

7 July 2008

Agreement between the Government of India and the International Atomic Energy Agency for the Application of Safeguards to Civilian Nuclear Facilities¹

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 India is committed to the full development of its national three-stage nuclear programme to meet the twin challenges of energy security and protection of the environment;

WHEREAS India has a sovereign and inalienable right to carry out nuclear research and development activities for the welfare of its people and other peaceful purposes;

WHEREAS India, a State with advanced nuclear technology, wishes to expand civil nuclear cooperation for its national development;

WHEREAS India is desirous of further expanding cooperation with the International Atomic Energy Agency (hereinafter referred to as "the Agency") and its Member States with the objective of the full development and use of nuclear energy for peaceful purposes, on a stable, reliable and predictable basis;

WHEREAS India supports the role of the Agency in the promotion of the safe and peaceful uses of nuclear energy as set forth in the Statute of the Agency (hereinafter referred to as the "Statute");

WHEREAS India and the Agency have long standing cooperation in various aspects of the Agency's activities;

RECOGNIZING that such cooperation between India and the Agency must be carried out with full respect for the objectives of the Statute and with due observance of the sovereign rights of India;

WHEREAS the Statute authorizes the Agency 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 the State's activities in the field of atomic energy and, in this context:

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Noting the relevance for this Agreement of the understandings between India and the United States of America 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 the Agency a declaration regarding its civilian nuclear facilities (hereinafter referred to as “the Declaration”);
- to take a decision to place voluntarily its civilian nuclear facilities under Agency safeguards;

Noting also for the purposes of this Agreement that:

- India will place its civilian nuclear facilities under Agency safeguards so as to facilitate full civil nuclear cooperation between India and Member States of the Agency and to provide assurance against withdrawal of safeguarded nuclear material from civilian use at any time;
- An essential basis of India’s concurrence to accept Agency safeguards under an India-specific safeguards agreement (hereinafter referred to as “this 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
- India may take corrective measures to ensure uninterrupted operation of its civilian nuclear reactors in the event of disruption of foreign fuel supplies;

WHEREAS India is desirous of expanding civil nuclear cooperation with other Member States of the Agency;

WHEREAS the conclusion of this Agreement is intended to facilitate the broadest possible cooperation between India and Member States of the Agency 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;

RECALLING that the Agency in accordance with its Statute and safeguards system must take into account, in the implementation of safeguards in India, 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;

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 Agency safeguards;

WHEREAS India has requested the Agency to apply safeguards with respect to items subject to this Agreement;

WHEREAS the Board of Governors of the Agency (hereinafter referred to as the "Board") acceded to that request on

NOW THEREFORE, taking into account the above, India and the Agency have agreed as follows:

I. GENERAL CONSIDERATIONS

A. BASIC UNDERTAKINGS

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.
2. The Agency undertakes to apply safeguards, in accordance with the terms of this Agreement, to the items subject to this Agreement, as 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 peaceful purposes and not for the manufacture of any nuclear explosive device.

B. GENERAL PRINCIPLES

3. The purpose of safeguards under this Agreement is to guard against withdrawal of safeguarded nuclear material from civilian use at any time.
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.
5. Bearing in mind Article II of the Statute, the Agency 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.
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.
7. In implementing safeguards, the Agency shall take every precaution to protect commercial and industrial secrets. No member of the Agency'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 the Agency.

8. The Agency 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:
 - (a) Specific information relating to such implementation in India may be given to the Board and to such Agency staff members as require such knowledge by reason of their official duties in connection with safeguards, but only to the extent necessary for the Agency to fulfil its safeguards responsibilities;
 - (b) Summarized lists of items being safeguarded by the Agency 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.
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.
10. Nothing in this Agreement shall affect other rights and obligations of India under international law.

II. CIRCUMSTANCES REQUIRING SAFEGUARDS

A. ITEMS SUBJECT TO THIS AGREEMENT

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.
12. The scope of this Agreement is limited to the items subject to this Agreement as defined in paragraph 11 above.

Declaration

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 the Agency a Declaration, based on its sovereign decision to place voluntarily its civilian nuclear facilities under Agency safeguards in a phased manner.

