

## TABULAR COMPARISON OF THE IAEA SAFEGUARDS AGREEMENTS WITH CHINA AND INDIA

Editorial Team  
Submitted July 14, 2008

The purpose of this piece is to present the wording of two documents for easy comparison and factual discussion. One is the draft agreement between The Republic of India and the International Atomic Energy Agency (IAEA) that was revealed in July 2008. The Additional protocol with that agreement has not been released. The other document is the agreement done nearly twenty years ago between IAEA and the People's Republic of China (China), the last nation to have been admitted into the "P-5", the five nations who are considered to be Nuclear Weapon States under the Nuclear Non-Proliferation Treaty (NPT). No analysis is attempted. We have shorted "IAEA" to "IAEA" and performed such other minor editing that does not alter nuances.

**TABLE 1. PRELIMINARIES**

	<b>India</b>	<b>China</b>
Title	GOV/2008/30	INFCIRC/369, Oct. 1989
	Nuclear Verification The Conclusion of Safeguards Agreements and Additional Protocols An Agreement with the Government of India for the Application of Safeguards to Civilian Nuclear Facilities	Agreement Of 20 September 1988 Between The People's Republic Of China And The International Atomic Energy Agency For The Application Of Safeguards In China
Version Date	Submitted to Board of Governors July 9, 2008	September 30, 1988. Entered into force September 18, 1989
Basic document	26 pages	34 pages
Additional Protocol	None available yet	44 pages

**TABLE 2. PREAMBLE**

<b>India</b>	<b>China</b>
RECOGNIZING the significance India attaches to civilian nuclear energy as an efficient, clean and sustainable energy source for meeting global energy demand, in particular for meeting India's growing energy needs;	Whereas China has declared that it neither stands for nor encourages nuclear proliferation, nor does it help other countries to develop nuclear weapons;
Whereas India ...	Whereas China has..
? is committed to full development of its national three-stage nuclear programme (for) energy security and protection of the environment;	? declared that in its exports of nuclear material and equipment, it will require the recipient countries to accept safeguards by the IAEA and that nuclear material and equipment imported to China will only be used for peaceful purposes;
? has a sovereign and inalienable right to carry out nuclear research and development activities for the welfare of its people and other peaceful purposes;	? has made this offer and entered into this Agreement for the purpose of promoting the peaceful application of nuclear energy throughout the world for the benefit of mankind and supporting the objectives (of IAEA)
? a State with advanced nuclear technology, wishes to expand civil nuclear cooperation for its national development;	
? is desirous of further expanding cooperation with the (IAEA) and its Member States (for) full development and use of nuclear energy for peaceful purposes, on a stable, reliable and predictable basis;	
? supports the role of IAEA in the promotion of the safe and peaceful uses of nuclear energy;	
? and IAEA have long standing cooperation; RECOGNIZING that such cooperation must respect the objectives of (IAEA's) Statute and the sovereign rights of India;	

**TABLE 3: ROLE OF IAEA AND PURPOSE OF THE AGREEMENT**

<b>India</b>	<b>China</b>
<p>WHEREAS the Statute authorizes IAEA to apply safeguards, at the request of the parties, to any bilateral or multilateral arrangement, or at the request of a State to any of (its) activities in the field of atomic energy and, in this context: Noting the relevance .. of the understandings between India and the (USA) expressed in the India-U.S. Joint Statement of 18 July 2005, in which India, inter alia, has stated its willingness: to identify and separate its civilian and military nuclear facilities and programmes in a phased manner; to file with (IAEA) a declaration regarding its civilian nuclear facilities ; to place voluntarily its civilian nuclear facilities under IAEA safeguards;</p> <p>Noting also that:</p> <ul style="list-style-type: none"> <li>• India will place its civilian nuclear facilities under IAEA safeguards so as to facilitate full civil nuclear cooperation between India and Member States of (IAEA) and to provide assurance against withdrawal of safeguarded nuclear material from civilian use at any time;</li> <li>• An essential basis of India's concurrence to accept IAEA safeguards under an India-specific safeguards agreement is the conclusion of international cooperation arrangements creating the necessary conditions for India to obtain access to the international fuel market, including reliable, uninterrupted and continuous access to fuel supplies from companies in several nations, as well as support for an Indian effort to develop a strategic reserve of nuclear fuel to guard against any disruption of supply over the lifetime of India's reactors; and</li> <li>• India may take corrective measures to ensure uninterrupted operation of its civilian nuclear reactors in the event of disruption of foreign fuel supplies;</li> </ul> <p>WHEREAS ... this Agreement is intended to facilitate the broadest possible cooperation between India and Member States of IAEA in the peaceful uses of nuclear energy and ensure international participation in the further development of India's civilian nuclear programme on a sustained and long-term basis;</p> <p>RECALLING that IAEA must take into account the need to avoid hampering the peaceful uses of nuclear energy, economic and technological development or international cooperation in the field of peaceful uses of nuclear energy; respect health, safety and physical protection and related security provisions in force in India; and take every precaution to protect commercial, technological and industrial secrets as well as other confidential information coming to its knowledge;</p> <p>WHEREAS the frequency and intensity of activities described in this Agreement shall be kept to the minimum consistent with the objective of effective and efficient IAEA safeguards;</p> <p>WHEREAS India has requested IAEA to apply safeguards with respect to items subject to this Agreement;</p> <p>WHEREAS the Board of Governors of the IAEA acceded to that request on .....; NOW THEREFORE, taking into account the above, India and IAEA have agreed as follows</p>	<p>WHEREAS the purpose of a safeguards agreement giving effect to this offer by China would thus necessarily differ from the purpose of safeguards agreements between IAEA and the non-nuclear-weapon States;</p> <p>WHEREAS it is in the interest of the Member States of IAEA that, without prejudice to the principles and integrity of IAEA's safeguards system, the financial and other resources employed by IAEA for the implementation of this Agreement should not exceed those required for attaining the objective of the Agreement;</p> <p>AND WHEREAS IAEA is authorized, pursuant to Article III of the Statute, to conclude such a safeguards agreement; NOW, THEREFORE, China and IAEA have agreed as follows:</p>

**PART I: GENERAL CONSIDERATIONS**

**TABLE 4. A. BASIC UNDERTAKING**

<b>India</b>	<b>China</b>
<p>1. India undertakes that none of the items subject to this Agreement, as defined in paragraph 11, shall be used for the manufacture of any nuclear weapon or to further any other military purpose and that such items shall be used exclusively for peaceful purposes and shall not be used for the manufacture of any nuclear explosive device.</p> <p>2. IAEA undertakes to apply safeguards to the items defined in paragraph 11, so as to ensure, as far as it is able, that no such item is used for the manufacture of any nuclear weapon or to further any other military purpose and that such items are used exclusively for manufacture of any nuclear explosive device.</p>	<p><b>Article 1</b></p> <p>(a) China shall accept safeguards on all source or special fissionable material in peaceful nuclear facilities to be designated by China to enable IAEA to verify that such material is not withdrawn, except as provided for in this Agreement, from those facilities while such material is subject to safeguards.</p> <p>(b) China shall provide a List of the facilities referred to in paragraph (a) and may, per Part II of this Agreement, add facilities to or remove facilities from the List.</p> <p>(c) China may, withdraw nuclear material subject to safeguards under this Agreement from facilities selected by IAEA in accordance with Article 2(b).</p>

**TABLE 5: GENERAL PRINCIPLES**

<b>India: B. GENERAL PRINCIPLES</b>	<b>China:</b>
<p>3. The purpose of safeguards under this Agreement is to guard against withdrawal of safeguarded nuclear material from civilian use at any time.</p> <p>4. The application of safeguards under this Agreement is intended to facilitate implementation of relevant bilateral or multilateral arrangements to which India is a party, which are essential to the accomplishment of the objective of this Agreement.</p> <p>5. Bearing in mind Article II of the Statute, IAEA shall implement safeguards in a manner designed to avoid hampering India's economic or technological development, and not to hinder or otherwise interfere with any activities involving the use by India of nuclear material, non-nuclear material, equipment, components, information or technology produced, acquired or developed by India independent of this Agreement for its own purposes.</p> <p>6. The safeguards procedures set forth in this document shall be implemented in a manner designed to be consistent with prudent management practices required for the economic and safe conduct of nuclear activities.</p> <p>7. In implementing safeguards, IAEA shall take every precaution to protect commercial and industrial secrets. No member of IAEA's staff shall disclose, except to the Director General and to such other members of the staff as the Director General may authorize to have such information by reason of their official duties in connection with safeguards, any commercial or industrial secret or any other confidential information coming to his knowledge by reason of the implementation of safeguards by IAEA.</p> <p>8. IAEA shall not publish or communicate to any State, organization or person any information obtained by it in connection with the implementation of safeguards in India, except that:</p> <p>(a) Specific information relating to such implementation in India may be given to the Board and to such IAEA staff members as require such knowledge by reason of their official duties in connection with safeguards, but only to the extent necessary for IAEA to fulfil its</p>	<p><b>Article 4</b></p> <p>The safeguards provided for in this Agreement shall be implemented in a manner designed:</p> <p>(a) to avoid hampering the economic and technological development of China or international co-operation in the field of peaceful nuclear activities, including international exchange of nuclear material;</p> <p>(b) to avoid undue interference in China's peaceful nuclear activities, and in particular in the operation of facilities; and</p> <p>(c) to be consistent with prudent management practices required for the economic and safe conduct of nuclear activities.</p> <p><b>Article 5</b></p> <p>(a) IAEA shall take every precaution to protect commercial and industrial secrets and other confidential information coming to its knowledge in the implementation of this Agreement.</p> <p>(b) (i) IAEA shall not publish or communicate to any State, organization or person any information obtained by it in connection with the implementation of this Agreement, except that specific information relating to the implementation thereof may be given to the Board of Governors of IAEA (hereinafter referred to as "the Board") and to such IAEA staff members as require such knowledge by reason of their official duties in connection with safeguards, but only to the extent necessary for IAEA to fulfil its responsibilities in implementing this Agreement.</p> <p>(ii) Summarized information on nuclear material subject to safeguards under this Agreement may be</p>

<p>safeguards responsibilities;                  (b) Summarized lists of items being safeguarded by IAEA may be published upon decision of the Board; and                  (c) Additional information may be published upon decision of the Board and if all States directly concerned agree.</p> <p>9. In the light of Article XII.A.5 of the Statute, safeguards shall continue with respect to produced special fissionable material and to any materials substituted therefor.</p> <p>10. Nothing in this Agreement shall affect other rights and obligations of India under international law.</p>	<p>published upon decision of the Board if China agrees thereto.</p>
---	--

**TABLE 6: PURPOSE OF SAFEGUARDS**

<b>II. CIRCUMSTANCES REQUIRING SAFEGUARDS</b> <b>A. ITEMS SUBJECT TO THIS AGREEMENT</b>	<b>P A R T II GENERAL PROVISIONS</b>
<p>11. The items subject to this Agreement shall be: (a) Any facility listed in the Annex to this Agreement, as notified by India pursuant to paragraph 14(a) of this Agreement; (b) Any nuclear material, non-nuclear material, equipment and components supplied to India which are required to be safeguarded pursuant to a bilateral or multilateral arrangement to which India is a party; (c) Any nuclear material, including subsequent generations of special fissionable material, produced, processed or used in or by the use of a facility listed in the Annex or in or by the use of any nuclear material, non-nuclear material, equipment and components referred to in paragraph 11(b); (d) Any nuclear material substituted in accordance with paragraph 27 or 30(d) of this Agreement for nuclear material referred to in paragraph 11(b) or 11(c) of this Agreement; (e) Any heavy water substituted in accordance with paragraph 32 of this Agreement for heavy water subject to this Agreement; (f) Any facility other than a facility identified in paragraph 11(a) above, or any other location in India, while producing, processing, using, fabricating or storing any nuclear material, non-nuclear material, equipment or components referred to in paragraph 11(b), (c), (d) or (e) of this Agreement, as notified by India pursuant to paragraph 14(b) of this Agreement.</p> <p>12. The scope of this Agreement is limited to the items subject to this Agreement as defined in paragraph 11 above. Declaration</p> <p>13. Upon entry into force of this Agreement, and a determination by India that all conditions conducive to the accomplishment of the objective of this Agreement are in place, India shall file with IAEA a Declaration, based on its sovereign decision to place voluntarily its civilian nuclear facilities under IAEA safeguards in a phased manner. Notifications</p> <p>14. (a) India, on the basis of its sole determination, shall notify IAEA in writing of its decision to offer for IAEA safeguards a facility identified by India in the Declaration</p>	<p>Article 2                  (a) IAEA shall have the right to apply safeguards, in accordance with the terms of this Agreement, on all source or special fissionable material in facilities which are on the List provided in accordance with Article 1(b), with a view to enabling IAEA to verify that such material is not withdrawn, except as provided for in this Agreement, from those facilities while such material is subject to safeguards under this Agreement.                  (b) IAEA shall, from time to time, select facilities on the List provided by China in accordance with Article 1(b), in which IAEA wishes to apply safeguards, and shall notify China of such facilities. The facility shall be considered to be selected upon receipt by China of such notification.</p> <p><b>IMPLEMENTATION OF SAFEGUARDS</b></p> <p>Article 3                  (a) China and IAEA shall co-operate to facilitate implementation of the safeguards provided for in this Agreement                  (b) The source or special fissionable material subject to safeguards under this Agreement shall be that material in the facilities selected by IAEA in accordance with Article 2(b) at any given time.                  (c) The safeguards to be applied by IAEA shall be implemented on the basis of the procedures specified in this Agreement.</p> <p>Article 6                  (a) IAEA shall, in implementing safeguards pursuant to this Agreement, take full account of technological developments in the field of safeguards, and shall make every effort to ensure optimum cost-effectiveness and the application of the principle of safeguarding effectively the flow of nuclear material subject to safeguards under this Agreement by use of instruments and other techniques at certain strategic points to the extent that present or future technology permits.                  (b) In order to ensure optimum cost-effectiveness, use shall be made, for example, of such means as:                  (i) containment as a means of defining material balance areas for accounting purposes;                  (ii) statistical techniques and random sampling in evaluating the</p>

