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PROPOSED AGREEMENT FOR COOPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY BETWEEN THE UNITED STATES OF AMERICA AND THE EUROPEAN ATOMIC ENERGY COMMUNITY (EURATOM)

MESSAGE

FROM

THE PRESIDENT OF THE UNITED STATES

TRANSMITTING

THE TEXT OF A PROPOSED AGREEMENT FOR COOPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY BETWEEN THE UNITED STATES OF AMERICA AND THE EUROPEAN ATOMIC ENERGY COMMUNITY (EURATOM) WITH ACCOMPANYING AGREED MINUTE, ANNEXES, AND OTHER ATTACHMENTS, PURSUANT TO 42 U.S.C. 2153 (b), (d)

NOVEMBER 29, 1995.—Message and accompanying papers referred to the Committee on International Relations and ordered to be printed

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U.S. GOVERNMENT PRINTING OFFICE

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To the Congress of the United States:

I am pleased to transmit to the Congress, pursuant to sections 123 b. and 123 d. of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2153 (b), (d)), the text of a proposed Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between the United States of America and the European Atomic Energy Community (EURATOM) with accompanying agreed minute, annexes, and other attachments. (The confidential list of EURATOM storage facilities covered by the Agreement is being transmitted directly to the Senate Foreign Relations Committee and the House International Relations Committee.) I am also pleased to transmit my written approval, authorization and determination concerning the agreement, and the memorandum of the Director of the United States Arms Control and Disarmament Agency with the Nuclear Proliferation Assessment Statement concerning the agreement. The joint memorandum submitted to me by the Secretary of State and the Secretary of Energy, which includes a summary of the provisions of the agreement and other attachments, including the views of the Nuclear Regulatory Commission, is also enclosed.

The proposed new agreement with EURATOM has been negotiated in accordance with the Atomic Energy Act of 1954, as amended by the Nuclear Non-Proliferation Act of 1978 (NNPA) and as otherwise amended. It replaces two existing agreements for peaceful nuclear cooperation with EURATOM, including the 1960 agreement that has served as our primary legal framework for cooperation in recent years and that will expire by its terms on December 31 of this year. The proposed new agreement will provide an updated, comprehensive framework for peaceful nuclear cooperation between the United States and EURATOM, will facilitate such cooperation, and will establish strengthened nonproliferation conditions and controls including all those required by the NNPA. The new agreement provides for the transfer of nonnuclear material, nuclear material, and equipment for both nuclear research and nuclear power purposes. It does not provide for transfers under the agreement of any sensitive nuclear technology (SNT).

The proposed agreement has an initial term of 30 years, and will continue in force indefinitely thereafter in increments of 5 years each until terminated in accordance with its provisions. In the event of termination, key nonproliferation conditions and controls, including guarantees of safeguards, peaceful use and adequate physical protection, and the U.S. right to approve retransfers to third parties, will remain effective with respect to transferred nonnuclear material, nuclear material, and equipment, as well as nuclear material produced through their use. Procedures are also established for determining the survival of additional controls.

The member states of EURATOM and the European Union itself have impeccable nuclear nonproliferation credentials. All

EURATOM member states are party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). EURATOM and all its nonnuclear weapon state member states have an agreement with the International Atomic Energy Agency (IAEA) for the application of full-scope IAEA safeguards within the respective territories of the nonnuclear weapon states. The two EURATOM nuclear weapon states, France and the United Kingdom, like the United States, have voluntary safeguards agreements with the IAEA. In addition, EURATOM itself applies its own stringent safeguards at all peaceful facilities within the territories of all member states. The United States and EURATOM are of one mind in their unswerving commitment to achieving global nuclear nonproliferation goals. I call the attention of the Congress to the joint U.S.-EURATOM "Declaration on Non-Proliferation Policy" appended to the text of the agreement I am transmitting herewith.

The proposed new agreement provides for very stringent controls over certain fuel cycle activities, including enrichment, reprocessing, and alteration in form or content and storage of plutonium and other sensitive nuclear materials. The United States and EURATOM have accepted these controls on a reciprocal basis, not as a sign of either Party's distrust of the other, and not for the purpose of interfering with each other's fuel cycle choices, which are for each Party to determine for itself, but rather as a reflection of their common conviction that the provisions in question represent an important norm for peaceful nuclear commerce.

In view of the strong commitment of EURATOM and its member states to the international nonproliferation regime, the comprehensive nonproliferation commitments they have made, the advanced technological character of the EURATOM civil nuclear program, the long history of extensive transatlantic cooperation in the peaceful uses of nuclear energy without any risk of proliferation, and the fact that all member states are close allies or close friends of the United States, the proposed new agreement provides to EURATOM (and on a reciprocal basis, to the United States) advance, long-term approval for specified enrichment, retransfers, reprocessing, alteration in form or content, and storage of specified nuclear material, and for retransfers of nonnuclear material and equipment. The approval for reprocessing and alteration in form or content may be suspended if either activity ceases to meet the criteria set out in U.S. law, including criteria relating to safeguards and physical protection.

In providing advance, long-term approval for certain nuclear fuel cycle activities, the proposed agreement has features similar to those in several other agreements for cooperation that the United States has entered into subsequent to enactment of the NNPA. These include bilateral U.S. agreements with Japan, Finland, Norway and Sweden. (The U.S. agreements with Finland and Sweden will be automatically terminated upon entry into force of the new U.S.-EURATOM agreement, as Finland and Sweden joined the European Union on January 1, 1995.) Among the documents I am transmitting herewith to the Congress is an analysis by the Secretary of Energy of the advance, long-term approvals contained in the proposed U.S. agreement with EURATOM. The analysis con-

cludes that the approvals meet all requirements of the Atomic Energy Act.

I believe that the proposed agreement for cooperation with EURATOM will make an important contribution to achieving our nonproliferation, trade and other significant foreign policy goals.

In particular, I am convinced that this agreement will strengthen the international nuclear nonproliferation regime, support of which is a fundamental objective of U.S. national security and foreign policy, by setting a high standard for rigorous nonproliferation conditions and controls.

It will substantially upgrade U.S. controls over nuclear items subject to the current U.S.-EURATOM agreement as well as over future cooperation.

I believe that the new agreement will also demonstrate the U.S. intention to be a reliable nuclear trading partner, and thus help ensure the continuation and, I hope, growth of U.S. civil nuclear exports to EURATOM member states.

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

Because this agreement meets all applicable requirements of the Atomic Energy Act of 1954, as amended, for agreements for peaceful nuclear cooperation, I am transmitting it to the Congress without exempting it from any requirement contained in section 123 a. of that Act. This transmission shall constitute a submittal for purposes of both sections 123 b. and 123 d. of the Atomic Energy Act. The Administration is prepared to begin immediately the consultations with the Senate Foreign Relations and House International Relations Committees as provided in section 123 b. Upon completion of the 30-day continuous session period provided for in section 123 b., the 60-day continuous session period provided for in section 123 d. shall commence.

WILLIAM J. CLINTON.