Notifications

- 14.
- (a) India, on the basis of its sole determination, shall notify the Agency in writing of its decision to offer for Agency safeguards a facility identified by India in the Declaration referred to in paragraph 13, or any other facility to be determined by India. Any facility so notified by India to the Agency will be included in the Annex, and become subject to this Agreement, as of the date of receipt by the Agency 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 Agency. Any such facility or location so notified by India pursuant to this sub-paragraph shall become subject to this Agreement as of the date of receipt by the Agency of such written notification from India.
15. India shall notify the Agency 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.

Provision of Information to the Agency

16. In the event that India's notification pursuant to paragraph 14(a) of this Agreement relates to a facility subject to Agency safeguards under another Safeguards Agreement or Agreements in India at the time of entry into force of this Agreement, India shall provide the Agency, 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.
17. With respect to any other facility listed in the Annex pursuant to paragraph 14(a) of this Agreement, India shall provide the Agency, 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.
- 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.
- 19. The information provided by India pursuant to 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.
- 20. India shall thereafter notify the Agency 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. The Agency 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 the Agency.
- 21. The Agency shall maintain an inventory of items subject to this Agreement. The Agency 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 the Agency at least two weeks in advance.

B. SAFEGUARDS UNDER OTHER AGREEMENTS

- 22. The application of Agency safeguards under other Safeguards Agreements concluded by India with the Agency 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 the Agency 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.

C. EXEMPTIONS FROM SAFEGUARDS

General Exemptions

23. 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 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.

Exemptions Related to Reactors

24. Produced or used nuclear material that would otherwise be 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 the Agency 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.
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.

D. SUSPENSION OF SAFEGUARDS

26. Safeguards with respect to nuclear material may be suspended while the material is transferred, under an arrangement or agreement approved by the Agency, 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 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 the Agency, 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 the Agency, 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 the Agency, be applied to such plutonium and shall cease to apply to the uranium substituted therefor.
28. Under conditions specified in the Subsidiary Arrangements, the Agency 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 Agency), 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) The Agency 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 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
 - (c) The Agency has determined that it has been consumed, or has been diluted in such a way that it is no longer usable for any nuclear activity relevant from the point of view of safeguards, or has become practicably irrecoverable; or
 - (d) India has, with the agreement of the Agency, placed under safeguards, as a substitute, such amount of the same element, not otherwise subject to safeguards, as the Agency 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 Agency 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 the Agency 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 the Agency 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 the Agency to safeguard the non-nuclear material, equipment or components in the State to which it is being transferred, or when India and the Agency 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.

F. TRANSFERS

33. No safeguarded nuclear material shall be transferred outside the jurisdiction of India until the Agency 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 the Agency 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 the Agency but generally consistent with such safeguards and accepted by the Agency.
34. India shall notify the Agency 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 the Agency, before such transfer is effected, the necessary information to enable the Agency to make arrangements for the application of safeguards to such nuclear material, non-nuclear material, equipment or component after its transfer. The Agency 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 the Agency has confirmed that it has made such arrangements.
35. India shall notify the Agency 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 the Agency 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 the Agency 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 the Agency sufficiently in advance to enable it to make the arrangements required before the

transfer is affected. The Agency shall promptly take any necessary action. The time limits for and the contents of these notifications shall be set out in the Subsidiary Arrangements.

III. SAFEGUARDS PROCEDURES

A. GENERAL PROCEDURES

Introduction

37. The safeguards procedures to be applied by the Agency are 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 the Agency 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. The Agency 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 Agency 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 Agency project, before the project is approved;
 - (b) A bilateral or multilateral arrangement under which the responsibility for administering safeguards is to be transferred to the Agency, or an activity or facility unilaterally submitted by India, before the Agency 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 the Agency 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 the Agency's safeguards procedures. The Agency 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 the Agency wishes to examine design information which India regards as sensitive, the Agency shall, if India so requests, conduct the examination on premises in India. Such information should not be physically transmitted to the Agency provided that it remains readily available for examination by the Agency in India.

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 the Agency 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 the Agency 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 the Agency reports with respect to the production, processing and use of safeguarded nuclear material in or outside principal nuclear facilities. For this purpose, India and the Agency 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 the Agency 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 the Agency.
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

51. The Agency may request information as to when particular stages in the construction of a principal nuclear facility have been or are to be reached.