<p>referred to in paragraph 13, or any other facility to be determined by India. Any facility so notified by India to IAEA will be included in the Annex, and become subject to this Agreement, as of the date of receipt by IAEA of such written notification from India. (b) Should India, on the basis of its sole determination, decide to import or transfer any nuclear material, non-nuclear material, equipment or components subject to this Agreement to any facility or other location in India provided for in paragraph 11(f) of this Agreement, it shall so notify the IAEA. Any such facility or location so notified by India pursuant to this subparagraph shall become subject to this Agreement as of the date of receipt by IAEA of such written notification from India.</p> <p>15. India shall notify the IAEA of the receipt of any nuclear material, non-nuclear material, equipment and components referred to in paragraph 11(b) of this Agreement within four weeks of the arrival in India of such nuclear material, non-nuclear material, equipment and components. <b>Provision of Information to IAEA</b></p> <p>16. In the event that India's notification pursuant to paragraph 14(a) of this Agreement relates to a facility subject to IAEA safeguards under another Safeguards Agreement or Agreements in India at the time of entry into force of this Agreement, India shall provide IAEA, along with the relevant notification, such information as is required pursuant to the other Safeguards Agreement or Agreements as relates to any nuclear material, non-nuclear material, equipment and components subject to safeguards thereunder.</p> <p>17. With respect to any other facility listed in the Annex pursuant to paragraph 14(a) of this Agreement, India shall provide IAEA, within four weeks of the relevant notification, with: (a) a list of all nuclear material at each such facility; and (b) where relevant, and if required pursuant to a bilateral or multilateral arrangement to which India is party, information relating to: (i) Any nuclear material, non-nuclear material, equipment and components supplied to India for production, processing, storage or use in such facility; (ii) Any nuclear material, including subsequent generations of special fissionable material, produced, processed or used in or by the use of such facility or in or by the use of any nuclear material, non-nuclear material, equipment and components supplied to India for production, processing or use in such facility.</p> <p>18. Each notification pursuant to paragraph 15 of the Agreement shall include all information relevant to the nuclear material, non-nuclear material, equipment and components so notified, including the facility or location where the nuclear material, non-nuclear material, equipment and components so notified will be received.</p> <p>19. The information provided by India pursuant to</p>	<p>flow of nuclear material; and (iii) concentration of verification procedures on those stages in the nuclear fuel cycle involving the production, processing, use or storage of nuclear material from which nuclear weapons or other nuclear explosive devices could readily be made, and minimization of verification procedures in respect of other nuclear material, on condition that this does not hamper IAEA in applying safeguards under this Agreement.</p> <p><b>SYSTEM OF ACCOUNTING FOR AND CONTROL OF NUCLEAR MATERIAL OF CHINA</b></p> <p><b>Article 7</b></p> <p>(a) China shall maintain a system of accounting for and control of all nuclear material subject to safeguards under this Agreement. (b) IAEA shall apply safeguards in accordance with the provisions of this Agreement in such a manner as to enable IAEA to verify, in ascertaining that there has not been any withdrawal of nuclear material, except as provided for in this Agreement, from facilities while such material is subject to safeguards under this Agreement, findings of the accounting and control system of China. IAEA's verification shall include, Inter alia, independent measurements and observations conducted by IAEA in accordance with the procedures specified in Part II. IAEA, in its verification, shall take due account of the technical effectiveness of the accounting and control system of China.</p> <p><b>PROVISION OF INFORMATION TO IAEA</b></p> <p><b>Article 8</b></p> <p>(a) In order to ensure the effective implementation of safeguards under this Agreement, China shall, in accordance with the provisions set out in Part II, provide IAEA with information concerning nuclear material subject to safeguards under this Agreement and the features of facilities relevant to safeguarding such material. (b) (i) IAEA shall require only the minimum amount of information and data consistent with carrying out its responsibilities under this Agreement. (ii) Information pertaining to facilities shall be the minimum necessary for safeguarding nuclear material subject to safeguards under this Agreement. (c) IAEA shall be prepared to examine, if China so requests, on premises of China design information which China regards as being of particular sensitivity. Such information need not be physically transmitted to IAEA provided that it remains readily available for further examination by IAEA on premises of China.</p> <p><b>Article 27</b></p> <p>The purpose of this part of the Agreement is to specify the procedures to be applied in the implementation of the safeguards provisions of Part I.</p> <p><b>OBJECTIVE OF SAFEGUARDS</b></p> <p><b>Article 28</b></p> <p>The objective of the safeguards procedures set forth in this part of the Agreement is the timely detection of withdrawal of significant quantities of nuclear material from facilities selected in</p>
--	--

<p>paragraphs 16, 17 and 18 of this Agreement shall specify, inter alia, to the extent relevant, the nuclear and chemical composition, physical form and quantity of the nuclear material; the date of shipment; the date of receipt; the identity of the consigner and the consignee; and any other relevant information, such as the type and capacity of any facility (or parts thereof), components or equipment; and the type and quantity of non-nuclear material. In the case of a facility or other location subject to this Agreement, the information to be provided shall include the type and capacity of that facility or location, and any other relevant information.</p> <p>20. India shall thereafter notify IAEA by means of reports, in accordance with this Agreement, of any nuclear material, non-nuclear material, equipment and components referred to in paragraph 11(b), (c), (d) or (e) of this Agreement. IAEA may verify the calculations of the amounts and/or quantities of such nuclear material, non-nuclear material, equipment and components, and appropriate adjustments shall be made by agreement between India and IAEA.</p> <p>21. IAEA shall maintain an inventory of items subject to this Agreement. IAEA shall send a copy of the inventory it maintains with respect to such information to India every twelve months and also at any other times specified by India in a request communicated to IAEA at least two weeks in advance.</p> <p><b>B. SAFEGUARDS UNDER OTHER AGREEMENTS</b></p> <p>22. The application of IAEA safeguards under other Safeguards Agreements concluded by India with IAEA and in force at the time of entry into force of this Agreement may, subject to agreement by the Parties to such other Safeguards Agreements and following notification by India of the relevant facilities pursuant to paragraph 14(a), be suspended while this Agreement is in force. The application of safeguards under this Agreement to nuclear material, non-nuclear material, equipment or components subject to safeguards under such other Agreements shall commence as of the date of receipt by IAEA of India's notification. India's undertaking not to use items subject thereto in such a way as to further any military purpose, and its undertaking that such items shall be used exclusively for peaceful purposes and shall not be used for the manufacture of any nuclear explosive device, shall continue to apply.</p> <p><b>D. SUSPENSION OF SAFEGUARDS</b></p> <p>26. Safeguards with respect to nuclear material may be suspended while the material is transferred, under an arrangement or agreement approved by IAEA, for the purpose of processing, reprocessing, testing, research or development, within India or to any other Member State or to an international organization, provided that the quantities</p>	<p>accordance with Article 2(b), other than withdrawal carried out in accordance with the terms of this Agreement.</p> <p><b>Article 29</b> For the purpose of achieving the objective set forth in Article 28, material accountancy shall be used as a safeguards measure of fundamental importance, with containment and surveillance as important complementary measures.</p> <p><b>Article 30</b> The technical conclusion of IAEA's verification activities shall be a statement, in respect of each material balance area, of the amount of material unaccounted for over a specific period, and giving the limits of accuracy of the amounts stated.</p> <p><b>SYSTEM FOR ACCOUNTING FOR AND CONTROL OF NUCLEAR MATERIAL OF CHINA</b></p> <p><b>Article 31</b> Pursuant to Article 7 IAEA, in carrying out its verification activities, shall make full use of China's system of accounting for and control of all nuclear material subject to safeguards under this Agreement and shall avoid unnecessary duplication of China's accounting and control activities.</p> <p><b>Article 32</b> China's system of accounting for and control of all nuclear material subject to safeguards under this Agreement shall be based on a structure of material balance areas, and shall make provision, as appropriate and specified in the Subsidiary Arrangements, for the establishment of such measures as: (a) a measurement system for the determination of the quantities of nuclear material received, produced, shipped, lost or otherwise removed from inventory, and the quantities on inventory; (b) the evaluation of precision and accuracy of measurements and the estimation of measurement uncertainty; (c) procedures for identifying, reviewing and evaluating differences in shipper/receiver measurements; (d) procedures for taking a physical inventory; (e) procedures for the evaluation of accumulations of unmeasured inventory and unmeasured losses; (f) a system of records and reports showing, for each material balance area, the inventory of nuclear material and the changes in that inventory including receipts into and transfers out of the material balance area; (g) provisions to ensure that the accounting procedures and arrangements are being operated correctly; and (h) procedures for the provision of reports to IAEA in accordance with Articles 57 through 63 and 65 through 67.</p> <p><b>STARTING POINT OF SAFEGUARDS</b></p>
---	---

of nuclear material with respect to which safeguards are thus suspended in India may not at any time exceed: (a) 1 effective kilogram of special fissionable material; (b) 10 metric tons in total of natural uranium and depleted uranium with an enrichment 0.005 (0.5 %); (c) 20 metric tons of depleted uranium with an enrichment of 0.005 (0.5 %) or below; and (d) 20 metric tons of thorium.

27. Safeguards with respect to nuclear material in irradiated fuel which is transferred for the purpose of reprocessing may also be suspended if the State or States concerned have, with the agreement of IAEA, placed under safeguards substitute nuclear material in accordance with paragraph 30(d) of this Agreement for the period of suspension. In addition, safeguards with respect to plutonium contained in irradiated fuel which is transferred for the purpose of reprocessing may be suspended for a period not to exceed six months if the State or States concerned have, with the agreement of IAEA, placed under safeguards a quantity of uranium whose enrichment in the isotope uranium-235 is not less than 0.9 (90%) and the uranium-235 content of which is equal in weight to such plutonium. Upon expiration of the said six months or the completion of reprocessing, whichever is earlier, safeguards shall, with the agreement of IAEA, be applied to such plutonium and shall cease to apply to the uranium substituted therefor.

28. Under conditions specified in the Subsidiary Arrangements, IAEA shall suspend safeguards with respect to any parts of the facilities listed in the Annex which are removed for maintenance or repair.

#### E. TERMINATION OF SAFEGUARDS

29. The termination of safeguards on items subject to this Agreement shall be implemented taking into account the provisions of GOV/1621 (20 August 1973).