THE WHITE HOUSE, *November 29, 1995.*

AGREEMENT

FOR COOPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY

BETWEEN THE UNITED STATES OF AMERICA

AND THE EUROPEAN ATOMIC ENERGY COMMUNITY

1

THE GOVERNMENT OF THE UNITED STATES OF AMERICA,

hereinafter referred to as "the United States of America",

and THE EUROPEAN ATOMIC ENERGY COMMUNITY,

hereinafter referred to as "the Community",

PREAMBLE

WHEREAS the United States of America and the Community concluded an Agreement which entered into force on 27 August 1958 and an Additional Agreement for Cooperation which entered into force on 25 July 1960, as subsequently amended;

WHEREAS the United States of America and the Community recognize the value of their past cooperation in the peaceful uses of nuclear energy and wish to provide for renewed cooperation on the basis of equality, mutual benefit, reciprocity and without prejudice to the respective powers of each Party;

WHEREAS the United States of America and the Community are convinced that by strengthening and expanding their partnership on an equal footing they will contribute to continued international stability as well as to political and economic progress;

WHEREAS the United States of America, the Community and its Member States have attained a comparable advanced level in the use of nuclear energy for electricity production, in the development of their nuclear industries and in the security afforded by their respective laws and regulations concerning health, safety, the peaceful use of nuclear energy and the protection of the environment;

WHEREAS it is necessary to establish the conditions governing transfers of nuclear items between the United States of America and the Community, to ensure continued compliance with the requirement for free movement of such items within the Community and to avoid interference in nuclear programmes in place in the United States of America and the Community as well as in their international trading relations;

WHEREAS the United States of America and all Member States of the Community are Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, hereinafter referred to as "the Non-Proliferation Treaty";

WHEREAS the United States of America, the Community and its Member States are committed to ensuring that the research, development and use of nuclear energy for peaceful purposes are carried out in a manner consistent with the objectives of that Treaty;

WHEREAS nuclear safeguards are applied in the Community pursuant to the Treaty establishing the European Atomic Energy Community;

WHEREAS the United States of America, the Community and its Member States reaffirm their support of the International Atomic Energy Agency, hereinafter referred to as "the IAEA", and of its safeguards system;

WHEREAS the United States of America, the Community and its Member States are strongly committed to strengthening the international nuclear non-proliferation and related safeguards regimes;

WHEREAS the United States of America, the Community and its Member States are strongly committed to adequate physical protection of nuclear material and are Parties to the International Convention on the Physical Protection of Nuclear Material;

WHEREAS it is desirable to facilitate, as appropriate, trade, exchanges and cooperation activities at an industrial and commercial scale, including peaceful international cooperation with third Parties, in accordance with Article IV of the Non-Proliferation Treaty;

WHEREAS it is also desirable to set up a framework for exchanges of information and for consultations between the Parties on nuclear matters of common interest;

WHEREAS cooperation should extend to nuclear research and development on nuclear safety and to regulatory and operational aspects of radiological protection;

WHEREAS cooperation relating to nuclear fission research and development in such fields as safety, radiological protection, health and the environment, and safeguards may be subject to specific agreements between the United States of America and the Community;

WHEREAS the United States of America and the Community contribute to international cooperation in the field of controlled thermonuclear fusion and, in particular, to the activities of the international thermonuclear experimental reactor (ITER);

WHEREAS it is appropriate that the nuclear cooperation Agreements concluded between, on the one hand, the United States of America and, on the other hand, the Republic of Austria, the Kingdom of Spain, the Portuguese Republic, the Kingdom of Sweden and the Republic of Finland before their accession to the European Community be terminated upon the entry into force of the present Agreement;

WHEREAS likewise the United States of America is prepared to terminate any nuclear cooperation agreement it may have with third States acceding to the Community,

HAVE AGREED AS FOLLOWS:

ARTICLE 1

SCOPE OF COOPERATION

1. The Parties may cooperate in the peaceful uses of nuclear energy in the following areas:

A) Nuclear fission research and development on such terms as may be agreed between the Parties;

B) Nuclear safety matters of mutual interest and competence, as set out in Article 2;

C) Facilitation of exchange and cooperation activities at an industrial or commercial scale between persons and undertakings;

D) Subject to the provisions of this Agreement, supply between the Parties of non-nuclear material, nuclear material and equipment and provision of nuclear fuel cycle services, whether for use by or for the benefit of the Parties or third countries;

E) Exchange of information on major international questions related to nuclear energy, such as promotion of development in the field of international nuclear safeguards and non-proliferation within areas of mutual interest and competence, including collaboration with the IAEA on safeguards matters and on the interaction between nuclear energy and the environment;

F) Controlled thermonuclear fusion including multilateral projects;

G) Other areas of mutual interest.

2. The cooperation referred to in this Article, as between the Parties, may also take place between persons and undertakings established in the respective territories of the Parties.

ARTICLE 2

COOPERATION ON NUCLEAR RESEARCH AND DEVELOPMENT

1. The Parties may cooperate in nuclear research and development including the following activities, insofar as they are covered by the respective nuclear research and development programmes of the Parties:

(a) nuclear safety, including regulatory and operational aspects of radiological protection;

(b) development of nuclear energy including, inter alia, research into new reactors, decommissioning of nuclear installations, radiological safety research into waste management and disposal and interaction between nuclear energy and the environment;

(c) nuclear safeguards;

(d) research on controlled thermonuclear fusion including, inter alia, bilateral activities and contributions towards multilateral projects such as the International Thermonuclear Experimental Reactor (ITER).

2. Cooperation pursuant to this Article may include, but is not limited to, training, exchange of personnel, meetings, exchanges of samples, materials and instruments for experimental purposes and a balanced participation in joint studies and projects.

3. Information arising from the implementation of this Article which, in the judgment of the appropriate authorities of the Parties, should be placed in the public domain may be so disseminated by them in a consolidated or other appropriate form, subject to the Guidelines set out in Annex B.

ARTICLE 3

INDUSTRIAL AND COMMERCIAL COOPERATION

In conformity with the provisions of Article IV of the Non-Proliferation Treaty, the Parties undertake to facilitate the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy. To this end, the Parties will facilitate, as appropriate, commercial relations between persons and undertakings involving nuclear cooperation.

Such cooperation may include, but is not limited to:

- investments,

- joint ventures,

- environmental aspects at industrial or commercial scale,

- trade in nuclear items, non-nuclear material and technical and specialized services as specified in Article 4,

- licensing arrangements between persons and undertakings in the territory of either Party.

ARTICLE 4

NUCLEAR TRADE

1. The Parties shall facilitate nuclear trade between themselves, in the mutual interests of industry, utilities and consumers and also, where appropriate, trade between third countries and either Party of items obligated to the other Party.

2. Authorizations, including export and import licences as well as authorizations or consents to third parties, relating to trade, industrial operations or nuclear material movements on the territories of the Parties shall not be used to restrict trade. The relevant authority shall act upon applications for such authorizations as soon as possible after submission and without unreasonable expense. Appropriate administrative procedures shall be in place to ensure respect of this provision.

ARTICLE 5

ITEMS SUBJECT TO THE AGREEMENT

1. Non-nuclear material, nuclear material and equipment transferred between the Parties or their respective persons or undertakings, whether directly or through a third country, shall become subject to this Agreement upon their entry into the territorial jurisdiction of the receiving Party, provided that the supplying Party has notified the receiving Party in writing of the intended transfer and the receiving Party has acknowledged in writing the receipt of this notification.

2. Non-nuclear material, nuclear material and equipment referred to in this Article shall remain subject to the provisions of this Agreement until it has been determined, in accordance with the procedures set out in the Administrative Arrangement:

- that such items have been retransferred beyond the jurisdiction of the receiving Party,
- that nuclear material or non-nuclear material are no longer usable for any nuclear activity relevant from the point of view of international safeguards or have become practically irrecoverable,
- or that equipment is no longer usable for nuclear purposes.

ARTICLE 6

SAFEGUARDS

1. Safeguards required under this Agreement shall be those applied by the Community pursuant to the Euratom Treaty and by the IAEA pursuant to the following safeguards agreements, as relevant, as they may be revised and replaced so long as coverage as required by the Non-Proliferation Treaty is provided for:

(a) the Agreement between the Community, its non-nuclear weapon Member States and the IAEA, which entered into force on 21 February 1977;

(b) the Agreement between the Community, the United Kingdom of Great Britain and Northern Ireland and the IAEA, which entered into force on 14 August 1978;

(c) the Agreement between the Community, France and the IAEA, which entered into force on 12 September 1981;

(d) the Agreement between the United States of America and the IAEA, which entered into force on 9 December 1980.

