

AGREEMENT  
BETWEEN THE GOVERNMENT OF JAPAN AND  
THE GOVERNMENT OF THE HASHEMITE KINGDOM OF JORDAN  
FOR COOPERATION  
IN THE PEACEFUL USES OF NUCLEAR ENERGY

The Government of Japan and the Government of the Hashemite Kingdom of Jordan (hereinafter individually referred to as a "Party" and collectively as "Parties");

Considering that both Japan and the Hashemite Kingdom of Jordan are parties to the Treaty on the Non-Proliferation of Nuclear Weapons, done on July 1, 1968;

Recognizing that both Japan and the Hashemite Kingdom of Jordan are members of the International Atomic Energy Agency (hereinafter referred to as "the Agency");

Noting that safeguards by the Agency are applied in Japan in accordance with the Agreement between the Government of Japan and the International Atomic Energy Agency in Implementation of Article III. 1 and 4 of the Treaty on the Non-Proliferation of Nuclear Weapons, done on March 4, 1977 as supplemented by an Additional Protocol, done on December 4, 1998 (hereinafter referred to as "the Safeguards Agreement for Japan");

Noting also that safeguards by the Agency are applied in the Hashemite Kingdom of Jordan in accordance with the Agreement between the Hashemite Kingdom of Jordan and the International Atomic Energy Agency for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons, which entered into force on February 21, 1978 as supplemented by an Additional Protocol, done on July 28, 1998 (hereinafter referred to as "the Safeguards Agreement for the Hashemite Kingdom of Jordan");

Reaffirming the commitment of the Parties to pursue peaceful uses of nuclear energy in a manner ensuring nuclear non-proliferation, nuclear safety and nuclear security; and

Desiring to promote cooperation between the two States in the field of the peaceful uses of nuclear energy;

Have agreed as follows:

ARTICLE 1

For the purposes of this Agreement:

- (a) The term "authorized person" means, in the case of Japan, any individual or entity within the jurisdiction of Japan and authorized by the Government of Japan, and, in the case of the Hashemite Kingdom of Jordan, any individual or entity within the jurisdiction of the Hashemite Kingdom of Jordan and authorized by the Government of the Hashemite Kingdom of Jordan, to cooperate under this Agreement, including to supply or receive nuclear material, material, equipment and technology, and to perform or receive services, but does not include the Parties;
- (b) The term "nuclear material" means:
  - (i) source material, namely, uranium containing the mixture of isotopes occurring in nature; uranium depleted in the isotope 235; thorium; any of the foregoing in the form of metal, alloy, chemical compound or concentrate; any other substance containing one or more of the foregoing in such concentration as may be agreed to by the Parties; and such other substances as may be agreed to by the Parties; and
  - (ii) special fissionable material, namely, plutonium, uranium-233, uranium enriched in the isotope 233 or 235; any substance containing one or more of the foregoing; and such other substances as may be agreed to by the Parties. Special fissionable material does not include source material;
- (c) The term "material" means substances for use in a nuclear reactor which are specified in Part A of Annex A to this Agreement, but does not include nuclear material;
- (d) The term "equipment" means major items of machinery, plant or instrumentation, or major components thereof, which are specially designed or prepared for use in nuclear activities, and which are specified in Part B of Annex A to this Agreement;

- (e) The term "technology" means specific information required for the development, production or use of any nuclear material, material or equipment, excluding information which has been made available without restrictions upon its further dissemination. Basic scientific research information may also be excluded, if specified and agreed in writing by the Parties. This specific information may take the form of technical data which includes blueprints, plans, diagrams, models, formulae, engineering designs and specifications, manuals and instructions written or recorded on other media or devices such as disk, tape and read-only memories. It may also take the form of technical assistance which includes instruction, skills, training, working knowledge and consulting services;
- (f) The term "development" referred to in paragraph (e) of this Article means all phases before production such as design, design research, design analysis, design concepts, assembly and testing of prototypes, pilot production schemes, design data, process of transforming design data into a product, configuration design, integration design and layouts;
- (g) The term "production" referred to in paragraphs (e) and (f) of this Article means all activities for producing nuclear material, material or equipment such as construction, production engineering, manufacture, integration, assembly (mounting), inspection, testing and quality assurance;
- (h) The term "use" referred to in paragraph (e) of this Article means operation, installation including on-site installation, maintenance, checking, repair, overhaul and refurbishing;
- (i) The term "equipment based on technology" means equipment which the Parties agree as produced from the use of technology transferred pursuant to this Agreement;
- (j) The term "nuclear material recovered or produced as a by-product" means:
  - (i) nuclear material derived from nuclear material transferred pursuant to this Agreement;

