

Dear Mr. President:

In accordance with the provisions of Section 123 of the Atomic Energy Act of 1954, as amended, the United States Nuclear Regulatory Commission reviewed the 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. It is the view of the Commission that the proposed Agreement includes all of the provisions required by law and provides a sufficient framework for civilian nuclear cooperation between the United States and the People's Republic of China. The Commission therefore recommends that you make the requisite positive statutory determination, approve the proposed Agreement, and authorize its execution.

Respectfully,

A handwritten signature in black ink, appearing to read "Stephen Burns".

Stephen G. Burns