2. (A) Nuclear material transferred to the Community pursuant to this Agreement, and special fissionable material used in or produced through the use of any non-nuclear material, nuclear material or equipment, so transferred, shall be subject to the relevant agreements referred to in paragraph 1 of this Article.

(B) Nuclear material transferred to the United States of America pursuant to this Agreement, and special fissionable material used in or produced through the use of any non-nuclear material, nuclear material or equipment, so transferred, shall be subject to the agreement referred to in paragraph 1(d) of this Article.

3. In the event that any of the IAEA safeguards agreements referred to in paragraph 1(a), (b) or (c) are not being applied,

(a) the Community shall enter into an agreement or agreements with the IAEA for the application of safeguards which provide for effectiveness and coverage equivalent to that provided by the safeguards agreements required by paragraphs 1(a), (b) and (c) or, if that is not possible,

(b) the Community shall give the United States of America an assurance that safeguards are being applied by the Community which provide for effectiveness and coverage equivalent to that provided by the safeguards agreements required by paragraph 1(a), (b) and (c). In the fulfilment of obligations arising from these paragraphs, the United States of America hereby recognizes the unique role and importance of the Euratom safeguards system and of its application in the Community pursuant to the Euratom Treaty. In this context, the United States of America further takes note that the IAEA, pursuant to the safeguards agreements concluded with the Community and its Member States as well as in subsequent implementing arrangements, shall take due account, inter alia, of the effectiveness of the Community's system of safeguards enabling the IAEA to deploy an inspection effort less than that applied under other safeguards agreements in which there are comparable nuclear facilities producing, processing, using or storing safeguarded nuclear material where a regional safeguards system does not exist.

(c) In the event that conditions arise which do not permit application of such safeguards by the Community, the Parties shall immediately establish safeguards arrangements for the application of safeguards which provide for effectiveness and coverage equivalent to that provided by the safeguards agreements required by paragraphs 1(a), (b) and (c) of this Article.

4. In the event that the IAEA safeguards Agreement referred to in paragraph 1(d) of this Article, is not being applied,

(a) the United States of America shall enter into an agreement or agreements with the IAEA for the application of safeguards which provide for effectiveness and coverage equivalent to that provided by the safeguards agreement required by paragraph 1(d) of this Article or, if that is not possible,

(b) the Parties shall immediately establish safeguards arrangements for the application of safeguards which provide for effectiveness and coverage equivalent to that provided by the safeguards Agreement required by paragraph 1(d) of this Article.

ARTICLE 7

PEACEFUL USE

1. Cooperation under this Agreement shall be carried out for peaceful purposes.

2. Non-nuclear material, nuclear material and equipment transferred pursuant to this Agreement and special fissionable material used in or produced through the use of such items shall not be used for any nuclear explosive device, for research on or development of any nuclear explosive device or for any military purpose.

ARTICLE 8

NUCLEAR FUEL CYCLE ACTIVITIES

1. The nuclear fuel cycle activities carried out pursuant to this Agreement include:

(A) Within the territorial jurisdiction of either Party, enrichment up to twenty percent in the isotope 235, of uranium transferred pursuant to this Agreement, as well as of uranium used in or produced through the use of equipment so transferred. Enrichment of such uranium to more than twenty percent in the isotope 235 and re-enrichment of such uranium already enriched to more than twenty percent in the isotope 235 may be carried out according to conditions agreed upon in writing which shall be the subject of consultations between the Parties within 40 days of the receipt of a request from either Party.

(B) Irradiation within the territorial jurisdiction of either Party of plutonium, uranium-233, high enriched uranium and irradiated nuclear material transferred pursuant to this Agreement or used in or produced through the use of non-nuclear material, nuclear material or equipment so transferred.

(C) Retransfer to third countries according to procedures set out in the Agreed Minute of:

(i) low enriched uranium, non-nuclear material, equipment and source material transferred pursuant to this Agreement or of low enriched uranium produced through the use of nuclear material or equipment transferred pursuant to this Agreement, for nuclear fuel cycle activities other than the production of HEU;

(ii) irradiated nuclear material transferred pursuant to this Agreement or irradiated nuclear material used in or produced through the use of non-nuclear material, nuclear material or equipment transferred pursuant to this Agreement, for storage or disposal not involving reprocessing;

(iii) other nuclear material transferred pursuant to this Agreement and other special fissionable material produced through the use of non-nuclear material, nuclear material or equipment transferred pursuant to this Agreement, for other fuel cycle activities including those specified in paragraphs 2 and 3 of this Article.

(D) Post-irradiation examination involving chemical dissolution or separation of irradiated nuclear material transferred pursuant to this Agreement or irradiated nuclear material used in or produced through the use of non-nuclear material, nuclear material or equipment so transferred.

(E) Conditioning, storage and final disposal of irradiated materials transferred pursuant to this Agreement or used in or produced through the use of non-nuclear material, nuclear material and equipment transferred pursuant to this Agreement.

2. The following nuclear fuel cycle activities may be carried out pursuant to this Agreement within the territorial jurisdiction of either Party in facilities forming part of the delineated peaceful nuclear programs described in Annex A:

A) Reprocessing of nuclear material transferred pursuant to this Agreement and nuclear material used in or produced through the use of non-nuclear material, nuclear material or equipment so transferred;

B) Alteration in form or content of plutonium, uranium 233 and high enriched uranium transferred pursuant to this Agreement or used in or produced through the use of non-nuclear material, nuclear material or equipment so transferred;

3. The following nuclear materials:

(i) plutonium, uranium-233 and high enriched uranium, if not contained in irradiated nuclear fuel, transferred pursuant to this Agreement;

(ii) plutonium, uranium-233 and high enriched uranium recovered from nuclear material transferred pursuant to this Agreement;

(iii) plutonium, uranium-233 and high enriched uranium recovered from nuclear material used in equipment transferred pursuant to this Agreement

may be stored in facilities that are at all times subject, as a minimum, to the levels of physical protection that are set out in Annex C to IAEA document INFCIRC 254/REV 1/Part 1 (Guidelines for nuclear transfers) as it may be revised and accepted by the Parties and the Member States of the Community.

Each Party shall record its facilities on a list, made available to the other Party. A Party's list shall be held confidential if that Party so requests. Either Party may make changes to its list by notifying the other Party in writing and receiving a written acknowledgement. Such acknowledgement shall be given no later than thirty days after the receipt of the notification and shall be limited to a statement that the notification has been received.

If there are grounds to believe that the provisions of this sub-Article are not being fully complied with, immediate consultations may be called for.

Following upon such consultations, each Party shall ensure by means of such consultations that necessary corrective measures are taken immediately. Such measures shall be sufficient to restore the levels of physical protection referred to above at the facility in question. If this proves not to be feasible, the nuclear material in question shall be transferred for storage at another appropriate, listed facility.

ARTICLE 9

INTERNATIONAL OBLIGATIONS EXCHANGES

The Parties shall establish expeditious procedures to be applied when nuclear material is to be made subject to this Agreement or removed from the coverage of this Agreement. These procedures shall include provisions on international exchanges of obligations, which will be set out in the Administrative Arrangement, provided for in paragraph 1 of Article 16.

ARTICLE 10

IMPLEMENTATION OF THE AGREEMENT

1. The terms of this Agreement shall be implemented in good faith and with due regard to the legitimate commercial interests, whether international or domestic, of either Party.

2. This Agreement shall be implemented in a manner designed:

(a) to avoid hampering or delaying the nuclear activities in the territory of either Party;

(b) to avoid interference in such activities;

(c) to be consistent with prudent management practices required for the economic and safe conduct of such activities;

(d) to take full account of the long-term requirements of the nuclear energy programmes in place in the Community and in the United States of America.