Special Reports

52. India shall report to the Agency without delay:
- (a) If any unusual incident occurs involving actual or potential loss or destruction of, or damage to, any safeguarded nuclear material or principal nuclear facility;
 - (b) If there is good reason to believe that safeguarded nuclear material is lost or unaccounted for in quantities that exceed the normal operating and handling losses that have been accepted by the Agency as characteristic of the facility; or
 - (c) Disruption of operation of facilities listed in the Annex on account of material violation or breach of bilateral or multilateral arrangements to which India is a party.
53. India shall report to the Agency, as soon as possible, and in any case within two weeks, any transfer not requiring advance notification that will result in a significant change (to be defined by the Agency in agreement with India) in the quantity of safeguarded nuclear material in a principal nuclear facility. Such report shall indicate the amount and nature of the material and its intended use.

Amplification of Reports

54. At the Agency's request, India shall submit amplifications or clarifications of any report, in so far as relevant for the purpose of safeguards.

Inspections

General Procedures

55. The Agency 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.

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 the Agency considers that the authorized inspections are not all required, fewer shall be carried out.
58. Inspectors shall neither operate any facility themselves nor direct the staff of a facility to carry out any particular operation.

Routine Inspections

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.
60. Whenever the Agency 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 the Agency.

Initial Inspections of a Principal Nuclear Facility

61. To verify that the construction of a principal nuclear facility is in accordance with the design reviewed by the Agency, an initial inspection or inspections of the facility may be carried out:
 - (a) As soon as possible after the facility has come under Agency 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.

Special Inspections

63. The Agency 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.

64. The Agency 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 the Agency sufficient advance notice of any such proposed transfer.

B. SPECIAL PROCEDURES FOR REACTORS

Reports

65. The frequency of submission of routine reports shall be agreed between the Agency and India, taking into account the frequency established for routine inspections. However, at least two such reports shall be submitted each year and in no case shall more than 12 such reports be required in any year.

Inspections

66. One of the initial inspections of a reactor shall if possible be made just before the reactor first reaches criticality.
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 |
|---|--|
| Up to 1 | 0 |
| More than 1 and up to 5 | 1 |
| More than 5 and up to 10 | 2 |
| More than 10 and up to 15 | 3 |
| More than 15 and up to 20 | 4 |
| More than 20 and up to 25 | 5 |
| More than 25 and up to 30 | 6 |
| More than 30 and up to 35 | 7 |
| More than 35 and up to 40 | 8 |
| More than 40 and up to 45 | 9 |
| More than 45 and up to 50 | 10 |
| More than 50 and up to 55 | 11 |
| More than 55 and up to 60 | 12 |
| More than 60 | Right of access at all times |

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.

**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 respect of nuclear material in research and development facilities. The frequency of submission of such routine reports shall be agreed between the Agency 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

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.

Source Material in Sealed Storage

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 the Agency.

Design of Storage Facilities

72. India shall submit to the Agency information on the design of each sealed storage facility and agree with the Agency on the method and procedure for sealing it.

Routine Reports

73. Two routine accounting reports in respect of source material in sealed storage shall be submitted each year.

Routine Inspections

74. The Agency may perform one routine inspection of each sealed storage facility annually.

Removal of Material

75. India may remove safeguarded source material from a sealed storage facility after informing the Agency of the amount, type and intended use of the material to be removed, and providing sufficient other data in time to enable the Agency to continue safeguarding the material after it has been removed.

Nuclear Material in Other Locations

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 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 the Agency 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. The 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 Agency 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 the Agency 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 Agency safeguards.

Mixtures of Safeguarded and Unsafeguarded Nuclear Material

84. India and the Agency 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 which safeguarded and unsafeguarded nuclear materials are present:
 - (a) Subject to the provisions of sub-paragraph (b) below, the Agency 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 the Agency from the whole output of the plant resulting from that campaign, due account being taken of any processing losses accepted by the Agency.