- (ii) nuclear material derived by one or more processes from the use of material or equipment transferred pursuant to this Agreement; and
- (iii) nuclear material which the Parties agree as derived from the use of technology transferred pursuant to this Agreement; and
- (k) The term "unclassified information" means information not classified as restricted, confidential, secret or top secret by either of the Parties.

## ARTICLE 2

1. Cooperation under this Agreement for the promotion and development of the peaceful non-explosive uses of nuclear energy in the two States may be undertaken in the following ways:

- (a) exchange of experts and trainees;
- (b) exchange of unclassified information, including information relating to nuclear safety, on such terms as may be agreed between the Parties, between authorized persons of the Parties, or between either Party and authorized persons of the other Party;
- (c) supply from a Party or its authorized persons to the other Party or its authorized persons of nuclear material, material, equipment and technology on such terms as may be agreed between the supplier and the recipient;
- (d) provision of services by a Party or its authorized persons and receipt of services by the other Party or its authorized persons on matters within the scope of this Agreement on such terms as may be agreed between the supplier and the recipient; and
- (e) other ways as may be agreed by the Parties.

2. Cooperation as specified in paragraph 1 of this Article may be undertaken in the following areas:

- (a) exploration and exploitation of uranium resources;

- (b) design, construction and operation of light water reactors;
- (c) safety and physical protection of light water reactors;
- (d) radioactive waste processing and disposal;
- (e) radiation protection and environmental monitoring;
- (f) study on and application of radio-isotopes and radiation; and
- (g) other areas as may be agreed by the Parties.

3. Notwithstanding the provisions of paragraphs 1 and 2 of this Article, technology for and equipment for uranium enrichment, spent nuclear fuel reprocessing, conversion of plutonium and production of material and plutonium shall not be transferred under this Agreement.

### ARTICLE 3

Cooperation as specified in Article 2 of this Agreement shall be subject to the provisions of this Agreement, and laws and regulations in force in their respective States, and shall require, in the case of cooperation envisaged in sub-paragraph (c) of paragraph 1 of the said Article, acceptance of the application of safeguards by the Agency:

- (a) with respect to all nuclear material in all nuclear activities within Japan, when the recipient is the Government of Japan or its authorized persons. Implementation of the Safeguards Agreement for Japan shall be considered as fulfilling this requirement; and
- (b) with respect to all nuclear material in all nuclear activities within the Hashemite Kingdom of Jordan, when the recipient is the Government of the Hashemite Kingdom of Jordan or its authorized persons. Implementation of the Safeguards Agreement for the Hashemite Kingdom of Jordan shall be considered as fulfilling this requirement.

#### ARTICLE 4

1. Cooperation under this Agreement shall be carried out only for the purposes of peaceful non-explosive uses of nuclear energy.

2. Nuclear material, material, equipment and technology transferred pursuant to this Agreement, equipment based on technology and nuclear material recovered or produced as a by-product shall not be used other than for peaceful purposes; nor shall they be used for any nuclear explosive device, for research on or for development of any such device.

#### ARTICLE 5

1. To ensure the fulfillment of the obligations arising under Article 4 of this Agreement, nuclear material transferred pursuant to this Agreement and nuclear material recovered or produced as a by-product:

- (a) while within Japan, shall be subject to the Safeguards Agreement for Japan; and
- (b) while within the Hashemite Kingdom of Jordan, shall be subject to the Safeguards Agreement for the Hashemite Kingdom of Jordan.

2. In the event that for any reason the Agency does not apply safeguards as required by paragraph 1 of this Article, the Parties shall, in view of the vital importance for nuclear material transferred pursuant to this Agreement and nuclear material recovered or produced as a by-product to remain permanently subject to safeguards, forthwith consult to take rectifying measures and, in the absence of such rectifying measures, shall immediately enter into arrangements which conform to safeguards principles and procedures of the Agency and provide effectiveness and coverage equivalent to that intended to be provided by the safeguards of the Agency specified in paragraph 1 of this Article.