3. The provisions of this Agreement shall not be used for the purpose of:

(a) securing unfair commercial or industrial advantages, or of restricting trade to the disadvantage of persons and undertakings of either Party or hampering their commercial or industrial interests, whether international or domestic;

(b) interfering with the nuclear policy or programmes of either Party nor for hindering the promotion of the peaceful uses of nuclear energy;

(c) impeding the free movement of nuclear material, non-nuclear material and equipment within the territory of the Community.

4. In exercising the rights arising from other nuclear cooperation agreements it might have concluded with third parties, each Party to this agreement will pay due regard to the legitimate commercial interests of the other Party; in case of difficulty either Party may call for consultations which shall take place within 40 days, in accordance with the provisions of Article 12.

ARTICLE 11

PHYSICAL PROTECTION

1. Nuclear material transferred pursuant to this Agreement and special fissionable material used in or produced through the use of non-nuclear material, nuclear material or equipment so transferred shall be subject to adequate measures of physical protection.

2. Such physical protection measures shall be at levels which shall satisfy the criteria set out in Annex C to IAEA document INFCIRC 254/REV 1/Part 1 (Guidelines for nuclear transfers) as it may be revised and accepted by the Parties and the Member States of the Community. As a supplement to this document, the Member States of the Community, the Commission of the European Communities (as appropriate), and the United States of America will refer, when applying these measures, to the recommendations of IAEA document INFCIRC 225/REV 3 on the Physical Protection of Nuclear Material, as it may be revised and accepted by the Parties and the Member States of the Community.

3. International transport of nuclear material subject to this Agreement shall be subject to the provisions of the International Convention on the Physical Protection of Nuclear Material (INFCIRC 274/REV 1), as it may be revised and accepted by the Parties and the Member States of the Community.

ARTICLE 12

CONSULTATION AND ARBITRATION

1. The Parties shall consult at the request of either of them to promote cooperation under this Agreement and to ensure its effective implementation. A Joint Committee shall be established for these purposes. This Committee will also consult on nuclear questions of mutual interest and any other significant matters relating to the cooperation envisaged by this Agreement. A Joint Technical Working Group reporting to the Joint Committee will be set up to ensure the fulfilment of the requirements of the Administrative Arrangement referred to in Article 16.

2. The Parties shall consult, at the request of either of them, on any question arising out of the interpretation or application of this Agreement.

3. Any dispute arising out of the interpretation or application of this Agreement shall be settled by negotiation, mediation, conciliation or other similar procedure or, if both Parties agree, by submission 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 and the two arbitrators so designated shall elect a third, a national of a country other than the United States of America or a Member State of the Community, who shall be the Chairman. If, within thirty days of the request for arbitration, a Party has not designated an arbitrator, the other 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 United States of America or of a Member State of the Community. All decisions shall require the concurrence of two arbitrators. The arbitral procedure shall be fixed by the tribunal. The decisions of the tribunal shall be binding on the Parties.

ARTICLE 13

SUSPENSION AND TERMINATION

A. CIRCUMSTANCES

1. If either Party or a Member State of the Community at any time following the entry into force of this Agreement:

(a) materially acts in violation of the fundamental provisions of Articles 4, 5, 6, 7, 10 or 11 of the Agreement or contravenes a decision of the arbitral tribunal referred to in Article 12 of this Agreement, or

(b) takes action of any kind which results in a material violation of its obligations under this Agreement, including prevention of nuclear trade envisaged under this Agreement,

the other Party shall have the right to cease further cooperation under this Agreement or to suspend or terminate, in whole or in part, this Agreement. Furthermore, if a Party suspends its consent to the activities, referred to in Article 8.2, for reasons other than those set out in paragraph 8(A) of the Agreed Minute, including situations which are not of the same or greater degree of seriousness as those set out in paragraph 8(A) under (a) or (b) of the Agreed Minute, the other Party shall have the same right.

2. If either Party or a Member State of the Community at any time following entry into force of this Agreement terminates or abrogates a safeguards agreement with the Agency and the safeguards agreement so terminated or abrogated has not been replaced by an equivalent safeguards agreement when appropriate and relevant, the other Party shall have the right to require the return in whole or in part of non-nuclear material, nuclear material or equipment transferred pursuant to this Agreement and special fissionable material produced through the use of such items.

3. If the Community or a non-nuclear weapon State member of the Community detonates a nuclear explosive device, the Government of the United States of America shall have the right specified in paragraph 2 of this Article.

4. If a nuclear-weapon-State member of the Community detonates a nuclear explosive device using any item subject to this Agreement, the United States of America shall have the right specified in paragraph 2 of this Article.

5. If the United States of America detonates a nuclear explosive device using any item subject to this Agreement, the Community shall have the right specified in paragraph 2 of this Article.

B. IMPLEMENTATION

6. Before either Party decides to take action pursuant to paragraphs 1 to 5 above, the Parties shall hold consultations for the purpose of taking corrective measures and shall carefully consider the effects of such action, taking into account the need to make such other appropriate arrangements as may be required and, in particular, to ensure security and continuity of supply and adequate time for replacement and further to honour commitments to third countries and their industrial entities.

7. Before taking action under this Article, the Parties shall consider whether the facts triggering such steps were caused deliberately.

8. Action under this Article shall only be taken if the other Party fails to take corrective measures within an appropriate period of time following consultations.

9. If either Party exercises its right, pursuant to paragraphs 2 to 5 of this Article, to require the return of any items, it shall, prior to the removal from the territory or from the control of the other Party, compensate promptly that Party for the fair market value thereof and for the costs incurred as a consequence of such removal. If the return of nuclear items is to be required, the Parties shall determine jointly the relevant quantity of nuclear items, taking account of the circumstances involved. The Parties shall further satisfy themselves that full safety, radiological and physical protection measures, in accordance with their existing obligations, are taken in relation to the return of the items, that no unreasonable risks are incurred and that the return of items takes place in a manner consistent with all the relevant laws and regulations of the Parties.

ARTICLE 14

DURATION AND AMENDMENT

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

2. This Agreement shall remain in force for a period of thirty years and shall continue in force thereafter for additional periods of five years each. Either Party may, by giving six months' written notice to the other Party, terminate this Agreement at the end of the initial thirty year period or at the end of any subsequent five year period.

3. Notwithstanding the termination or suspension of this Agreement, the rights and obligations pursuant to Articles 6, 7, 8.1(C) and 11 and to paragraphs 2, 3, 4, 5, 8, 9, 10, 11 and 12 of the Agreed Minute shall continue in effect.

4. If a Party gives to the other Party the written notice provided for in paragraph 2, or if a Party suspends or terminates this Agreement pursuant to Article 13.1, the Parties shall hold consultations as soon as possible but not later than one month afterwards, for the purpose of deciding jointly whether, in addition to those referred to in paragraph 3 of this Article, further rights and obligations arising out of this Agreement, and in particular out of Article 8.1(A), 8.1(B), 8.1(D), 8.2 and 8.3 and the Agreed Minute relating thereto, shall continue in effect.

5. If the Parties are unable to reach a joint decision pursuant to paragraph 4,

(a) quantities of nuclear material equivalent to the inventory described in Article 20.1, and items of equipment described in Article 20.2, shall continue to be subject to the provisions of Articles 8.1(A), 8.1(B), 8.1(D), 8.2, 8.3 and Article 13 and their Agreed Minute but only to the extent covered by the Agreements referred to in Article 19.