30. Nuclear material shall no longer be subject to safeguards under this Agreement after:

(a) It has been returned to the State that originally supplied it (whether directly or through the IAEA), if it was subject to safeguards only by reason of such supply and if: (i) It was not improved while under safeguards; or (ii) Any special fissionable material that was produced in it under safeguards has been separated out, or safeguards with respect to such produced material have been terminated ; or

(b) IAEA has determined that: (i) It was subject to safeguards only by reason of its use in a principal nuclear facility which has been supplied wholly or substantially under a project agreement, submitted to safeguards under a safeguards agreement by the parties to a bilateral or multilateral arrangement or unilaterally submitted to safeguards under a safeguards agreement; (ii) It has been removed from such a facility; and (iii) Any special

#### Article 33

Safeguards under this Agreement shall not apply to material in mining or ore processing activities, as well as to uranium or thorium until they have reached the stage of the nuclear fuel cycle where they are of composition and purity suitable for fuel fabrication or isotopic enrichment.

#### CHANGES IN FACILITY LIST

##### Article 34

China may, at any time, notify IAEA of any facility or facilities to be added to or removed from the List provided for in Article 1(b): (a) in case of addition to the List, the notification shall specify the facility or facilities to be added to the List and the date upon which the addition is to take effect;

(b) in the case of removal from the List of a facility or facilities then currently selected in accordance with Article 2(b):

(i) IAEA shall be notified in advance, other than in exceptional circumstances, and the notification shall specify: the facility or facilities being removed, the date of removal, and the quantity and composition of the nuclear material contained therein at the time of notification;

(ii) any facility in respect of which notification has been given in accordance with sub-paragraph (i) shall be removed from the List, as well as from the Listing provided for in Article 39, and the nuclear material contained therein shall cease to be subject to safeguards under this Agreement in accordance with and at the time specified in the notification by China.

(c) in any case of removal from the List of a facility or facilities not then currently selected in accordance with Article 2(b), the notification shall specify the facility or facilities being removed and the date of removal. Such facility or facilities shall be removed from the List at the time specified in the notification by China.

#### TERMINATION OF SAFEGUARDS

##### Article 35

(a) Safeguards shall terminate on nuclear material subject to safeguards under this Agreement, under the conditions set forth in Article 11. Where the conditions of that Article are not met, but China considers that the recovery of nuclear material subject to safeguards under this Agreement from residues is not for the time being practicable or desirable, China and IAEA shall consult on the appropriate safeguards measures to be applied.

(b) Safeguards shall terminate on nuclear material subject to safeguards under this Agreement, when it is withdrawn in accordance with Article 12(a). China shall notify IAEA in advance of such withdrawal, except in exceptional circumstances. The notification shall specify: the facility or facilities from which nuclear material is being withdrawn, the date of its withdrawal, and the quantity and composition of such material. Safeguards shall terminate from the time the nuclear material is withdrawn.

(c) Safeguards shall terminate on nuclear material subject to safeguards under this Agreement, under the conditions set forth in Article 13, provided that China and IAEA agree that such nuclear material is practically irrecoverable.

<p>fissionable material that was produced in it under safeguards has been separated out, or safeguards with respect to such produced material have been terminated; or</p> <p>(c) IAEA has determined that it has been consumed, or has been diluted in such a way that it is no longer usable for any nuclear activity relevant from the point of view of safeguards, or has become practicably irrecoverable; or (d) India has, with the agreement of IAEA, placed under safeguards, as a substitute, such amount of the same element, not otherwise subject to safeguards, as the IAEA has determined contains fissionable isotopes: (i) Whose weight (with due allowance for processing losses) is equal to or greater than the weight of the fissionable isotopes of the material with respect to which safeguards are to terminate; and (ii) Whose ratio by weight to the total substituted element is similar to or greater than the ratio by weight of the fissionable isotopes of the material with respect to which safeguards are to terminate to the total weight of such material; provided that the IAEA may agree to the substitution of plutonium for uranium-235 contained in uranium whose enrichment is not greater than 0.05 (5.0 %); or (e) It has been transferred out of India under paragraph 33(d) of this Agreement, provided that such material shall again be subject to safeguards if it is returned to India; or (f) The terms of this Agreement, pursuant to which it was subject to safeguards under this Agreement, no longer apply, by expiration of this Agreement or otherwise. 31. If India wishes to use safeguarded source material for non-nuclear purposes, such as the production of alloys or ceramics, it shall agree with IAEA on the circumstances under which the safeguards on such material may be terminated. 32. Safeguards shall be terminated on a facility listed in the Annex after India and IAEA have jointly determined that the facility is no longer usable for any nuclear activity relevant from the point of view of safeguards. Safeguards on non-nuclear material, equipment and components subject to this Agreement may be terminated as and when the non-nuclear material, equipment or components have been returned to the supplier or arrangements have been made by IAEA to safeguard the non-nuclear material, equipment or components in the State to which it is being transferred, or when India and IAEA have jointly determined that the non-nuclear material, equipment or component in question has been consumed, is no longer usable for any nuclear activity relevant from the point of view of safeguards or has become practicably irrecoverable. Safeguards may be terminated on heavy water upon India's placing under safeguards as substitute the same amount of heavy water of equivalent or better heavy water concentration.</p> <p><b>III. SAFEGUARDS PROCEDURES</b>  <b>A. GENERAL PROCEDURES</b>  <b>Introduction</b>  37. The safeguards procedures to be applied by IAEA are</p>	<p><b>SUBSIDIARY ARRANGEMENTS</b>  <b>Article 39</b>  (a) China and IAEA shall make Subsidiary Arrangements which shall:  (i) contain a Listing of those facilities selected in accordance with Article 2(b) and thus containing nuclear material subject to safeguards under this Agreement; and  (ii) specify in detail, to the extent necessary to permit IAEA to fulfil its responsibilities under this Agreement in an effective and efficient manner, how the procedures laid down in this Agreement are to be applied.  (b) IAEA shall also notify China of those facilities to be removed from the Listing which have not otherwise been removed pursuant to notification by China in accordance with Article 34. Such facility or facilities shall be removed from the Listing upon such notification to China.  (c) The Subsidiary Arrangements may be extended or changed by agreement between IAEA and China without amendment to this Agreement.</p> <p><b>Article 40</b>  (a) The Subsidiary Arrangements shall enter into force as soon as possible after entry into force of this Agreement.  (b) China and IAEA shall make every effort to achieve the entry into force of the Subsidiary Arrangements in respect of facilities selected in accordance with Article 2(b) within ninety days of the selection of the facility in question by IAEA. An extension of that period shall require agreement between China and IAEA.  (c) Upon selection of a facility by IAEA in accordance with Article 2(b), China shall provide IAEA promptly with the information required for completing the Subsidiary Arrangements, and IAEA shall have the right to apply the procedures set forth in this Agreement to the nuclear material listed in the inventory provided for in Article 41, even if the Subsidiary Arrangements have not yet entered into force.</p> <p><b>INVENTORY</b>  <b>Article 41</b>  IAEA shall establish, on the basis of the initial reports referred to in Article 60, a unified inventory of all nuclear material subject to safeguards under this Agreement, irrespective of its origin, and shall maintain this inventory on the basis of subsequent reports and of the results of its verification activities. Copies of the inventory shall be made available to China at intervals to be agreed.</p> <p><b>PRIVILEGES AND IMMUNITIES</b>  <b>Article 10</b>  China shall apply to the IAEA (including its property, funds and assets) and to its inspectors and other officials, performing functions under this Agreement, the relevant provisions of the Agreement on the Privileges and Immunities of the IAEA as accepted by China.</p> <p><b>CONSUMPTION OR DILUTION OF NUCLEAR MATERIAL</b>  <b>Article 11</b>  Safeguards shall terminate on nuclear material subject to</p>
---	--

those specified in this Agreement, as well as such additional procedures as result from technological developments, and other procedures as may be agreed to between IAEA and India. The safeguards procedures set forth below shall be followed, as far as relevant, with respect to any item subject to this Agreement.

38. IAEA shall conclude with India Subsidiary Arrangements concerning the implementation of the safeguards procedures referred to above. The Subsidiary Arrangements shall also include any necessary arrangements for the application of safeguards to any item subject to this Agreement, including such containment and surveillance measures as are required for the effective implementation of safeguards. The Subsidiary Arrangements shall enter into force no later than six months after entry into force of this Agreement. Design Review 39.

The IAEA shall review the design of principal nuclear facilities, for the sole purpose of satisfying itself that a facility will permit the effective application of safeguards.

40. The design review of a principal nuclear facility shall take place at as early a stage as possible. In particular, such review shall be carried out in the case of: (a) An IAEA project, before the project is approved; (b) A bilateral or multilateral arrangement under which the responsibility for administering safeguards is to be transferred to IAEA, or an activity or facility unilaterally submitted by India, before IAEA assumes safeguards responsibilities with respect to the facility; (c) A transfer of safeguarded nuclear material to a principal nuclear facility whose design has not previously been reviewed, before such transfer takes place; and (d) A significant modification of a principal nuclear facility whose design has previously been reviewed, before such modification is undertaken.

41. To enable IAEA to perform the required design review, India shall submit to it relevant design information sufficient for the purpose, including information on such basic characteristics of the principal nuclear facility as may bear on IAEA's safeguards procedures. IAEA shall require only the minimum amount of information and data consistent with carrying out its responsibility under this section. It shall complete the review promptly after the submission of this information by India and shall notify the latter of its conclusions without delay.

42. If IAEA wishes to examine design information which India regards as sensitive, IAEA shall, if India so requests, conduct the examination on premises in India. Such information should not be physically transmitted to the IAEA provided that it remains readily available for examination by IAEA in India.

Inspections

**C. SPECIAL PROCEDURES RELATING TO SAFEGUARDED NUCLEAR MATERIAL OUTSIDE PRINCIPAL NUCLEAR FACILITIES** Nuclear Material in Research and Development Facilities Routine Reports

69. Only accounting reports need be submitted in

safeguards under this Agreement upon determination by IAEA that the material has been consumed, or has been diluted in such a way that it is no longer usable for any nuclear activity relevant from the point of view of safeguards, or has become practicably irrecoverable.

**WITHDRAWAL AND TRANSFER OF NUCLEAR MATERIAL Article 12**

(a) If China intends to exercise its right to withdraw nuclear material from facilities selected in accordance with Article 2(b), China shall notify IAEA of such withdrawal. Safeguards shall terminate on nuclear material in respect of which such notification has been given.

(b) Nothing in this Agreement shall affect the right of China to transfer material subject to safeguards under this Agreement to destinations not within or under the jurisdiction of China. China shall provide IAEA with information with respect of such transfers in accordance with Article 89. IAEA shall keep records of each such transfer and, where applicable, of the re-application of safeguards to the transferred nuclear material.

**PROVISIONS RELATING TO NUCLEAR MATERIAL TO BE USED IN NON-NUCLEAR ACTIVITIES Article 13**

Where nuclear material subject to safeguards under this Agreement is to be used in non-nuclear activities, such as the production of alloys or ceramics, China shall agree with IAEA, before the material is so used, on the circumstances under which the safeguards on such material may be terminated.

**MEASURES RELATING TO VERIFICATION Article 17**

If the Board, upon report of the Director General, decides that an action by China is essential and urgent in order to ensure verification that nuclear material subject to safeguards under this Agreement is not withdrawn, except as provided for in this Agreement, from facilities selected in accordance with Article 2(b), the Board may call upon China to take the required action without delay, irrespective of whether procedures have been invoked pursuant to Article 21 for the settlement of a dispute.