## ARTICLE 6

1. In implementing the provisions of this Agreement, Japan and the Hashemite Kingdom of Jordan shall act in conformity with the provisions of the Convention on Early Notification of a Nuclear Accident, adopted on September 26, 1986, the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, adopted on September 26, 1986, the Convention on Nuclear Safety, adopted on June 17, 1994 and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, done on September 5, 1997.

2. In respect of facilities in which nuclear material, material, equipment or technology subject to this Agreement is located or used, the Parties may make mutually satisfactory arrangements for the implementation of measures to ensure the safety of such facilities.

## ARTICLE 7

1. In respect of nuclear material transferred pursuant to this Agreement and nuclear material recovered or produced as a by-product, the Parties shall apply measures of physical protection according to their respective criteria which bring about, as a minimum, protection at levels set out in Annex B to this Agreement.

2. In respect of international transport of nuclear material transferred pursuant to this Agreement and nuclear material recovered or produced as a by-product, Japan and the Hashemite Kingdom of Jordan shall act in conformity with the provisions of the Convention on the Physical Protection of Nuclear Material, opened for signature on March 3, 1980.

3. Japan and the Hashemite Kingdom of Jordan shall respectively take appropriate measures in accordance with the provisions of the International Convention for the Suppression of Acts of Nuclear Terrorism, opened for signature on September 14, 2005.

## ARTICLE 8

Nuclear material, material, equipment and technology transferred pursuant to this Agreement, equipment based on technology and nuclear material recovered or produced as a by-product shall not be transferred or retransferred beyond the jurisdiction of the State of the receiving Party, except into the jurisdiction of the State of the supplying Party, unless the prior written consent of the supplying Party is obtained.

## ARTICLE 9

Nuclear material transferred pursuant to this Agreement and nuclear material recovered or produced as a by-product shall not be enriched or reprocessed within the jurisdiction of the Hashemite Kingdom of Jordan.

## ARTICLE 10

1. Nuclear material, material, equipment and technology transferred between the two States, whether directly or through a third State, shall become subject to this Agreement upon their entry into the jurisdiction of the State of the receiving Party, only if the supplying Party has notified the receiving Party in writing and in advance of the intended transfer. Prior to the notified transfer of such nuclear material, material, equipment or technology, the supplying Party shall obtain from the receiving Party a written confirmation that the transferred nuclear material, material, equipment or technology will be held subject to this Agreement and that the proposed recipient, if other than the receiving Party, will be an authorized person of the receiving Party.

2. Nuclear material, material, equipment and technology subject to this Agreement shall no longer be subject to this Agreement if:

- (a) such nuclear material, material or equipment has been transferred beyond the jurisdiction of the State of the receiving Party in accordance with the relevant provisions of this Agreement;
- (b) the Parties agree that such nuclear material, material, equipment or technology shall no longer be subject to this Agreement; or
- (c) in the case of nuclear material, the Agency determines, in accordance with the provisions for the termination of safeguards in the relevant agreement referred to in Article 3 of this Agreement, that the nuclear 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.

## ARTICLE 11

1. The Parties shall, at the request of either of them, consult with each other, if any question arises concerning the interpretation or application of this Agreement.

2. If any dispute arising out of the interpretation or application of this Agreement is not settled by consultation, such dispute shall, at the request of either Party, be submitted to an arbitral tribunal which shall be composed of three arbitrators appointed in accordance with the provisions of this paragraph. Each Party shall designate one arbitrator who may be a national of its State and the two arbitrators so designated shall elect a third, a national of a third State who shall be the Chairman. If, within thirty days of the request for arbitration, either Party has not designated an arbitrator, either Party may request the President of the International Court of Justice to appoint an arbitrator. The same procedure shall apply if, within thirty days of the designation or appointment of the second arbitrator, the third arbitrator has not been elected, provided that the third arbitrator so appointed shall not be a national of the State of either Party. A majority of the members of the arbitral tribunal shall constitute a quorum, and all decisions shall require the concurrence of a majority of the members of the tribunal. The arbitration will be conducted in the English language and the arbitral procedures shall be determined by the tribunal. The awards duly rendered by the tribunal shall be final and binding on the Parties.