(b) The question whether further rights and obligations, in addition to those referred to in paragraph 3 and subparagraph (a) of this paragraph of this Article, shall continue in effect in relation to nuclear material and equipment not covered by subparagraph (a), and to all non-nuclear material, shall be submitted to an arbitral tribunal composed pursuant to Article 12.3. The tribunal shall make its decision on the basis of the application of the rules and principles of international law, and in particular the Vienna Convention on the Law of Treaties.

(c) If the arbitral tribunal decides that rights and obligations other than those referred to in paragraph 3 of this Article shall not continue in effect with respect to non-nuclear material, nuclear material and equipment subject to arbitration pursuant to subparagraph (b), either Party shall have the right to require, subject to the procedures provided for in Article 13.9, the return of such non-nuclear material, nuclear material and equipment in the territory of the other Party on the day of termination of this Agreement.

(d) Until the Parties reach a joint decision or the arbitral tribunal renders its decision, this Agreement will remain in force notwithstanding the written notice pursuant to paragraph 2.

6. The Parties may consult, at the request of either, on possible amendments to this Agreement, particularly to take account of international developments in the field of nuclear safeguards. This Agreement may be amended if the Parties so agree. Any amendment shall enter into force on the date on which the Parties exchange diplomatic notes informing each other that their respective internal procedures necessary for its entry into force have been completed.

ARTICLE 15

MULTIPLE OBLIGATIONS

1. The Parties shall endeavour to avoid any difficulties arising out of the overlapping of obligations on nuclear material as a result of the application of several agreements concerning international trade.

2. The Parties shall promote multilateral consultations with a view to achieving mutually satisfactory solutions at international level.

ARTICLE 16

ADMINISTRATIVE ARRANGEMENT

1. The appropriate authorities of the Parties shall establish an Administrative Arrangement in order to provide for the effective implementation of the provisions of this Agreement.

2. The principles of fungibility, equivalence and proportionality shall apply to nuclear material subject to the Agreement and the detailed provisions thereof will be set out in the Administrative Arrangement.

3. An Administrative Arrangement established pursuant to this Article may be amended by written agreement between the appropriate authorities of the Parties.

ARTICLE 17

INTELLECTUAL PROPERTY

1. The Parties shall apply international rules they have both formally accepted governing the treatment of intellectual property and technology transfers to intellectual property created or transferred and technology transferred pursuant to this Agreement.

2. Annex B shall apply to intellectual property created or transferred and technology transferred pursuant to this Agreement.

3. The Parties shall ensure that individual agreements they enter into pursuant to Annex B are consistent with this Agreement and with any additional rules concerning treatment of sensitive or confidential information in the nuclear field that may be agreed by the Parties.

ARTICLE 18

STATUS OF ANNEXES

The Annexes form an integral part of this Agreement and, unless expressly provided otherwise, a reference to this Agreement includes its Annexes.

ARTICLE 19

TERMINATION OF EXISTING AGREEMENTS

1. The Agreement between the European Atomic Energy Community and the Government of the United States of America that entered into force on 27 August 1958 shall be terminated upon the entry into force of this Agreement. The Additional Agreement for Cooperation between the United States of America and the European Atomic Energy Community (Euratom) that entered into force on 25 July 1980, as subsequently amended, shall expire as provided for in Article VI of that Agreement or shall be terminated upon entry into force of this Agreement, whichever is the earlier.

2. The bilateral nuclear cooperation agreements that the United States of America has concluded with the Republic of Austria, on 11 July 1969, the Kingdom of Spain, on 20 March 1974, the Portuguese Republic, on 16 May 1974, the Kingdom of Sweden, on 19 December 1983, and the Republic of Finland, on 2 May 1985, shall be terminated upon the entry into force of this Agreement. The rights and obligations with respect to nuclear supply arising out of such agreements shall be replaced by those of this Agreement.

3. The rights and obligations with respect to nuclear supply arising out of a nuclear cooperation agreement between the United States of America and any third State that accedes to the Community after the entry into force of this Agreement shall be replaced by those of this Agreement upon accession by that State to the Community. The rights and obligations with respect to other areas of nuclear cooperation shall be the subject of negotiations between the Community, the United States of America and the third State concerned, in accordance with the provisions of Article 108 of the Euratom Treaty.

ARTICLE 20

INITIAL INVENTORIES

1. The provisions of this Agreement shall apply to the inventory of nuclear material formerly subject to the agreements referred to in Article 19 from the date upon which such agreements terminate.

2. The provisions of this Agreement shall apply to equipment and non-nuclear material transferred pursuant to the agreements referred to in Article 19 only to the extent covered by those agreements.

3. The inventories of nuclear material, equipment and non-nuclear material subject to the agreements referred to in Article 19 shall be approved by the appropriate authorities of the Parties.

ARTICLE 21

DEFINITIONS

For the purposes of this Agreement:

1. "Parties" means the Government of the United States of America and the European Atomic Energy Community.

2. (a) "Community" means both:

I. the legal person created by the Treaty establishing the European Atomic Energy Community (Euratom), Party to this Agreement;

II. the territories to which the Euratom Treaty applies;

(b) "within the Community" means within the territories to which the Euratom Treaty applies;

(c) "beyond the Community" has the corresponding meaning.

3. "Appropriate authority" means, in the case of the United States of America, the Department of State; in the case of the Community, the European Commission, or such other authority as the Party concerned may at any time notify to the other Party.

4. "Equipment" means any reactor as a complete unit, other than one designed or used primarily for the formation of plutonium or uranium-233 or any other item so designated jointly by the appropriate authorities of the Parties.

5. "Non-nuclear material" means heavy water, or any other material suitable for use in a reactor to slow down high velocity neutrons and increase the likelihood of further fission, as may be jointly designated by the appropriate authorities of the Parties.

6. "Nuclear material" means (1) source material and (2) special fissionable material. "Source material" means uranium containing the mixture of isotopes occurring in nature; uranium depleted in the isotope 235; thorium; any of the foregoing in the form of metal, alloy, chemical compound, or concentrate; any other material containing one or more of the foregoing in such concentration as the Board of Governors of the IAEA shall from time to time determine; and such other materials as the Board of Governors of the Agency may determine or as may be agreed by the appropriate authorities of both Parties. "Special fissionable material" means 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 the Board of Governors of the Agency may determine or as may be agreed by the appropriate authorities of both Parties. "Special fissionable material" does not include "source material". Any determination by the Board of Governors of the Agency under Article XX of that Agency's Statute or otherwise that amends the list of materials considered to be "source material" or "special fissionable material" shall only have effect under this Agreement when both Parties to this Agreement have informed each other in writing that they accept such amendment.

7. "High enriched uranium" means uranium enriched to more than twenty percent in the isotope 235 (and/or uranium 233); "low enriched uranium" means uranium enriched to twenty percent or less in the isotope 235 (and/or uranium 233);

8. The following definitions relate to Article 17 and Annex B:

- "Cooperative activity" means any joint activity carried on under this Agreement, and includes joint research;

- "Information" means scientific or technical data, results or methods of research and development stemming from the joint research and any other information deemed necessary to be provided or exchanged under this Agreement or research pursuant thereto;

- "Joint research" means research undertaken jointly by the Parties directly or on their behalf by a person, legal entity, research institute or other body designated by a Party or research undertaken jointly by participants;

- "Participant" means a person, legal entity, research institute or other body participating in joint research but not on behalf of one of the Parties.

9. "Persons and undertakings" means any natural person who, and any undertaking or institution, whatever its public or private legal status, which pursues all or any of its activities within the Community or in the territory of the United States of America within the scope of this Agreement.

10. "Alteration in form or content" means conversion of plutonium, high enriched uranium or uranium 233 or fabrication of fuel containing plutonium, high enriched uranium or uranium 233; it does not include post irradiation examination involving chemical dissolution or separation, disassembly or reassembly of fuel assemblies, irradiation, reprocessing or enrichment.