**Article 18**

If the Board, upon examination of relevant information reported to it by the Director General, finds that IAEA is not able to verify that nuclear material subject to safeguards under this Agreement is not withdrawn, except as provided for in this Agreement, from facilities selected in accordance with Article 2(b), the Board may call upon China to remedy the situation forthwith. In the event there is a failure to take fully corrective action within a reasonable time, the Board may make the reports provided for in paragraph C of Article XII of the Statute and may also take, where applicable, the other measures provided for in that paragraph. In taking such action the Board shall take account of the degree of assurance provided by the safeguards

<p>respect of nuclear material in research and development facilities. The frequency of submission of such routine reports shall be agreed between the IAEA and India, taking into account the frequency established for routine inspections; however, at least one such report shall be submitted each year and in no case shall more than 12 such reports be required in any year.</p> <p><b>Source Material in Sealed Storage</b></p> <p>71. The following simplified procedures for safeguarding stockpiled source material shall be applied if India undertakes to store such material in a sealed storage facility and not to remove it therefrom without previously informing IAEA. Design of Storage Facilities 72. India shall submit to IAEA information on the design of each sealed storage facility and agree with IAEA on the method and procedure for sealing it.</p> <p><b>Routine Reports</b></p> <p>73. Two routine accounting reports in respect of source material in sealed storage shall be submitted each year.</p> <p>92. India and IAEA shall cooperate in making all the necessary arrangements to facilitate the preparation of inventories of safeguarded nuclear material and the taking, shipping and/or analysis of samples, due account being taken of the limitations imposed by the characteristics of a plant already in operation when placed under IAEA safeguards.</p> <p><b>Residues, Scrap and Waste</b></p> <p>93. India shall ensure that safeguarded nuclear material contained in residues, scrap or waste created during conversion or fabrication is recovered, as far as is practicable, in its facilities and within a reasonable period of time. If such recovery is not considered practicable by India, India and the IAEA shall cooperate in making arrangements to account for and dispose of the material.</p> <p><b>Safeguarded and Unsafeguarded Nuclear Material</b></p> <p>94. India and IAEA may agree on the following special arrangements in the case of a conversion plant or a fabrication plant which has not been supplied wholly or substantially under a project agreement, submitted to safeguards under a safeguards agreement by the parties to a bilateral or multilateral arrangement or unilaterally submitted to safeguards under a safeguards agreement, and in which safeguarded and unsafeguarded nuclear material are both present: (a) Subject to the provisions of sub-paragraph (b) below, IAEA shall restrict its safeguards procedures to the area in which safeguarded nuclear material is stored, until such time as all or any part of such nuclear material is transferred out of the storage area into other parts of the plant. Safeguards procedures shall cease to be applied to the storage area or plant when it contains no safeguarded nuclear material; and (b) Where possible,</p>	<p>measures that have been applied and shall afford China every reasonable opportunity to furnish the Board with any necessary reassurance.</p> <p><b>COOPERATION BETWEEN CHINA AND IAEA</b></p> <p><b>Article 19</b></p> <p>(a) In co-operating in the implementation of this Agreement, China and IAEA shall, at the request of either, consult each other about any question arising out of the interpretation or application of this Agreement.</p> <p>(b) For the purposes specified in the preceding paragraph a Liaison Group shall be established, composed of representatives of China and IAEA. The Group shall meet at the request of either party to this Agreement.</p> <p><b>Article 20</b></p> <p>China shall have the right to request that any question arising out of the interpretation or application of this Agreement be considered by the Board. The Board shall invite China to participate in the discussion of any such question by the Board.</p> <p><b>SETTLEMENT OF DISPUTES</b></p> <p><b>Article 21</b></p> <p>Any dispute arising out of the interpretation or application of this Agreement, except a dispute with regard to a finding of the Board under Article 18 or an action taken by the Board pursuant to such a finding, shall be settled by negotiation or other procedures agreed to by China and IAEA. Where the parties agree to submit such dispute to an arbitral tribunal, it shall be composed as follows: China and IAEA shall each designate one arbitrator, and the two arbitrators so designated shall elect a third, who shall be the Chairman. A majority of the members of the arbitral tribunal shall constitute a quorum, and all decisions shall require the concurrence of two arbitrators. The arbitral procedure shall be fixed by the arbitral tribunal. The decisions of the arbitral tribunal shall be binding on China and IAEA.</p> <p><b>SAFEGUARDS UNDER OTHER AGREEMENTS</b></p> <p><b>Article 22</b></p> <p>(a) In the event that China notifies IAEA of any other agreement calling for the application of safeguards to certain nuclear material in China, IAEA shall, if so requested by China, apply safeguards under this Agreement while it is in force, to that material, or to such other nuclear material which is equivalent to it in amount and composition. China and IAEA shall ensure that nuclear material subject to safeguards under this Agreement shall be at all times at least equivalent in amount and composition to that which would be required to be safeguarded in China under the agreements in question. The detailed arrangements for the implementation of this provision shall be specified in the Subsidiary Arrangements provided for in Article 39. (b) In the case where either party to this Agreement gives notice of its termination under Article 26, China and IAEA shall, if China so requests, conclude, without delay, appropriate arrangements to enable IAEA to continue the application of safeguards to the nuclear material referred to in paragraph (a)</p>
--	--

<p>safeguarded nuclear material shall be measured and sampled separately from unsafeguarded nuclear material, and at as early a stage as possible. Where separate measurement, sampling or processing is not possible, any nuclear material containing safeguarded nuclear material shall be subject to the safeguards procedures set out in Part III.E of this Agreement. At the conclusion of processing, the nuclear material that is thereafter to be safeguarded shall be selected, in accordance with paragraph 96 of this Agreement when applicable, by agreement between India and IAEA, due account being taken of any processing losses accepted by IAEA.</p> <p><b>Blending of Nuclear Material</b></p> <p>95. When safeguarded nuclear material is to be blended with either safeguarded or unsafeguarded nuclear material, India shall notify IAEA sufficiently in advance of the programme of blending to enable IAEA to exercise its right to obtain evidence, through inspection of the blending operation or otherwise, that the blending is performed according to the programme.</p> <p>96. When safeguarded and unsafeguarded nuclear material are blended, if the ratio of fissionable isotopes in the safeguarded component going into the blend to all the fissionable isotopes in the blend is 0.3 or greater, and if the concentration of fissionable isotopes in the unsafeguarded nuclear material is increased by such blending, then the whole blend shall remain subject to safeguards. In other cases, the following procedures shall apply: (a) Plutonium/plutonium blending: The quantity of the blend that shall continue to be safeguarded shall be such that its weight, when multiplied by the square of the weight fraction of contained fissionable isotopes, is not less than the weight of originally safeguarded plutonium multiplied by provided however that:</p> <p>(i) In cases where the weight of the whole blend, when multiplied by the square of the weight fraction of contained fissionable isotopes, is less than the weight of originally safeguarded plutonium multiplied by the square of the weight fraction of fissionable isotopes therein, the whole of the blend shall be safeguarded; and (ii) The number of fissionable atoms in the portion of the blend that shall continue to be under safeguards shall in no case be less than the number of fissionable atoms in the originally safeguarded plutonium; (b) Uranium/uranium blending: The quantity of the blend that shall continue to be safeguarded shall be such that the number of effective kilograms is not less than the number of effective kilograms in the originally safeguarded uranium, provided however that: (i) In cases where the number of effective kilograms in the whole blend is less than in the safeguarded uranium, the whole of the blend shall be safeguarded; and (ii) The number of fissionable atoms in the portion of the blend that shall continue to be under safeguards shall in no case be less than the number of fissionable atoms in the originally</p>	<p>upon the termination of this Agreement.</p> <p><b>AMENDMENT OF THE AGREEMENT</b></p> <p><b>Article 23</b></p> <p>(a) China and IAEA shall, at the request of either, consult each other on amendment to this Agreement.</p> <p>(b) All amendments shall require the agreement of China and IAEA.</p> <p><b>ENTRY INTO FORCE AND DURATION</b></p> <p><b>Article 24</b></p> <p>This Agreement or any amendments thereto shall enter into force on the date on which IAEA receives from China written notification that constitutional and statutory requirements of China for entry into force have been met.</p> <p><b>Article 25</b></p> <p>The Director General shall promptly inform all Member States of IAEA of the entry into force of this Agreement, and of any amendments thereto.</p> <p><b>Article 26</b></p> <p>This Agreement shall remain in force for an indefinite period. However, either party to this Agreement may, upon giving six month's notice to the other party, terminate this Agreement if, after consultation between them that party considers that the purpose for which this Agreement was intended can no longer be served.</p> <p><b>DESIGN INFORMATION</b></p> <p><b>General Provisions</b></p> <p><b>Article 42</b></p> <p>The time limits for the provision of design information in respect of any facility selected in accordance with Article 2(b) shall be specified in the Subsidiary Arrangements and such information shall be provided as early as possible after such selection.</p> <p><b>Article 43</b></p> <p>The design information to be provided to IAEA shall include, in respect of each facility selected in accordance with Article 2(b), when applicable:</p> <p>(a) the identification of the facility, stating its general character, purpose, nominal capacity and geographic location, and the name and address to be used for routine business purposes;</p> <p>(b) a description of the general arrangement of the facility with reference, to the extent feasible, to the form, location and flow of nuclear material and to the general layout of important items of equipment which use, produce or process nuclear material;</p> <p>(c) a description of features of the facility relating to material accountancy, containment and surveillance; and</p> <p>(d) a description of the existing and proposed procedures at the facility for nuclear material accountancy and control, with special reference to material balance areas established by the operator, measurements of flow and procedures for physical inventory taking.</p> <p><b>Article 44</b></p>
---	---

safeguarded uranium; (c) Uranium/plutonium blending: The whole of the resultant blend shall be safeguarded until the uranium and the plutonium constituents are separated. After separation of the uranium and plutonium, safeguards shall apply to the originally safeguarded component; and (d) Due account shall be taken of any processing losses agreed upon between India and IAEA.

**V. PHYSICAL PROTECTION**

99. India shall take all suitable measures necessary for the physical protection of the facilities and nuclear material subject to this Agreement, taking into account the recommendations made in IAEA's document INFCIRC/225/Rev.4, as may be amended from time to time.

**VI. SYSTEM OF ACCOUNTING AND CONTROL**

100. India shall establish and maintain a system of accounting for and control of all items subject to safeguards under this Agreement, in accordance with provisions to be set out in the Subsidiary Arrangements.

**VIII. NON-COMPLIANCE**

103. If the Board determines in accordance with Article XII.C of the Statute of IAEA that there has been any non-compliance by India with this Agreement, the Board shall call upon India to remedy such non-compliance forthwith, and shall make such reports as it deems appropriate. In the event of failure by India to take full remedial action within a reasonable time, the Board may take any other measures provided for in Article XII.C of the Statute. IAEA shall promptly notify India in the event of any determination by the Board pursuant in this regard.

**IX. COOPERATION, INTERPRETATION AND APPLICATION OF THE AGREEMENT AND SETTLEMENT OF DISPUTES**

104. IAEA and India shall cooperate to facilitate the implementation of this Agreement. 105. At the request of either India or IAEA, there shall be consultations about any question arising out of the interpretation or application of this Agreement. India and IAEA shall endeavour to settle by negotiation any dispute arising from the interpretation or application of this Agreement. India shall have the right to request that any question arising out of the interpretation or application of the Agreement be considered by the Board. The Board shall invite India to participate in the discussion of any such question by the Board. 106. In the event of any question or questions arising from the implementation of this Agreement, IAEA shall provide India with an opportunity to clarify and facilitate the resolution of such questions. The IAEA shall not draw any conclusions in connection with the question or questions until India has had an opportunity to provide clarifications.

**X. FINAL CLAUSES**

107. India and IAEA shall, at the request of either of them,

Other information relevant to the application of safeguards shall also be provided to IAEA in respect of each facility selected in accordance with Article 2(b), in particular on organizational responsibilities for material accountancy and control. China shall provide IAEA with supplementary information on the health and safety procedures which IAEA shall observe and with which the inspectors shall comply at the facility.

**Article 45**

IAEA shall be provided with design information in respect of a modification relevant for safeguards purposes, for examination, and shall be informed of any change in the information provided to it under Article 44, sufficiently in advance for the safeguards procedures to be adjusted when necessary.

**Purposes of Examination of Design Information**

**Article 46**

The design information provided to IAEA shall be used for the following purposes:

- (a) to identify the features of facilities and nuclear material relevant to the application of safeguards to nuclear material in sufficient detail to facilitate verification;
- (b) to determine material balance areas to be used for IAEA accounting purposes and to select those strategic points which are key measurement points and which will be used to determine flow and inventory of nuclear material; in determining such material balance areas IAEA shall, inter alia, use the following criteria:
  - (i) the size of the material balance area shall be related to the accuracy with which the material balance can be established;
  - (ii) in determining the material balance area advantage shall be taken of any opportunity to use containment and surveillance to help ensure the completeness of flow measurements and thereby to simplify the application of safeguards and to concentrate measurement efforts at key measurement points;
  - (iii) a number of material balance areas in use at a facility or at distinct sites may be combined in one material balance area to be used for IAEA accounting purposes when IAEA determines that this is consistent with its verification requirements; and
  - (iv) a special material balance area may be established at the request of China around a process step involving commercially sensitive information;
- (c) to establish the nominal timing and procedures for taking of physical inventory of nuclear material for IAEA accounting purposes;
- (d) to establish the records and reports requirements and records evaluation procedures;
- (e) to establish requirements and procedures for verification of the quantity and location of nuclear material; and
- (f) to select appropriate combinations of containment and surveillance methods and techniques and the strategic points at which they are to be applied. The results of the examination of the design information shall be included in the Subsidiary Arrangements.