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, the Agency and India shall consult and agree on the application of the Agency’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 inspection.
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.
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.
91. Where a plant may handle safeguarded and unsafeguarded nuclear material, India shall notify the Agency in advance of the programme for handling safeguarded batches to enable the Agency to make inspections during these periods, due account being also taken of the arrangements under paragraph 92 of this Agreement.
92. India and the Agency 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 Agency safeguards.

Residues, Scrap and Waste

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 Agency shall cooperate in making arrangements to account for and dispose of the material.

Safeguarded and Unsafeguarded Nuclear Material

94. India and the Agency 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, the Agency 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, 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 the Agency, due account being taken of any processing losses accepted by the Agency.

Blending of Nuclear Material

95. When safeguarded nuclear material is to be blended with either safeguarded or unsafeguarded nuclear material, the State shall notify the Agency sufficiently in advance of the programme of blending to enable the Agency to exercise its right to obtain evidence, through inspection of the blending operation or otherwise, that the blending is performed according to the programme.
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 the square of the weight fraction of fissionable isotopes therein, provided however that:

- (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 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 the State and the Agency.

IV. AGENCY INSPECTORS

97. The provisions of paragraphs 1 to 10 and 12 to 14, inclusive, of the Inspectors Document shall apply to Agency 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 the Agency has access at all times. The actual procedures to implement paragraph 60 of this Agreement shall be agreed to between the Agency and India.
98. The relevant provisions of the Agreement on the Privileges and Immunities of the Agency (INFCIRC/9/Rev.2) shall apply to the Agency, its inspectors performing functions under this Agreement and to any property of the Agency used by them in the performance of their functions under this Agreement.

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 Agency'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.

VII. FINANCE

101. India and the Agency shall each bear any expense incurred in the implementation of their responsibilities under this Agreement. The Agency 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 the Agency, if India notified the Agency before the expense was incurred that reimbursement would be required. These provisions shall not prejudice the allocation of expenses attributable to a failure by either India or the Agency to comply with this Agreement.
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 the Agency and its inspectors when carrying out their functions under this Agreement as that protection applies to nationals of India.

VIII. NON-COMPLIANCE

103. If the Board determines in accordance with Article XII.C of the Statute of the Agency 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. The Agency 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. The Agency and India shall cooperate to facilitate the implementation of this Agreement.
105. At the request of either India or the Agency, there shall be consultations about any question arising out of the interpretation or application of this Agreement. India and the Agency 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, the Agency shall provide India with an opportunity to clarify and facilitate the resolution of such questions. The Agency 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 the Agency shall, at the request of either of them, consult about amending this Agreement.
108. This Agreement shall enter into force on the date on which the Agency 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.

XI. DEFINITIONS

110. "Agency" means the International Atomic Energy Agency.
111. "Board" means the Board of Governors of the Agency.
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.
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.

114. “Director General” means the Director General of the Agency.
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.
116. “Enrichment plant” means a plant for separating the isotopes of nuclear material.
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 customarily used;
 - (iv) A plant for the upgrading of heavy water or a separate storage installation for heavy water.
118. “Fuel fabrication plant” means a plant to manufacture fuel elements or other components containing nuclear material and includes the plant’s storage and analytical sections.
119. “Improved” means, with respect to nuclear material, that either:
- (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.
120. “Inspector” means an Agent official designated in accordance with the Inspectors Document.
121. “Inspectors Document” means the Annex to the Agency’s document GC(V)/INF/39.
122. “Nuclear material” means any source or special fissionable material as defined in Article XX of the Statute.

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;
124. "Project agreement" means a safeguards agreement relating to an Agency project and containing provisions as foreseen in Article XI.F.4.(b) of the Statute.
125. "Reactor" means any device in which a controlled, self-sustaining fission chain-reaction can be maintained.
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.
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.
128. "Statute" means the Statute of the Agency.
129. "Throughput" means the rate at which nuclear material is introduced into a facility operating at full capacity.
130. "Unilaterally submitted" means submitted by India to Agency safeguards.

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:

ANNEX

List of facilities subject to safeguards under the Agreement between the government of India and the International Atomic Energy Agency for the application of safeguards to civilian nuclear facilities

| | FACILITY OFFERED FOR SAFEGUARDS BY INDIA | DATE OF RECEIPT OF NOTIFICATION |
|--|---|--|
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