11. "Storage facility" means any facility (or any part of a facility so designated by inclusion in one of the lists referred to in Article 8.3) the primary purpose and function of which is the separate storage of sensitive nuclear material as described in paragraphs (i), (ii) and (iii) of Article 8.3 under adequate conditions of control, safety and safeguards as well as of physical protection as described in Article 11.2.

In witness whereof the undersigned, being duly authorized thereto by the Government of the United States of America and the European Atomic Energy Community respectively, have signed this Agreement.

AGREED MINUTE

During the negotiation of the Agreement for Cooperation in the peaceful uses of nuclear energy between the United States of America and the Community signed today, the following understandings, which shall be an integral part of the Agreement, were reached.

A. PEACEFUL PURPOSES

1. The Parties agree that, with reference to Article 7, "peaceful purposes" includes provision of power for a military base drawn from any power network or production of radioisotopes to be used for medical purposes in a military hospital.

B. NUCLEAR FUEL CYCLE ACTIVITIES

2. Upon entry into force of this Agreement, the Parties shall exchange lists of third countries to which retransfers pursuant to Article 8.1(C)(i) may be made by the other Party. Eligibility for continued inclusion on such lists shall be based, as a minimum, upon satisfaction of the following criteria:

- third countries must have made effective non-proliferation commitments, normally by being party to, and in full respect of their obligations under the Non-Proliferation Treaty or the Treaty of Tlatelolco and by being in compliance with the conditions of INFCIRC 254/REV 1/Part 1, and

- in case of retransfer of items obligated to the United States from the territory of the Member States of the Community, third countries must be party to a nuclear cooperation agreement with the United States.

3. Should retransfers pursuant to Article 8.1(C)(ii) and (iii) be requested in the future by a Party, a list of third countries to which such retransfers may be made, shall be provided by the other Party. In this connection, the Parties shall take into account the following additional criteria:

- consistency of the proposed action with the guidelines contained in IAEA document INFCIRC 225/REV 3 and with the provisions of IAEA document INFCIRC 274/REV 1, as they may be revised and accepted by the Parties and the Member States;

- the nature and content of the peaceful nuclear programs of the third country in question;

- the potential proliferation and security implications of the transfer for either Party or a Member State of the Community.

4. Either Party may add eligible third countries to its lists at any time. Either Party may delete third countries from its lists following consultations with the other Party. Neither Party shall delete third countries from its lists for the purpose of obtaining commercial advantage or of delaying, hampering or hindering the peaceful nuclear programmes of the other Party or its peaceful nuclear cooperation with third countries. The Parties will cooperate in efforts to obtain as soon as possible on a generic basis a confirmation from the third countries on the lists that any retransferred items will be subject to any agreement for cooperation in force between the receiving country and the non-retransferring Party. The receipt of such confirmation shall not constitute a pre-condition for the addition of a third country to the lists.

Retransfers to third countries not included on the lists may be considered on a case by case basis.

5. The Parties agree that, notwithstanding the provisions of paragraphs 2, 3 and 4, the provisions set out in the Exchange of Notes dated 18 July 1988 between the Commission of the European Communities and the United States Mission to the European Communities concerning the Agreement for Cooperation in the Peaceful Uses of Nuclear Energy between the United States of America and Japan shall remain in effect as long as this Agreement remains in force. The Parties confirm that the abovementioned provisions shall apply, inter alia, to plutonium contained in mixed oxide fuel. The consents granted therein may be suspended only if an event of the same or greater degree of seriousness as those referred to in paragraph 8 arises which directly threatens either the retransfer or the activities involving the retransferred plutonium in Japan.

6. With reference to paragraph 2 of Article 8 of the Agreement and notwithstanding paragraph 6 of Article 14, either Party, acting through its appropriate authorities, may make changes to the peaceful nuclear programmes it has delineated by notifying the other Party in writing in accordance with the procedures set forth below and receiving a written acknowledgement.

7. Such acknowledgement shall be given no later than thirty days after the receipt of the notification and shall be limited to a statement that the notification has been received. Intended changes in delineated programmes shall receive the fullest possible consideration during consultations under the Agreement, which may include an exchange of information and views on safeguards matters of mutual interest.

(A) For an addition of a facility within its territorial jurisdiction to the peaceful nuclear programme delineated by the Community, the notification shall contain:

(i) the name, type and location of the facility and its existing or planned capacity;

(ii) a confirmation that the Euratom Safeguards Regulation 3227/76, as amended, is fully applied;

(iii) for a facility to be under IAEA safeguards inspections pursuant to a safeguards agreement referred to in paragraph 1(a), (b) or (c) of Article 6, a confirmation that relevant safeguards arrangements have been agreed upon with the IAEA and that those arrangements will permit the IAEA to exercise fully its rights pursuant to the aforementioned safeguards agreements, in the light of how these agreements are implemented during the life of this Agreement and so as to enable the IAEA to meet its objectives and inspection goal;

(iv) such non-confidential information as is available to the Community on the IAEA safeguards approach and non-confidential information on Euratom safeguards relevant to the facility;

(v) a confirmation that physical protection measures as required by Article 11 of this Agreement will be applied.

(B) For an addition of a facility within its territorial jurisdiction to the delineated peaceful nuclear programme of the United States, the notification shall contain:

(i) the name, type and location of the facility and its existing or planned capacity;

(ii) for facilities licensed or certified by the United States Nuclear Regulatory Commission, a confirmation that the Fundamental Nuclear Material Control Plan, describing how the requirements of the US Code of Federal Regulations, Title 10, Part 74, as amended, will be met, has been approved for the facility; for United States Department of Energy civil facilities, a confirmation that the facility is in compliance with the requirements of the Department of Energy Order 5633.3B, "Control and Accountability of Nuclear Materials" and associated guides, as amended;

(iii) for a facility to be under IAEA safeguards inspections pursuant to the safeguards agreement referred to in paragraph 1(d) of Article 6, a confirmation that the relevant safeguards arrangements have been agreed upon with the IAEA and that those arrangements will permit the IAEA to exercise fully its rights pursuant to the aforementioned safeguards agreement, in the light of how this agreement is implemented during the life of this Agreement and so as to enable the IAEA to meet its objectives and inspection goal;

(iv) information on the basic features contained in the Fundamental Nuclear Material Control Plan or the compliance with the Department of Energy Order referred to above, and such non-confidential information as is available to the United States on the IAEA safeguards approach; and

(v) a confirmation that physical protection measures as required by Article 11 of this Agreement will be applied.

(C) Either Party may delete a facility from the peaceful nuclear programme it has delineated, by providing to the other Party a notification containing the facility name and other relevant information available.

8. A. The activities referred to in paragraph 2 of Article 8 of this Agreement may proceed as long as those provisions continue in effect with respect to the peaceful nuclear programme delineated by a Party, unless the other Party considers, pursuant to the procedures set out below, that these activities should be suspended on the basis of objective evidence that their continuation would entail a serious threat to the security of either Party or of a Member State of the Community, or a significant increase in the risk of nuclear proliferation, resulting from a situation of the same or greater degree of seriousness as the following:

(a) With regard to the Community:

(i) a non-nuclear-weapon State member of the Community detonates a nuclear weapon or any other nuclear explosive device;

(ii) a nuclear-weapon State member of the Community detonates a nuclear weapon or any other nuclear explosive device using any item subject to this Agreement;

(iii) a Member State of the Community or the Community, as relevant, materially violates, terminates, or declares itself not to be bound by, the Non-Proliferation Treaty or the relevant safeguards agreements referred to in Article 6.1, or the Guidelines applicable to the transfers of nuclear items laid down in document INFCIRC 254/REV 1/Part 1, as it may be revised and accepted by the Parties;

(iv) a Member State of the Community retransfers an item subject to this Agreement to a non-nuclear-weapon State which has not concluded a full-scope safeguards Agreement with the IAEA;

(v) a Member State of the Community is subjected to measures taken by the Board of Governors of the IAEA, pursuant to Article 19 of the relevant safeguards Agreement referred to in Article 6.1(a), (b) or (c);

(vi) acts of war or serious internal disturbances preventing the maintenance of law and order, or serious international tension constituting a threat of war, that threaten severely and directly the safeguarding or physical protection of such activities.