<p>consult about amending this Agreement. 108. This Agreement shall enter into force on the date on which IAEA receives from India written notification that India's statutory and/or constitutional requirements for entry into force have been met. 109. This Agreement shall remain in force until, in accordance with its provisions, safeguards have been terminated on all items subject to this Agreement, or until terminated by mutual agreement of the parties to this Agreement.</p>	<p><b>Re-examination of Design Information</b> <b>Article 47</b> Design information shall be re-examined in the light of changes in operating conditions, of developments in safeguards technology and of experience in the application of verification procedures , with a view to modifying the action IAEA has taken pursuant to Article 46.</p> <p><b>Verification of Design Information</b> <b>Article 48</b> IAEA, in co-operation with China, may send inspectors to facilities to verify the design information provided to IAEA pursuant to Articles 42 through 45, for the purposes stated in Article 46.</p>
---	---

TABLE 7: RECORDS

43. India shall arrange for the keeping of records with respect to principal nuclear facilities and also with respect to all safeguarded nuclear material outside such facilities. For this purpose India and IAEA shall agree on a system of records with respect to each facility and also with respect to such material, on the basis of proposals to be submitted by India in sufficient time to allow IAEA to review them before the records need to be kept.

44. All records shall be kept in English.

45. The records shall consist, as appropriate, of: (a) Accounting records of all safeguarded nuclear material; and (b) Operating records for principal nuclear facilities.

46. All records shall be retained for at least two years. Reports

General Requirements  
47. India shall submit to IAEA reports with respect to the production, processing and use of safeguarded nuclear material in or outside principal nuclear facilities. For this purpose, India and IAEA shall agree on a system of reports with respect to each facility and also with respect to safeguarded nuclear material outside such facilities, on the basis of proposals to be submitted by India in sufficient time to allow IAEA to review them before the reports need to be submitted. The reports need include only such information as is relevant for the purpose of safeguards.

48. All reports shall be submitted in English.

### Routine Reports

49. Routine reports shall be based on the records compiled in accordance with paragraphs 43 to 46 of this Agreement and shall consist, as appropriate, of: (a) Accounting reports showing the receipt, transfer out, inventory and use of all safeguarded nuclear material. The inventory shall indicate the nuclear and chemical composition and physical form of all material and its location on the date of the report; and (b) Operating reports showing the use that has been made of each principal nuclear facility since the last report and, as far as possible, the programme of future work in the period until the next routine report is expected to reach IAEA.

50. The first routine report shall be submitted as soon as: (a) There is any safeguarded nuclear material to be accounted for; or (b) The principal nuclear facility to which it relates is in a condition to operate.

Progress in Construction

### General Provisions

#### Article 49

China shall provide IAEA with reports as detailed in Articles 58 through 67 in respect of nuclear material in facilities selected in accordance with Article 2(b).  
Article 7, China shall arrange that records are kept in respect of each material balance area. The records to be kept shall be described in the Subsidiary Arrangements.

#### Article 50

China shall make arrangements to facilitate the examination of records referred to in Article 49 by inspectors.

#### Article 51

Records referred in Article 49 shall be retained for at least five years.

#### Article 52

Records referred in Article 49 shall consist, as appropriate, of:

- (a) accounting records of all nuclear material subject to safeguards under this Agreement; and
- (b) operating records for facilities containing such nuclear material.

#### Article 53

The system of measurements on which the records used for the preparation of reports are based shall either conform to the latest international standards or be equivalent in quality to such standards.

### Accounting Records

#### Article 54

The accounting records shall set forth the following in respect of each material balance area:

- (a) all inventory changes, so as to permit a determination of the book inventory at any time;
- (b) all measurement results that are used for determination of the physical inventory; and
- (c) all adjustments and corrections that have been made in respect of inventory changes, book inventories and physical inventories.

#### Article 55

For all inventory changes and physical inventories the accounting records shall show, in respect of each batch of nuclear material: material identification, batch data and source data. The records shall account for uranium, thorium and plutonium separately in each batch of nuclear material. For each inventory change, the date of the inventory change and, when appropriate, the originating material balance area and the receiving material balance area or the recipient, shall be indicated.

### Operating Records

#### Article 56

The operating records shall set forth, as appropriate, in respect of each material balance area:

- (a) those operating data which are used to establish changes in the quantities and composition of nuclear material;
- (b) the data obtained from the calibration of tanks and instruments and from sampling and analyses, the procedures to control the quality of measurements and the derived estimates of random and systematic error;
- (c) a description of the sequence of the actions taken in preparing for, and in taking, a physical inventory, in order to ensure that it is correct and complete; and
- (d) a description of the actions taken in order to ascertain the cause and magnitude of any accidental or unmeasured loss that might occur,

### REPORTS SYSTEM: General Provisions

#### Article 57

China shall provide IAEA with reports as detailed in Articles 58 through 67 in respect of nuclear material in facilities selected in accordance with Article 2(b).

#### Article 58

Reports shall be made in Chinese.

#### Article 59

Reports shall be based on the records kept in accordance with Articles 49 through 56 and shall consist, as appropriate, of accounting reports and special reports.

### Accounting Reports

#### Article 60

China shall provide IAEA with an initial report on all nuclear material contained in each facility selected in accordance with Article 2(b). Such reports shall be dispatched to IAEA within thirty days of the last day of the calendar month in which IAEA selects the facility, and shall reflect the situation as of the last day of that month.

**TABLE 8: INTERNATIONAL TRANSFERS**

<b>F. TRANSFERS : India</b>	<b>INTERNATIONAL TRANSFERS: China</b>
<p>33. No safeguarded nuclear material shall be transferred outside the jurisdiction of India until IAEA has satisfied itself that one or more of the following conditions apply: (a) The material is being returned, under the conditions specified in paragraph 30(a) of this Agreement, to the State that originally supplied it; or (b) The material is being transferred subject to the provisions of paragraph 26 or 27 of this Agreement; or (c) Arrangements have been made by IAEA to safeguard the material in the State to which it is being transferred; or (d) The material was not subject to safeguards pursuant to a project agreement and will be subject, in the State to which it is being transferred, to safeguards other than those of IAEA but generally consistent with such safeguards and accepted by IAEA. 34. India shall notify IAEA of its intention to transfer within its jurisdiction any nuclear material, non-nuclear material, equipment or component subject to this Agreement to any facility or location in India to which paragraph 11(f) applies and shall provide to IAEA, before such transfer is effected, the necessary information to enable IAEA to make arrangements for the application of safeguards to such nuclear material, non-nuclear material, equipment or component after its transfer. IAEA shall also be given the opportunity as early as possible in advance of such a transfer to review the design of the facility for the sole purpose of determining that the arrangements provided for in this Agreement can be effectively applied. India may transfer the nuclear material, non-nuclear material, equipment or component only after IAEA has confirmed that it has made such arrangements. 35. India shall notify IAEA of its intention to transfer any nuclear material, non-nuclear material, equipment or component subject to this Agreement to a recipient which is not under the jurisdiction of India. Except as provided for in paragraph 30(a) of this Agreement, such nuclear material, non-nuclear material, equipment or component shall be so transferred only after IAEA has informed India that it has satisfied itself that Agency safeguards will apply with respect to the nuclear material, non-nuclear material, equipment or component in the recipient country. Upon receipt by IAEA of the notification of transfer from India and the confirmation of receipt by the recipient country, safeguards on such nuclear material, non-nuclear material, equipment or component shall be terminated under this Agreement. 36. The notifications referred to in paragraphs 34 and 35 of this Agreement shall be made to IAEA sufficiently in advance to enable it to make the arrangements required before the transfer is effected. IAEA shall promptly take any necessary action. The time limits for and the contents of these notifications shall be set out in the Subsidiary Arrangements.</p>	<p><b>Article 89</b>                      (a) China shall provide IAEA with the following information on international transfers of nuclear material from or to a facility selected in accordance with Article 2(b):                      (i) With respect to the anticipated export of nuclear material (excluding exports of source material for non-nuclear purposes), in an amount exceeding one effective kilogram, for peaceful purposes to any nonnuclear- weapon State:                      (1) the organization or company which will prepare the nuclear material for export;                      (2) the description, and if possible the expected composition and quantity, of nuclear material in the anticipated export;                      (3) the State and organization or company to which the nuclear material is to be exported and, where applicable (i.e. in those cases in which nuclear material is processed further in a second State before retransfer to a third State), the State and organization or company of ultimate destination.                      The foregoing information will be provided normally at least ten days prior to export of the material from China; confirmation of each export, including actual quantity and composition and date of shipment, will be provided promptly after shipment by China.                      (11) With respect to each Import, in an amount greater than one effective kilogram, of nuclear material which, immediately prior to export, is subject to safeguards, under an agreement with IAEA, in the State from which the material is imported:                      (1) the State and organization or company from which the nuclear material is received;                      (2) the description, composition and quantity of nuclear material in the shipment. The information described above will be provided as soon as possible after receipt of the material.                      (b) Where information has been provided to IAEA in accordance with paragraph (a) of this Article, China shall make a Special Report as envisaged in Article 66, if any unusual circumstances lead China to believe that there is or may have been loss of nuclear material or the occurrence of significant delay during the transfer.</p>

**TABLE 9: FREQUENCY AND INTENSITY OF ROUTINE INSPECTIONS**

<b>Routine Inspections; General Procedures. India</b>	<b>INSPECTIONS: General Provisions: China</b>
<p>55. IAEA may inspect any items subject to this Agreement. 56. The purpose of safeguards inspections under this Agreement shall be to verify compliance by India with this Agreement and to assist India in complying with this Agreement and in resolving any questions arising out of the implementation of safeguards.</p> <p>57. The number, duration and intensity of inspections actually carried out shall be kept to the minimum consistent with the effective implementation of safeguards, and if IAEA considers that the authorized inspections are not all required, fewer shall be carried out.</p> <p>58. Inspectors shall neither operate any facility themselves nor direct the staff of a facility to carry out any particular operation.</p> <p><b>Routine Inspections</b></p> <p>59. Routine inspections may include, as appropriate: (a) Audit of records and reports; (b) Verification of the amount of safeguarded nuclear material by physical inspection, measurement and sampling; (c) Examination of principal nuclear facilities, including a check of their measuring instruments and operating characteristics; and (d) Check of the operations carried out at principal nuclear facilities.</p> <p>60. Whenever IAEA has the right of access to a principal nuclear facility at all times, it may perform inspections of which notice as required by paragraph 4 of the Inspectors Document need not be given, in so far as this is necessary for the effective application of safeguards. The actual procedures to implement these provisions shall be agreed upon between India and IAEA.</p> <p><b>Initial Inspections of a Principal Nuclear Facility</b></p> <p>61. To verify that the construction of a principal nuclear facility is in accordance with the design reviewed by IAEA, an initial inspection or inspections of the facility may be carried out: (a) As soon as possible after the facility has come under IAEA safeguards, in the case of a facility already in operation; and (b) Before the facility starts to operate, in other cases. 62. The measuring instruments and operating characteristics of the facility shall be reviewed to the extent necessary for the purpose of implementing safeguards. Instruments that will be used to obtain data on the nuclear materials in the facility may be tested to determine their satisfactory functioning. Such testing may include the observation by inspectors of commissioning or routine tests by the staff of the facility, but shall not hamper or delay the construction, commissioning or normal operation of the facility.</p> <p><b>Special Inspections</b></p> <p>63. IAEA may carry out special inspections if: (a) The study of a report indicates that such inspection is desirable; or (b) Any unforeseen circumstance requires immediate action. The Board shall subsequently be informed of the reasons for and the results of each such inspection.</p>	<p><b>Article 68</b> IAEA shall have the right to make inspections as provided for in Articles 69 through 82.</p> <p><b>Purposes of Inspections</b></p> <p><b>Article 69</b> IAEA may make ad hoc inspections in order to: (a) verify the information contained in the initial reports; (b) identify and verify changes in the situation which have occurred since the date of the relevant initial report; and (c) identify and if possible verify the quantity and composition of the nuclear material subject to safeguards under this Agreement in respect of which the information referred to in Article 89(a) has been provided to IAEA.</p> <p><b>Article 70</b> IAEA may make routine Inspections in order to: (a) verify that reports are consistent with records; (b) verify the location, identity, quantity and composition of all nuclear material subject to safeguards under this Agreement; and (c) verify information on the possible causes of material unaccounted for, shipper/receiver differences and uncertainties in the book inventory.</p> <p><b>Article 71</b> Subject to the procedures laid down in Article 75, IAEA may make special inspections: (a) in order to verify the information contained in special reports; or (b) if IAEA considers that information made available by China, including explanations from China and information obtained from routine inspections, is not adequate for IAEA to fulfil its responsibilities under this Agreement. An inspection shall be deemed to be special when it is either additional to the routine inspection effort provided for in Articles 76 through 80 or involves access to information or locations in addition to the access specified in Article 74 for ad hoc and routine inspections, or both.</p> <p><b>Scope of Inspections</b></p> <p><b>Article 72</b> For the purposes specified in Articles 69 through 71, IAEA may: (a) examine the records kept pursuant to Articles 49 through 56; (b) make independent measurements of all nuclear material subject to safeguards under this Agreement; (c) verify the functioning and calibration of instruments and other measuring and control equipment; (d) apply and make use of surveillance and containment measures; and (e) use other objective methods which have been demonstrated to be technically feasible.</p> <p><b>Article 73</b> Within the scope of Article 72, IAEA shall be enabled: (a) to observe that samples at key measurement points for material</p>