## ARTICLE 12

1. If the Hashemite Kingdom of Jordan or Japan at any time following entry into force of this Agreement:

- (a) acts in violation of the provisions of Article 4, 5, 6, 7, 8 or 9 of this Agreement, or the awards of the arbitral tribunal referred to in Article 11 of this Agreement; or
- (b) terminates or materially violates its Safeguards Agreement with the Agency referred to in Article 3 of this Agreement,

the Government of Japan or the Government of the Hashemite Kingdom of Jordan respectively shall have the right to cease further cooperation under this Agreement in whole or in part, or to terminate this Agreement and to require the return of any nuclear material, material and equipment transferred pursuant to this Agreement.

2. If the Hashemite Kingdom of Jordan or Japan detonates a nuclear explosive device, the Government of Japan or the Government of the Hashemite Kingdom of Jordan respectively shall have the right specified in paragraph 1 of this Article.

3. Before either Party takes steps to cease cooperation under this Agreement in whole or in part or to terminate this Agreement, or to require the return of any nuclear material, material and equipment transferred pursuant to this Agreement, the Parties shall consult for the purpose of taking corrective measures and shall, where appropriate, carefully consider the following, taking into account the need to make such other appropriate arrangements as may be required:

- (a) the effects of taking such steps; and
- (b) whether the facts which gave rise to considering such steps were caused deliberately.

4. The right under this Article shall be exercised by either Party only if the other Party fails to take corrective measures within an appropriate period of time following the consultations referred to in paragraph 3 of this Article.

5. If either Party exercises its right under this Article to require the return of any nuclear material, material and equipment transferred pursuant to this Agreement, it shall compensate the other Party or the persons concerned for the fair market value thereof.

#### ARTICLE 13

Nothing in this Agreement shall be construed as prejudicing the rights and obligations of either Party regarding nuclear material, material, equipment or technology which is not subject to this Agreement under other international agreements for the peaceful uses of nuclear energy that are in force with respect to that Party at the date of signature of this Agreement.

#### ARTICLE 14

1. This Agreement may be amended at any time with a written agreement of the Parties. Any amendment to this Agreement shall enter into force in the same conditions as referred to in the provisions of paragraph 1 of Article 15 of this Agreement.

2. The Annexes to this Agreement form an integral part of this Agreement. The Annexes may be modified by an agreement in writing between the Parties without amendment of this Agreement.

#### ARTICLE 15

1. This Agreement shall enter into force on the thirtieth day after the date on which the Parties exchange diplomatic notes informing each other that their respective internal procedures necessary for entry into force of this Agreement have been completed.

2. This Agreement shall remain in force for a period of twenty (20) years, and shall thereafter be automatically extended for successive periods of five (5) years each, unless either Party notifies the other Party in writing through diplomatic channels of its intention to terminate this Agreement not later than six months prior to the expiry date.

3. Notwithstanding the cessation of cooperation under this Agreement or termination of this Agreement, Article 1, Articles 4 to 9, paragraph 2 of Article 10 and Articles 11 and 12 of this Agreement shall continue in effect, unless otherwise agreed by the Parties.

In witness whereof the undersigned, being duly authorized by their respective Governments, have signed this Agreement.

Done at Amman on the tenth day of September, 2010 in duplicate in the English language.

For the Government of Japan:

For the Government  
of the Hashemite Kingdom  
of Jordan:

## Annex A

### Part A

#### 1. Deuterium and heavy water:

Deuterium, heavy water (deuterium oxide) and any other deuterium compound in which the ratio of deuterium to hydrogen atoms exceeds 1:5000 for use in a nuclear reactor as defined in paragraph 1 of Part B below, in quantities exceeding 200 kg of deuterium atoms in any period of 12 months.

#### 2. Nuclear grade graphite:

Graphite having a purity level better than 5 parts per million boron equivalent and with a density greater than 1.50g/cm<sup>3</sup> for use in a nuclear reactor as defined in paragraph 1 of Part B below, in quantities exceeding 30 metric tons in any period of 12 months.

### Part B

#### 1. Complete nuclear reactors:

Nuclear reactors capable of operation so as to maintain a controlled self-sustaining fission chain reaction, excluding zero energy reactors, the latter being defined as reactors with a designed maximum rate of production of plutonium not exceeding 100 grams per year.