<p>64. IAEA may also carry out special inspections of substantial amounts of safeguarded nuclear material that are to be transferred outside the jurisdiction of India, for which purpose India shall give IAEA sufficient advance notice of any such proposed transfer.</p> <p>66. One of the initial inspections of a reactor shall if possible be made just before the reactor first reaches criticality.</p> <p>67. The maximum frequency of routine inspections of a reactor and of the safeguarded nuclear material in it shall be determined from the following table: Whichever is the largest of: (a) Facility inventory (including loading); (b) Annual throughput; (c) Maximum potential annual production of special fissionable material (Effective kilograms of nuclear material) Maximum number of routine inspections annually</p> <p><b>Up to 1: 0</b>  <b>More than 1 and up to 5: 1</b>  <b>More than 5 and up to 10: 2</b>  <b>More than 10 and up to 15: 3</b>  <b>More than 15 and up to 20: 4</b>  <b>More than 20 and up to 25: 5</b>  <b>More than 25 and up to 30: 6</b>  <b>More than 30 and up to 35: 7</b>  <b>More than 35 and up to 40: 8</b>  <b>More than 40 and up to 45: 9</b>  <b>More than 45 and up to 50: 10</b>  <b>More than 50 and up to 55: 11</b>  <b>More than 55 and up to 60: 12</b>  <b>More than 60: Right of access at all times</b></p> <p>68. The actual frequency of inspection of a reactor shall take account of: (a) The fact that India possesses irradiated fuel reprocessing facilities; (b) The nature of the reactor; and (c) The nature and amount of the nuclear material produced or used in the reactor.</p> <p>70. The maximum frequency of routine inspections of safeguarded nuclear material in a research and development facility shall be that specified in the table in paragraph 67 of this Agreement for the total amount of material in the facility.</p> <p>74. IAEA may perform one routine inspection of each sealed storage facility annually.</p> <p><b>Removal of Material</b></p> <p>75. India may remove safeguarded source material from a sealed storage facility after informing IAEA of the amount, type and intended use of the material to be removed, and providing sufficient other data in time to enable IAEA to continue safeguarding the material after it has been removed.</p> <p><b>Nuclear Material in Other Locations</b></p> <p>76. Except to the extent that safeguarded nuclear material outside of principal nuclear facilities is covered by any of the provisions set forth in paragraphs 69 to 75 of this Agreement, the following</p>	<p>balance accountancy are taken in accordance with procedures which produce representative samples, to observe the treatment and analysis of the sample and to obtain duplicates of such samples;</p> <p>(b) to observe that the measurements of nuclear material at key measurement points for material balance accountancy are representative, and to observe the calibration of the instruments and equipment involved;</p> <p>(c) to make arrangements with China that, if necessary:</p> <p>(i) additional measurements are made and additional samples taken for IAEA's use;</p> <p>(ii) IAEA's standard analytical samples are analysed;</p> <p>(iii) appropriate absolute standards are used in calibrating instruments and other equipment; and</p> <p>(iv) other calibrations are carried out;</p> <p>(d) to arrange to use its own equipment for independent measurement and surveillance, and if so agreed and specified in the Subsidiary Arrangements, to arrange to install such equipment;</p> <p>(e) to apply its seals and other identifying and tamper-indicating devices to containments, if so agreed and specified in the Subsidiary Arrangements; and</p> <p>(f) to make arrangements with China for the shipping of samples taken for IAEA's use.</p> <p><b>Access for Inspections</b></p> <p><b>Article 74</b></p> <p>(a) For the purposes specified in Article 69(a) and (b) and until such time as the strategic points have been specified in the Subsidiary Arrangements, IAEA inspectors shall have access to any location where the initial report or any inspections carried out in connection with it indicate that nuclear material subject to safeguards under this Agreement is present.</p> <p>(b) For the purpose specified in Article 69(c), the inspectors shall have access to any facility selected in accordance with Article 2(b) in which nuclear material referred to in Article 69(c) is located.</p> <p>(c) For the purposes specified in Article 70 the inspectors shall have access only to the strategic points specified in the Subsidiary Arrangements and to the records maintained pursuant to Articles 49 through 56.</p> <p>(d) In the event of China concluding that any unusual circumstances require extended limitations on access by IAEA, China and IAEA shall promptly make arrangements with a view to enabling IAEA to discharge its safeguards responsibilities in the light of these limitations. The Director General shall report each such arrangement to the Board.</p> <p><b>Article 75</b></p> <p>In circumstances which may lead to special inspections for the purposes specified in Article 71 China and IAEA shall consult forthwith. As a result of such consultations IAEA may:</p> <p>(a) make inspections in addition to the routine inspection effort provided for in Articles 76 through 80; and</p> <p>(b) obtain access, in agreement with China, to information or locations in addition to those specified in Article 74. Any disagreement concerning the need for additional access shall be</p>
--	--

procedures shall be applied with respect to such material (for example, source material stored elsewhere than in a sealed storage facility, or special fissionable material used in a sealed neutron source in the field).

#### **Routine Reports**

77. Routine accounting reports in respect of all safeguarded nuclear material in this category shall be submitted periodically. The frequency of submission of such reports shall be agreed between IAEA and India, taking into account the frequency established for routine inspections; however, at least one such report shall be submitted each year and in no case shall more than 12 such reports be required in any year. Routine Inspections 78. The maximum frequency of routine inspections of safeguarded nuclear material in this category shall be one inspection annually if the total amount of such material does not exceed five effective kilograms, and shall be determined from the table in paragraph 67 of this Agreement if the amount is greater.

#### **D. PROVISIONS FOR REPROCESSING PLANTS Introduction**

79. Additional procedures applicable to the safeguarding of reprocessing plants are set out below.

#### **Special Procedures: Reports**

80. The frequency of submission of routine reports shall be once each calendar month. Inspections 81. A reprocessing plant having an annual throughput not exceeding 5 effective kilograms of nuclear material, and the safeguarded nuclear material in it, may be routinely inspected twice a year. A reprocessing plant, having an annual throughput exceeding 5 effective kilograms of nuclear material, and the safeguarded nuclear material in it, may be inspected at all times. The arrangements for inspections set forth in paragraph 60 of this Agreement shall apply to all inspections to be made under this paragraph. It is understood that for plants having an annual throughput of more than 60 effective kilograms, the right of access at all times would be normally be implemented by means of continuous inspection.

82. When a reprocessing plant is under IAEA safeguards only because it contains safeguarded nuclear material, the inspection frequency shall be based on the rate of delivery of safeguarded nuclear material.

83. India and IAEA shall cooperate in making all the necessary arrangements to facilitate the taking, shipping or analysis of samples, due account being taken of the limitations imposed by the characteristics of a plant already in operation when placed under IAEA safeguards.

#### **Mixtures of Safeguarded and Unsafeguarded Nuclear Material**

84. India and IAEA may agree on the following special arrangements in the case of a reprocessing plant which has not been supplied wholly or substantially under a project agreement, submitted to safeguards under a safeguards agreement by the parties to a bilateral or multilateral arrangement or unilaterally submitted to safeguards under a safeguards agreement, and in

resolved in accordance with Articles 20 and 21; in case action by China is essential and urgent, Article 17 shall apply.

#### **Frequency and Intensity of Routine Inspections**

##### **Article 76**

IAEA shall keep the number, intensity and duration of routine inspections, applying optimum timing, to the minimum consistent with the effective implementation of the safeguards procedures set forth in this Agreement, and shall make the optimum and most economical use of inspection resources available to it.

##### **Article 77**

IAEA may carry out one routine inspection per year in respect of facilities contained in the Listing made pursuant to Article 39 with a content or annual throughput, whichever is greater, of nuclear material not exceeding five effective kilograms.

##### **Article 78**

The number, intensity, duration, timing and mode of routine inspections in respect of facilities contained in the Listing made pursuant to Article 39 with a content or annual throughput of nuclear material exceeding five effective kilograms shall be determined on the basis that in the maximum or limiting case the inspection regime shall be no more intensive than is necessary and sufficient to maintain continuity of knowledge of the flow and inventory of nuclear material, and the maximum routine inspection effort in respect of such facilities shall be determined as follows:

(a) for reactors and sealed storage installations the maximum total of routine inspection per year shall be determined by allowing one sixth of a man-year of inspection for each such facility;

(b) for facilities, other than reactors or sealed storage installations, involving plutonium or uranium enriched to more than 5%, the maximum total of routine inspection per year shall be determined by allowing for each such facility  $30 \times \sqrt{E}$  man-days of inspection per year, where E is the inventory or annual throughput of nuclear material, whichever is greater, expressed in effective kilograms. The maximum established for any such facility shall not, however, be less than 1.5 man-years of inspection; and

(c) for facilities not covered by paragraphs (a) or (b) of this Article, the maximum total of routine inspection per year shall be determined by allowing for each such facility one third of a man-year of inspection plus  $0.4 \times E$  man-days of inspection per year, where E is the inventory or annual throughput of nuclear material, whichever is greater, expressed in effective kilograms. China and IAEA may agree to amend the figures for the maximum inspection effort specified in this Article, upon determination by the Board that such amendment is reasonable.

##### **Article 79**

Subject to Articles 76 through 78 the criteria to be used for determining the actual number, intensity, duration, timing and mode of routine inspections in respect of any facility contained in the Listing made pursuant to Article 39 shall include:

which safeguarded and unsafeguarded nuclear materials are present: (a) Subject to the provisions of sub-paragraph (b) below, IAEA shall restrict its safeguards procedures to the area in which irradiated fuel is stored, until such time as all or any part of such fuel is transferred out of the storage area into other parts of the plant. Safeguards procedures shall cease to apply to the storage area or plant when either contains no safeguarded nuclear material; and (b) Where possible, safeguarded nuclear material shall be measured and sampled separately from unsafeguarded material, and at as early a stage as possible. Where separate measurement, sampling or processing are not possible, the whole of the material being processed in that campaign shall be subject to the safeguards procedures set out in Part III.D of this Agreement. At the conclusion of the processing the nuclear material that is thereafter to be safeguarded shall be selected by agreement between India and IAEA from the whole output of the plant resulting from that campaign, due account being taken of any processing losses accepted by IAEA.

**E. PROVISIONS FOR CONVERSION PLANTS, ENRICHMENT PLANTS AND FABRICATION PLANTS**

**Introduction**

85. Additional procedures applicable to conversion plants and fabrication plants are set out below. This terminology is synonymous with the term "a plant for processing or fabricating nuclear material (excepting a mine or ore-processing plant)" which is used in paragraph 117 of this Agreement. 86. In the event that India decides to offer an enrichment plant in the future as a facility subject to this Agreement, IAEA and India shall consult and agree on the application of IAEA's safeguards procedures for enrichment plants before any such facility is added to the Annex.

**Special Procedures Reports**

87. The frequency of submission of routine reports shall be once each calendar month.

**Inspections**

88. A conversion plant or a fabrication plant which has been supplied wholly or substantially under a project agreement, submitted to safeguards under a safeguards agreement by the parties to a bilateral or multilateral arrangement, or unilaterally submitted to safeguards under a safeguards agreement, and the nuclear material in it, may be inspected at all times if the plant inventory at any time, or the annual input, of nuclear material exceeds five effective kilograms. Where neither the inventory at any time, nor the annual input, exceeds five effective kilograms of nuclear material, the routine inspections shall not exceed two a year. The arrangements for inspections set forth in paragraph 57 of this Agreement shall apply to all inspections to be made under this paragraph. It is understood that, for plants having an inventory at any time, or an annual input, of more than 60 effective kilograms, the right of access at all times would normally be implemented by means of continuous inspection. Where neither the inventory at any time nor the annual input exceeds one effective kilogram of nuclear material, the plant would not normally be subject to routine

(a) the form of the nuclear material, In particular, whether the nuclear material is in bulk form or contained In a number of separate items; its chemical composition and, in the case of uranium, whether it is of low or high enrichment; and Its accessibility;

(b) the effectiveness of China's accounting and control system, including the extent to which the operators of facilities are functionally Independent of China's accounting and control system; the extent to which the measures specified in Article 32 have been implemented by China; the promptness of reports provided to IAEA; their consistency with IAEA's independent verification; and the amount and accuracy of the material unaccounted for, as verified by IAEA;

(c) characteristics of that part of China's nuclear fuel cycle in which safeguards are applied under this Agreement, in particular, the number and types of facilities, the characteristics of such facilities relevant to safeguards, notably the degree of containment; the extent to which the design of such facilities facilitates verification of the flow and inventory of nuclear material; and the extent to which information from different material balance areas can be correlated;

(d) international interdependence, in particular, the extent to which nuclear material is received from or sent to other States for use or processing; any verification activities by IAEA in connection therewith; and the extent to which China's nuclear activities are interrelated with those of other States; and

(e) technical developments in the field of safeguards, including the use of statistical techniques and random sampling in evaluating the flow of nuclear material.

**Article 80**

China and IAEA shall consult if China considers that the inspection effort is being deployed with undue concentration on particular facilities.

**Notice of Inspections**

**Article 81**

IAEA shall give advance notice to China before arrival of inspectors at facilities contained in the Listing made pursuant to Articles 39 as follows;

(a) for ad hoc inspections pursuant to Article 69(c), at least 24 hours; for those pursuant to Article 69(a) and (b) as well as the activities provided for in Article 48, at least one week;

(b) for special inspections pursuant to Article 71, as promptly as possible after China and IAEA have consulted as provided for in Article 75, it being understood that notification of arrival normally will constitute part of the consultations; and

(c) for routine inspections pursuant to Article 70, at least 24 hours in respect of the facilities referred to in Article 78(b) and sealed storage installations containing plutonium or uranium enriched to more than 5%, and one week in all other cases.

<p>inspection.</p> <p>89. When a conversion plant or a fabrication plant which has not been supplied wholly or substantially under a project agreement, submitted to safeguards under a safeguards agreement by the parties to a bilateral or multilateral arrangement or unilaterally submitted to safeguards under a safeguards agreement contains safeguarded nuclear material, the frequency of routine inspections shall be based on the inventory at any time and the annual input of safeguarded nuclear material. Where the inventory at any time, or the annual input, of safeguarded nuclear material exceeds five effective kilograms the plant may be inspected at all times. Where neither the inventory at any time, nor the annual input, exceeds five effective kilograms of safeguarded nuclear material, the routine inspections shall not exceed two a year. The arrangements for inspection set forth in paragraph 60 shall apply to all inspections to be made under this paragraph. It is understood that, for plants having an inventory at any time, or an annual input, of more than 60 effective kilograms, the right of access at all times would normally be implemented by means of continuous inspection. Where neither the inventory at any time nor the annual input exceeds one effective kilogram of nuclear material, the plant would not normally be subject to routine inspection.</p> <p>90. The intensity of inspection of safeguarded nuclear material at various steps in a conversion plant or a fabrication plant shall take account of the nature, isotopic composition and amount of safeguarded nuclear material in the plant. Safeguards shall be applied in accordance with the general principles set forth in paragraphs 4 to 8 of this Agreement. Emphasis shall be placed on inspection to control uranium of high enrichments and plutonium.</p> <p>91. Where a plant may handle safeguarded and unsafeguarded nuclear material, India shall notify IAEA in advance of the programme for handling safeguarded batches to enable IAEA to make inspections during these periods, due account being also taken of the arrangements under paragraph 92 of this Agreement.</p>	<p>Such notice of inspections shall include the names of the inspectors and shall indicate the facilities to be visited and the periods during which they will be visited. If the inspectors are to arrive from outside China IAEA shall also give advance notice of the place and time of their arrival in China,</p> <p><b>Article 82</b> Notwithstanding the provisions of Article 81, IAEA may, as a supplementary measure, carry out without advance notification a portion of the routine inspections pursuant to Article 78 in accordance with the principle of random sampling. In performing any unannounced inspections, IAEA shall fully take into account any operational programme provided by China pursuant to Article 62(b). Moreover, whenever practicable, and on the basis of the operational programme, it shall advise China periodically of its general programme of announced and unannounced inspections, specifying the general periods when inspections are foreseen. In carrying out any unannounced inspections, IAEA shall make every effort to minimize any practical difficulties for China and for facility operators, bearing in mind the relevant provisions of Articles 44 and 87. Similarly China shall make every effort to facilitate discharge by IAEA inspectors of their functions under this Agreement.</p> <p><b>STATEMENTS ON IAEA VERIFICATION ACTIVITIES</b></p> <p><b>Article 88</b> IAEA shall inform China of: (a) the results of inspections, at intervals to be specified in the Subsidiary Arrangements; and (b) the conclusions it has drawn from its verification activities in China, in particular by means of statements in respect of each material balance area, which shall be made as soon as possible after a physical inventory has been taken and verified by IAEA and a material balance has been struck.</p>
--	--

**TABLE 10: EXEMPTIONS**

<p><b>C. EXEMPTIONS FROM SAFEGUARDS</b></p> <p><b>General Exemptions</b></p> <p>3. Nuclear material that would otherwise be subject to safeguards shall be exempted from safeguards at the request of India, provided that the material so exempted in India may not at any time exceed: (a) 1 kilogram in total of special fissionable material, which may consist of one or more of the following: (i) Plutonium; (ii) Uranium with an enrichment of 0.2 (20 %) and above, taken account of by multiplying its weight by its enrichment; (iii) Uranium with an enrichment below 0.2 (20 %) and above that of natural uranium, taken account of by multiplying its weight by five times the square of its enrichment; (b) 10 metric tons in total of natural uranium and depleted uranium with an enrichment above 0.005 (0.5 %); (c) 20 metric tons of depleted uranium with an enrichment of 0.005 (0.5 %) or below; and (d) 20 metric tons of thorium.</p> <p><b>Exemptions Related to Reactors</b></p> <p>24. Produced or used nuclear material that would otherwise be</p>	<p><b>EXEMPTIONS FROM SAFEGUARDS</b></p> <p><b>Article 36</b> At the request of China, IAEA shall exempt nuclear material from safeguards, as follows: (a) special fissionable material, when it is used in gram quantities or less as a sensing component in instruments; (b) nuclear material, when it is used in non-nuclear activities in accordance with Article 13, if such nuclear material is recoverable; and (c) plutonium with an isotopic concentration of plutonium-238 exceeding 80%.</p> <p><b>Article 37</b> At the request of China IAEA shall exempt from safeguards nuclear material that would otherwise be subject to safeguards, provided that the total quantity of nuclear material which has been exempted in China in accordance with this Article may not at any time exceed:</p>
--	--

<p>subject to safeguards because it is being or has been produced, processed or used in a reactor which has been supplied wholly or substantially under a project agreement, submitted to safeguards under a safeguards agreement by the parties to a bilateral or multilateral arrangement or unilaterally submitted to safeguards under a safeguards agreement; or because it is being or has been produced in or by the use of safeguarded nuclear material, shall be exempted from safeguards if: (a) It is plutonium produced in the fuel of a reactor whose rate of production does not exceed 100 grams of plutonium per year; or (b) It is produced in a reactor determined by IAEA to have a maximum calculated power for continuous operation of less than 3 thermal megawatts, or is used in such a reactor and would not be subject to safeguards except for such use, provided that the total power of the reactors with respect to which these exemptions apply in any State may not exceed 6 thermal megawatts.</p> <p>25. Produced special fissionable material that would otherwise be subject to safeguards only because it has been produced in or by the use of safeguarded nuclear material shall in part be exempted from safeguards if it is produced in a reactor in which the ratio of fissionable isotopes within safeguarded nuclear material to all fissionable isotopes is less than 0.3 (calculated each time any change is made in the loading of the reactor and assumed to be maintained until the next such change). Such fraction of the produced material as corresponds to the calculated ratio shall be subject to safeguards.</p>	<p>(a) one kilogram in total of special fissionable material, which may consist of one or more of the following:                  (i) plutonium;                  (ii) uranium with an enrichment of 0.2 (20%) and above, taken account of by multiplying its weight by its enrichment; and                  (iii) uranium with an enrichment below 0.2 (20%) and above that of natural uranium, taken account of by multiplying its weight by five times the square of its enrichment;                  (b) ten metric tons in total of natural uranium and depleted uranium with an enrichment above 0.005 (0.5%);                  (c) twenty metric tons of depleted uranium with an enrichment of 0.005 (0.5%) or below; and                  (d) twenty metric tons of thorium; or such greater amounts as may be specified by the Board for uniform application.</p> <p><b>Article 38</b>                  If nuclear material, exempted from safeguards, is to be processed or stored together with nuclear material subject to safeguards under this Agreement, provision shall be made for the re-application of safeguards thereto.</p>
--	--

**TABLE 11: FINANCES**

<b>VII. FINANCE: India</b>	<b>FINANCE: China</b>
<p>101. India and IAEA shall each bear any expense incurred in the implementation of their responsibilities under this Agreement. IAEA shall reimburse India for any special expenses, including those referred to in paragraph 6 of the Inspectors Document, incurred by India or persons under its jurisdiction at the written request of IAEA, if India notified IAEA before the expense was incurred that reimbursement would be required. These provisions shall not prejudice the allocation of expenses attributable to a failure by either India or IAEA to comply with this Agreement.</p> <p>102. India shall ensure that any protection against third party liability, including any insurance or other financial security, in respect of a nuclear incident occurring in a facility under its jurisdiction shall apply to IAEA and its inspectors when carrying out their functions under this Agreement as that protection applies to nationals of India.</p>	<p><b>Article 14</b>                  China and IAEA will bear the expenses incurred by them in implementing their respective responsibilities under this Agreement. However, if China or persons under its jurisdiction incur extraordinary expenses as a result of a specific request by IAEA, IAEA shall reimburse such expenses provided that it has agreed in advance to do so. In any case IAEA shall bear the cost of any additional measuring or sampling which inspectors may request.</p> <p><b>THIRD PARTY LIABILITY FOR NUCLEAR DAMAGE</b></p> <p><b>Article 15</b>                  China shall ensure that any protection against third party liability in respect of nuclear damage, including any insurance or other financial security, which may be available under its laws or regulations shall apply to IAEA and its officials for the purpose of the implementation of this Agreement in the same way as that protection applies to nationals of China.</p> <p><b>SETTLEMENT OF CLAIMS</b></p> <p><b>Article 16</b>                  Any claim by China against IAEA or by IAEA against China in respect of any damage resulting from the implementation of safeguards under this Agreement, other than damage arising out of a nuclear incident, shall be settled in accordance with international law.</p>