#### 2. Nuclear reactor vessels:

Metal vessels, or major shop-fabricated parts therefor, especially designed or prepared to contain the core of a nuclear reactor as defined in paragraph 1 above, as well as relevant nuclear reactor internals as defined in paragraph 8 below.

#### 3. Nuclear reactor fuel charging and discharging machines:

Manipulative equipment especially designed or prepared for inserting or removing fuel in a nuclear reactor as defined in paragraph 1 above.

#### 4. Nuclear reactor control rods and equipment:

Especially designed or prepared rods, support or suspension structures therefor, rod drive mechanisms or rod guide tubes to control the fission process in a nuclear reactor as defined in paragraph 1 above.

5. Nuclear reactor pressure tubes:

Tubes which are especially designed or prepared to contain fuel elements and the primary coolant in a nuclear reactor as defined in paragraph 1 above at an operating pressure in excess of 50 atmospheres.

6. Zirconium tubes:

Zirconium metal and alloys in the form of tubes or assemblies of tubes, and in quantities exceeding 500 kg in any period of 12 months, especially designed or prepared for use in a nuclear reactor as defined in paragraph 1 above, and in which the relation of hafnium to zirconium is less than 1:500 parts by weight.

7. Primary coolant pumps:

Pumps especially designed or prepared for circulating the primary coolant for a nuclear reactor as defined in paragraph 1 above.

8. Nuclear reactor internals:

Nuclear reactor internals especially designed or prepared for use in a nuclear reactor as defined in paragraph 1 above, including support columns for the core, fuel channels, thermal shields, baffles, core grid plates and diffuser plates.

9. Heat exchangers:

Heat exchangers (steam generators) especially designed or prepared for use in the primary coolant circuit of a nuclear reactor as defined in paragraph 1 above.

10. Neutron detection and measuring instruments:

Especially designed or prepared neutron detection and measuring instruments for determining neutron flux levels within the core of a nuclear reactor as defined in paragraph 1 above.

11. Plants for the fabrication of nuclear reactor fuel elements, and equipment especially designed or prepared therefore.

12. Plants for the conversion of uranium for use in the fabrication of fuel elements and the separation of uranium isotopes, and equipment especially designed or prepared therefore.

Annex B  
Levels of physical protection

CATEGORY III  
(as defined in the attached table)

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

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

CATEGORY II  
(as defined in the attached table)

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

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

CATEGORY I  
(as defined in the attached table)

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

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

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

TABLE: CATEGORIZATION OF NUCLEAR MATERIAL

Nuclear Material	Form	Category I	Category II	Category III <sup>(c)</sup>
1. Plutonium <sup>(a)</sup>	Unirradiated <sup>(b)</sup>	2kg or more	Less than 2kg but more than 500g	500g or less but more than 15g
2. Uranium-235	Unirradiated <sup>(b)</sup> -uranium enriched to 20% 235U or more  -uranium enriched to 10% 235U but less than 20% 235U  -uranium enriched above natural, but less than 10% 235U	5kg or more	Less than 5kg but more than 1kg  10kg or more	1kg or less but more than 15g  Less than 10kg but more than 1kg  10kg or more
3. Uranium-233	Unirradiated <sup>(b)</sup>	2kg or more	Less than 2kg but more than 500g	500g or less but more than 15g
4. Irradiated Fuel			Depleted or natural uranium, thorium or low-enriched fuel (less than 10% fissile content) (d) / (e)	

(a) All plutonium except that with isotopic concentration exceeding 80% in plutonium-238.

(b) Nuclear material not irradiated in a reactor or nuclear material irradiated in a reactor but with a radiation level equal to or less than 1 Gy/hr (100 rads/hr) at one meter unshielded.

- (c) Quantities not falling in Category III and natural uranium, depleted uranium and thorium should be protected at least in accordance with prudent management practice.
- (d) Although this level of protection is recommended, it would be open to the Parties, upon evaluation of the specific circumstances, to assign a different category of physical protection.
- (e) Other fuel which by virtue of its original fissile material content is classified as Category I or II before irradiation may be reduced one category level while the radiation level from the fuel exceeds 1 Gy/hr (100 rads/hr) at one meter unshielded.