**TABLE 12: INSPECTORS**

IV. IAEA INSPECTORS : India	IAEA INSPECTORS: China
<p>97. The provisions of paragraphs 1 to 10 and 12 to 14, inclusive, of the Inspectors Document shall apply to IAEA inspectors performing functions pursuant to this Agreement. However, paragraph 4 of the Inspectors Document shall not apply with regard to any facility or to nuclear material to which IAEA has access at all times. The actual procedures to implement paragraph 60 of this Agreement shall be agreed to between IAEA and India. 98. The relevant provisions of the Agreement on the Privileges and Immunities of IAEA (INFCIRC/9/Rev.2) shall apply to IAEA, its inspectors performing functions under this Agreement and to any property of IAEA used by them in the performance of their functions under this Agreement.</p>	<p><b>Article 9</b>                      (a) (i) IAEA shall secure the consent of China to the designation of IAEA inspectors to China.                      (ii) If China, either upon proposal of a designation or at any other time after a designation has been made, objects to the designation, IAEA shall propose to China an alternative designation or designations.                      (iii) If, as a result of the repeated refusal of China to accept the designation of IAEA Inspectors, inspections to be conducted under this Agreement would be impeded, such refusal shall be considered by the Board, upon referral by the Director General of IAEA (hereinafter referred to as "the Director General"), with a view to its taking appropriate action.                      (b) China shall take the necessary steps to provide IAEA inspectors with facilities for effective discharge by them of their functions under this Agreement.                      (c) The visits and activities of IAEA inspectors shall be so arranged as:                      (i) to reduce to a minimum the possible inconvenience and disturbance to China and to the peaceful nuclear activities inspected; and                      (ii) to ensure protection of industrial secrets or any other confidential information coming to the inspectors' knowledge.</p> <p><b>Designation of Inspectors</b>  <b>Article 83</b>The following procedures shall apply to the designation of inspectors:                      (a) the Director General shall inform China in writing of the name, qualifications, nationality, grade and such other particulars as may be relevant, of each IAEA official he proposes for designation as an inspector for China;                      (b) China shall inform the Director General within thirty days of the receipt of such a proposal whether it accepts the proposal;                      (c) the Director General may designate each official who has been accepted by China as one of the inspectors for China, and shall inform China of such designations; and                      (d) the Director General, acting in response to a request by China or on his own initiative, shall immediately inform China of the withdrawal of the designation of any official as an inspector for China. However, in respect of inspectors needed for the activities provided for in Article 48 and to carry out ad hoc inspections pursuant to Article 69(a) and (b) the designation procedures shall be completed if possible within thirty days after the entry into force of this Agreement. If such designation appears impossible within this time limit, inspectors for such purposes shall be designated on a temporary basis.</p> <p><b>Article 84</b>                      China shall grant or renew as quickly as possible appropriate visas, where required, for each inspector designated for China.</p> <p><b>Conduct and Visits of Inspectors</b>  <b>Article 85</b>                      Inspectors, in exercising their functions under Articles 48 and 69 through 73, shall carry out their activities in a manner designed to avoid hampering or delaying the construction, commissioning or operation of facilities, or affecting their safety. In particular inspectors shall not operate any facility themselves or direct the staff of a facility to carry out any operation. If inspectors consider that in pursuance of Articles 72 and 73, particular operations in a facility should be carried out by the operator, they shall make a request therefor.</p> <p><b>Article 86</b>                      When inspectors require services available in China, including the use of equipment, in connection with the performance of inspections, China shall facilitate the procurement of such services and the use of such equipment by inspectors.</p> <p><b>Article 87</b>                      China shall have the right to have inspectors accompanied during their inspections by representatives of China, provided that inspectors shall not thereby be delayed or otherwise impeded in the exercise of their functions.</p>

**TABLE 13: DEFINITIONS**

<b>XI. DEFINITIONS</b>	<b>DEFINITIONS: Article 90</b>
<p>110. "IAEA" means the International Atomic Energy Agency.</p> <p>111. "Board" means the Board of Governors of IAEA.</p> <p>112. "Campaign" means the period during which the chemical processing equipment in a reprocessing plant is operated between two successive wash-outs of the nuclear material present in the equipment.</p> <p>113. "Conversion plant" means a facility (excepting a mine or ore-processing plant) to improve unirradiated nuclear material, or irradiated nuclear material that has been separated from fission products, by changing its chemical or physical form so as to facilitate further use or processing. The term conversion plant includes the facility's storage and analytical sections. The term does not include a plant intended for separating the isotopes of nuclear material.</p> <p>114. "Director General" means the Director General of IAEA.</p> <p>115. "Effective kilograms" means: (i) In the case of plutonium, its weight in kilograms; (ii) In the case of uranium with an enrichment of 0.01 (1 %) and above, its weight in kilograms multiplied by the square of its enrichment; (iii) In the case of uranium with an enrichment below 0.01 (1 %) and above 0.005 (0.5 %), its weight in kilograms multiplied by 0.0001; and (iv) In the case of depleted uranium with an enrichment of 0.005 (0.5 %) or below, and in the case of thorium, its weight in kilograms multiplied by 0.00005.</p> <p>116. "Enrichment plant" means a plant for separating the isotopes of nuclear material.</p> <p>117. "Facility" means, for the purposes of this Agreement: (i) A "principal nuclear facility", which means a reactor, a plant for processing nuclear material irradiated in a reactor, a plant for separating the isotopes of a nuclear material, a plant for processing or fabricating nuclear material (excepting a mine or ore-processing plant) or a facility or plant of such other type as may be designated by the Board from time to time, including associated storage facilities, as well as a critical facility or a separate storage installation; (ii) A research and development facility as defined in paragraph 127 of this Agreement; (iii) Any location where nuclear material in amounts greater than one effective kilogram is</p>	<p>For the purposes of this Agreement:</p> <p>A. adjustment means an entry into an accounting record or a report showing a shipper/receiver difference or material unaccounted for.</p> <p>B. annual throughput means, for the purposes of Articles 77 and 78, the amount of nuclear material transferred annually out of a facility working at nominal capacity.</p> <p>C. batch means a portion of nuclear material handled as a unit for accounting purposes at a key measurement point and for which the composition and quantity are defined by a single set of specifications or measurements. The nuclear material may be in bulk form or contained in a number of separate items.</p> <p>D. batch data means the total weight of each element of nuclear material and, in the case of plutonium and uranium, the isotopic composition when appropriate. The units of account shall be as follows:                      (a) grams of contained plutonium;                      (b) grams of total uranium and grams of contained uranium-235 plus uranium-233 for uranium enriched in these isotopes; and                      (c) kilograms of contained thorium, natural uranium or depleted uranium,                      For reporting purposes the weights of individual items in the batch shall be added together before rounding to the nearest unit.</p> <p>E. book inventory of a material balance area means the algebraic sum of the most recent physical inventory of that material balance area and of all inventory changes that have occurred since that physical inventory was taken.</p> <p>F. correction means an entry into an accounting record or a report to rectify an identified mistake or to reflect an improved measurement of a quantity previously entered into the record or report. Each correction must identify the entry to which it pertains.</p> <p>G. effective kilogram means a special unit used in safeguarding nuclear material. The quantity in effective kilograms is obtained by taking:                      (a) for plutonium, its weight in kilograms;                      (b) for uranium with an enrichment of 0.01 (1Z) and above, its weight in kilograms multiplied by the square of its enrichment;                      (c) for uranium with an enrichment below 0.01 (1%) and above 0.005 (0.5%), its weight in kilograms multiplied by 0.0001; and                      (d) for depleted uranium with an enrichment of 0.005 (0.5%) or below, and for thorium, its weight in kilograms multiplied by 0.00005.</p> <p>H. enrichment means the ratio of the combined weight of the isotopes uranium-233 and uranium-235 to that of the total uranium in question.</p> <p>I. facility means:                      (a) a reactor, a critical facility, a conversion plant, a fabrication plant, a reprocessing plant, an Isotope separation plant or a separate storage installation; or                      (b) any location where nuclear material in amounts greater than one effective kilogram is customarily used.</p> <p>J. inventory change means an increase or decrease, in terms of batches, of nuclear material in a material balance area; such a change shall involve one of the following:                      (a) increases:                      (i) import;                      (ii) domestic receipt; receipts from other material balance areas, receipts from a non-safeguarded activity or receipts at the starting point of safeguards;                      (iii) nuclear production: production of special fissionable material in a reactor; and                      (iv) de-exemption: re-application of safeguards on nuclear material previously exempted therefrom on account of its use or quantity.                      (b) decreases:                      (i) export;</p>

<p>customarily used; (iv) A plant for the upgrading of heavy water or a separate storage installation for heavy water.</p> <p>118. "Fabrication plant" means a plant to manufacture fuel elements or other components containing nuclear material and includes the plant's storage and analytical sections.</p> <p>119. "Improved" means, with respect to nuclear material, that either:</p> <p>(i) The concentration of fissionable isotopes in it has been increased; or (ii) The amount of chemically separable fissionable isotopes in it has been increased; or (iii) Its chemical or physical form has been changed so as to facilitate further use or processing.</p> <p>120. "Inspector" means an Agency official designated in accordance with the Inspectors Document.</p> <p>121. "Inspectors Document" means the Annex to IAEA's document GC(V)/INF/39.</p> <p>122. "Nuclear material" means any source or special fissionable material as defined in Article XX of the Statute.</p> <p>123. "Produced, processed or used" means any utilization or any alteration of the physical or chemical form or composition, including any change of the isotopic composition, of nuclear material;</p> <p>124. "Project agreement" means a safeguards agreement relating to an IAEA project and containing provisions as foreseen in Article XI.F.4.(b) of the Statute.</p> <p>125. "Reactor" means any device in which a controlled, self-sustaining fission chain-reaction can be maintained.</p> <p>126. "Reprocessing plant" means a facility to separate irradiated nuclear materials and fission products, and includes the facility's head-end treatment section and its associated storage and analytical sections. This term is synonymous with the term "a plant for processing nuclear material irradiated in a reactor" which is used in paragraph 117 of this Agreement.</p> <p>127. "Research and development facility" means a facility, other than a principal nuclear facility, used for research or development in the field of nuclear energy.</p> <p>128. "Statute" means the Statute of IAEA.</p> <p>129. "Throughput" means the rate at which nuclear material is introduced into a facility operating at full capacity.</p> <p>130. "Unilaterally submitted" means submitted by India to IAEA safeguards.</p>	<p>(ii) domestic shipment: shipments to other material balance areas or shipments for a non-safeguarded activity;</p> <p>(iii) nuclear loss: loss of nuclear material due to its transformation into other element(s) or isotope(s) as a result of nuclear reactions;</p> <p>(iv) measured discard: nuclear material which has been measured, or estimated on the basis of measurements, and disposed of in such a way that it is not suitable for further nuclear use;</p> <p>(v) retained waste: nuclear material generated from processing or from an operational accident, which is deemed to be unrecoverable for the time being but which is stored;</p> <p>(vi) exemption: exemption of nuclear material from safeguards on account of its use or quantity; and</p> <p>(vii) other loss: for example, accidental loss (that is, irretrievable and inadvertent loss of nuclear material as the result of an operational accident) or theft.</p> <p>K. key measurement point means a location where nuclear material appears in such a form that it may be measured to determine material flow or inventory. Key measurement points thus include, but are not limited to, the inputs and outputs (including measured discards) and storages in material balance areas.</p> <p>L. man-year of inspection means, for the purposes of Article 78, 300 man-days of inspection, a man-day being a day during which a single inspector has access to a facility at any time for a total of not more than eight hours.</p> <p>M. material balance area means an area in or outside of a facility such that:</p> <p>(a) The quantity of nuclear material in each transfer into or out of each material balance area can be determined; and</p> <p>(b) The physical inventory of nuclear material in each material balance area can be determined when necessary, in accordance with specified procedures, in order that the material balance for IAEA safeguards purposes can be established.</p> <p>N. material unaccounted for means the difference between book inventory and physical inventory.</p> <p>O. nuclear material means any source or any special fissionable material as defined in Article XX of the Statute. The term source material shall not be interpreted as applying to ore or ore residue. Any determination by the Board under Article XX of the Statute after the entry into force of this Agreement which adds to the materials considered to be source material or special fissionable material shall have effect under this Agreement only upon acceptance by China.</p> <p>P. physical inventory means the sum of all the measured or derived estimates of batch quantities of nuclear material on hand at a given time within a material balance area, obtained in accordance with specified procedures.</p> <p>Q. shipper/receiver difference means the difference between the quantity of nuclear material in a batch as stated by the shipping material balance area and as measured at the receiving material balance area.</p> <p>R. source data means those data, recorded during measurement or calibration or used to derive empirical relationships, which identify nuclear material and provide batch data. Source data may include, for example, weight of compounds, conversion factors to determine weight of element, specific gravity, element concentration, isotopic ratios, relationship between volume and manometer readings and relationship between plutonium produced and power generated.</p> <p>S. strategic point means a location selected during examination of design information where, under normal conditions and when combined with the information from all strategic points taken together, the information necessary and sufficient for the implementation of safeguards measures is obtained and verified; a strategic point may include any location where key measurements related to material balance accountability are made and where containment and surveillance measures are executed.</p>
--	---

**TABLE 14: SIGNATURES**

<b>INDIA</b>	<b>CHINA</b>
DONE at Vienna, on the            day of 2008, in duplicate, in the English language. For the GOVERNMENT OF INDIA: For the INTERNATIONAL ATOMIC ENERGY AGENCY:	DONE in Vienna on 20 September 1988 in duplicate in the Chinese language For the PEOPLE'S REPUBLIC OF CHINA: For the INTERNATIONAL ATOMIC ENERGY AGENCY: (signed) Zhou Ping (signed) Hans Blix