(b) With regard to the United States:

(i) the United States detonates a nuclear weapon or any other nuclear explosive device using any item subject to this Agreement;

(ii) the United States materially violates, terminates or declares itself not to be bound by, the Non-Proliferation Treaty or the relevant safeguards agreement referred to in Article 6.1.(d), or the Guidelines applicable to the transfers of nuclear items laid down in document INFCIRC 254/REV 1/Part 1, as it may be revised and accepted by the Parties;

(iii) the United States retransfers an item subject to this Agreement to a non-nuclear-weapon State which has not concluded a full-scope safeguards agreement with the IAEA;

(iv) the United States is subjected to measures taken by the Board of Governors of the IAEA, pursuant to Article 18 of the safeguards Agreement referred in Article 6.1(d);

(v) acts of war or serious internal disturbances preventing the maintenance of law and order or serious international tension constituting a threat of war, that threaten severely and directly the safeguarding or physical protection of such activities.

B. The Party considering that such objective evidence may exist, shall consult with the other Party, at Cabinet level for the United States and at European Commission level for the Community, before reaching any decision.

C. Any such decision that such objective evidence does exist, and that activities referred to in paragraph 2 of Article 8 should therefore be suspended, shall be taken only by the President of the United States or by the Council of the European Union, as the case may be, and shall be notified in writing to the other Party.

D. Any decision taken by a Party pursuant to this paragraph shall apply to the activities of the other Party referred to in Article 8, paragraph 2 of this Agreement, taken as a whole.

E. The Parties confirm that, as of the time of entry into force of this Agreement, there exists no objective evidence of any of the threats referred to above and that they do not foresee any such threats developing in the future.

9. Actions of governments of third countries or events beyond the territorial jurisdiction of either Party shall not be used as a basis for invoking the provisions of paragraph 8 with respect to activities or facility operations within that Party's territorial jurisdiction unless, due to such actions or events, those activities or facility operations would clearly result in a significant increase in the risk of nuclear proliferation or in a serious threat to the security of the Party invoking the provisions of paragraph 8.

10. The Party invoking the provisions of paragraph 8 shall keep under constant review the development of the situation which prompted the decision and shall withdraw its invocation as soon as warranted.

11. The provisions of paragraph 8 shall not be invoked due to differences over the nature of the Parties' peaceful nuclear programmes or fuel cycle choices, or for the purpose of obtaining commercial advantage, or of delaying, hampering or hindering the peaceful nuclear programmes or activities of the other Party, or its peaceful nuclear cooperation with third countries.

12. Any decision to invoke the provisions of paragraph 8 shall only be taken in the most extreme circumstances of exceptional concern from a non-proliferation or security point of view and shall be applied for the minimum period of time necessary to deal in a manner acceptable to the Parties with the exceptional case.

13. Should the activities agreed upon in paragraph 2 of Article 8 of the Agreement be suspended, as provided in paragraph 8, quantities of nuclear material equivalent to the inventory described in Article 20.1 shall, at the option of the Party against which the suspension is applied, be regarded during such suspension as subject to this Agreement but only to the extent covered by the agreements referred to in Article 19.

C. PROPORTIONALITY

14. For the purpose of implementing the provisions of Article 8 and paragraphs 2-5 of Article 13 with respect to special fissionable material produced through the use of nuclear material and/or non-nuclear material transferred pursuant to the Agreement, when such nuclear material and/or non-nuclear material is used in equipment not so transferred, such provisions shall be applied to that proportion of special fissionable material produced that represents the ratio of transferred nuclear material and/or non-nuclear material used in the production of the special fissionable material to the total amount of nuclear material and/or non-nuclear material so used.

D. RESULTING OBLIGATIONS

15. The obligations arising out of Article 6, 7 and 11 in relation to special fissionable material produced through the use of nuclear material subject to the Agreement in equipment not transferred under the Agreement may be satisfied without specific tracking of that special fissionable material. When such special fissionable material is subsequently used in equipment not so transferred, that equipment shall, during such use, be operated for peaceful applications only.

E. SUSPENSION AND TERMINATION

16. Both sides regard it as extremely unlikely that actions would be taken by the Community, its Member States or the United States of America which would cause the other Party to invoke the rights specified in Article 13. Nonetheless this Article reflects the firm conviction of both Parties that they would view with the utmost concern acts constituting a material violation or breach of non-proliferation commitments by any country and that appropriate actions such as those provided for in Article 13 would be taken by the Community, its Member States or the United States of America in response to any material violation of non-proliferation commitments.

17. No violation may be considered as being material unless corresponding to the definition of material violation or breach contained in the Vienna Convention on the Law of Treaties.

18. Additionally, a determination as to whether there has been a material violation of the fundamental safeguards commitments contained in the safeguards Agreements referred to in Article 6.1. or in such other agreement as may amend or replace them, would only be made by the President of the United States of America or the Council of the European Union, as relevant. In making such a determination, a crucial factor will be whether the Board of Governors of the Agency has made a finding of non-compliance.

DONE at Brussels this seventh day of November, 1995, in duplicate, in the English language,

UDFAERDIGET i Bruxelles, den 7. november 1995, i to eksemplarer på engelsk,

GEDAAN te Brussel op 7 november 1995, in tweevoud, in de Engelse taal,

TEHTY Brysselissä 7 päivänä marraskuuta 1995 kahtena samanlaisena kappaleena englannin kielellä,

FAIT à Bruxelles, le 7 novembre 1995, en deux exemplaires, en langue anglaise,

GESCHEHEN zu Brüssel am 7. November 1995 in zwei Urschriften in englischer Sprache.

Έγινε στις Βρυξέλλες, στις 7 Νοεμβρίου 1995, εις διπλούν, στα αγγλικά.

FATTO a Bruxelles oggi, 7 novembre 1995, in duplice copia, in lingua inglese,

FEITO em Bruxelas em sete de Novembro de mil novecentos e noventa e cinco, em duplo exemplar, em língua inglesa,

HECHO en Bruselas el 7 de noviembre de 1995, en doble ejemplar en lengua inglesa,

UTFÄRDAT, i Bryssel den 7 november 1995 på engelska i två likalydande exemplar,

FOR THE UNITED STATES OF AMERICA:
FOR AMERIKAS FORENEDE STATER:
VOOR DE VERENIGDE STATEN VAN AMERIKA:
AMERIKAN YHDYSVALTOJEN PUOLESTA:
POUR LES ETATS-UNIS D'AMERIQUE :
FÜR DIE VEREINIGTEN STAATEN VON AMERIKA:
ΓΙΑ ΤΙΣ ΗΝΩΜΕΝΕΣ ΠΟΛΙΤΕΙΕΣ ΤΗΣ ΑΜΕΡΙΚΗΣ:
PER GLI STATI UNITI D'AMERICA:
PELOS ESTADOS UNIDOS DA AMÉRICA:
POR LOS ESTADOS UNIDOS DE AMÉRICA:
PÅ FÖRENTA STATERNAS VÄGNAR:

AMBASSADOR STUART E. EIZENSTAT

FOR THE EUROPEAN ATOMIC ENERGY COMMUNITY:
FOR DET EUROPÆISKE ATOMENERGIFÆLLESSKAB:
VOOR DE EUROPESE GEMEENSCHAP VOOR ATOOMENERGIE:
EUROOPAN ATOMIENERGIAYHTEISÖN PUOLESTA:
POUR LA COMMUNAUTE EUROPEENNE DE L'ENERGIE ATOMIQUE:
FÜR DIE EUROPÄISCHE ATOMGEMEINSCHAFT:
ΓΙΑ ΤΗΝ ΕΥΡΩΠΑΪΚΗ ΚΟΙΝΟΤΗΤΑ ΑΤΟΜΙΚΗΣ ΕΝΕΡΓΕΙΑΣ:
PER LA COMUNITÀ EUROPEA DELL'ENERGIA ATOMICA:
PELA COMUNIDADE EUROPEIA DA ENERGIA ATÓMICA:
POR LA COMUNIDAD EUROPEA DE LA ENERGÍA ATÓMICA:
PÅ EUROPEISKA ATOMENERGIGEMENSKAPENS VÄGNAR:

SIR LEON BRITTAN
VICE PRESIDENT OF THE COMMISSION
OF THE EUROPEAN COMMUNITIES

CHRISTOS PAPOUTSIS
MEMBER OF THE COMMISSION
OF THE EUROPEAN COMMUNITIES

and at Brussels this day of , 1995, in duplicate, in the Danish, Finnish, French, German, Greek, Italian, Portuguese, Spanish and Swedish languages, all eleven languages being equally authentic.

og i Bruxelles, den ... 1995, I to eksemplarer, på dansk, tysk, engelsk, spansk, fransk, græsk, italiensk, nederlandsk, portugisisk, svensk og finsk idet alle elleve sprog er lige autentiske.

en te Brussel op .... 1995, in tweevoud, in de Deense, de Duitse, de Engelse, de Finse, de Franse, de Griekse, de Italiaanse, de Nederlandse, de Portugese, de Spaanse en de Zweedse taal, zijnde alle elf teksten gelijkelijk authentiek.

ja Brysselissä .. päivänä .....kuuta 1995 kahtena samanlaisena kappaleena tanskan, hollannin, suomen, ranskan, saksan, kreikan, italian, portugalin, espanjan ja ruotsin kielellä kaikkien yhdentoista kielen ollessa todistusvoimaisia,

et à Bruxelles, le.....1995, en deux exemplaires, en langues allemande, danoise, espagnole, finlandaise, française, grecque, italienne, néerlandaise, portugaise et suédoise, ces onze langues faisant toutes également foi,

und zu Brüssel am ..... 1995 in zwei Urschriften in dänischer, deutscher, finnischer, französischer, griechischer, italienischer, niederländischer, portugiesischer, spanischer und schwedischer Sprache, wobei jeder Wortlaut gleichermaßen verbindlich ist.

και στις Βρυξέλλες στις ..... 1995, εις διπλοϋν, στα δανικά, ολλανδικά, φινλανδικά, γαλλικά, γερμανικά, ελληνικά, ιταλικά, πορτογαλικά, ισπανικά και σουηδικά· και οι ένδεκα γλώσσες είναι εξίσου αυθεντικές.

e a Bruxelles, oggi, 1995, in duplice copia, nelle lingue danese olandese, finnico, francese, tedesco, greco, italiano, portoghese, spagnolo, svedese, gli undici testi facenti ugualmente fede.

e em Bruxelas, em ..... de ..... de mil novecentos e noventa e cinco, em duplo exemplar, em línguas alemã, dinamarquesa, espanhola, finlandesa, francesa, grega, italiana, neerlandesa, portuguesa e sueca, fazendo fé todas as onze versões linguísticas.

y en Bruselas el de de 1995, en doble ejemplar en lenguas alemana, danesa, española, finlandesa, francesa, griega, italiana, neerlandesa, portuguesa y sueca, siendo los once textos igualmente auténticos.

och i Brussel den 1995 i två likalydande exemplar på danska, finska, franska, grekiska, italienska, nederländska, portugisiska,spanska, svenska och tyska språken vilka alla är lika giltiga.

FOR THE UNITED STATES OF AMERICA:

FOR AMERIKAS FORENEDE STATER:

VOOR DE VERENIGDE STATEN VAN AMERIKA:

AMERIKAN YHDYSVALTOJEN PUOLESTA:

POUR LES ETATS-UNIS D'AMERIQUE :

FÜR DIE VEREINIGTEN STAATEN VON AMERIKA:

ΓΙΑ ΤΙΣ ΗΝΩΜΕΝΕΣ ΠΟΛΙΤΕΙΕΣ ΤΗΣ ΑΜΕΡΙΚΗΣ:

PER GLI STATI UNITI D'AMERICA:

PELOS ESTADOS UNIDOS DA AMÉRICA:

POR LOS ESTADOS UNIDOS DE AMÉRICA:

PÅ FÖRENTA STATERNAS VÄGNAR:

FOR THE EUROPEAN ATOMIC ENERGY COMMUNITY:

FOR DET EUROPÆISKE ATOMENERGIFÆLLESSKAB:

VOOR DE EUROPESE GEMEENSCHAP VOOR ATOOMENERGIE:

EUROOPAN ATOMIENERGIAYHTEISÖN PUOLESTA:

POUR LA COMMUNAUTE EUROPEENNE DE L'ENERGIE ATOMIQUE:

FÜR DIE EUROPÄISCHE ATOMGEMEINSCHAFT:

ΓΙΑ ΤΗΝ ΕΥΡΩΠΑΪΚΗ ΚΟΙΝΟΤΗΤΑ ΑΤΟΜΙΚΗΣ ΕΝΕΡΓΕΙΑΣ:

PER LA COMUNITÀ EUROPEA DELL'ENERGIA ATOMICA:

PELA COMUNIDADE EUROPEIA DA ENERGIA ATÓMICA:

POR LA COMUNIDAD EUROPEA DE LA ENERGÍA ATÓMICA:

PÅ EUROPEISKA ATOMENERGIGEMENSKAPENS VÄGNAR:

ANNEX A (Article 8)

EURATOM DELINEATED PEACEFUL NUCLEAR PROGRAM

			Capacity (1)
REPROCESSING FACILITIES			
COGEMA – ETABLISSEMENT DE LA HAGUE	LA HAGUE	FRANCE	1 600
COGEMA – USINE UP-1 AND CEA SERVICE DE L'ATELIER PILOTE	MARCOULE	FRANCE	400
BRITISH NUCLEAR FUELS PLC	SELLAFIELD	UNITED KINGDOM	2 700
UKAEA GOVERNMENT DIVISION	DOUNREAY	UNITED KINGDOM	ca 5 (*) ca 0,2 (**)
ALTERATION IN FORM OR CONTENT FACILITIES			
BELGONUCLEAIRE – USINE DE FABRICATION D'ELEMENTS PU	DESSEL	BELGIUM	35
FBFC INTERNATIONAL – ASSEMBLAGE DES COMBUSTIBLES MOX	DESSEL	BELGIUM	35

(*) = MOX Fuel; (**) = HEU Fuel

(1) Capacity is expressed in tonnes of heavy metal per year.

			Capacity (¹)
SIEMENS BRENNELEMENTEWERK – BETRIEBSTEIL MOX-VERARBEITUNG	HANAU	GERMANY	160
CERCA/ETABLISSEMENT DE ROMANS	ROMANS SUR ISÈRE	FRANCE	0,2
SOCIETE INDUSTRIELLE DE COMBUSTIBLE NUCLÉAIRE	VEUREY	FRANCE	0,05
COGEMA – COMPLEXE DE FABRICATION DES COMBUSTIBLES	CADARACHE	FRANCE	30
ETABLISSEMENT MELOX	MARCOULE	FRANCE	115
BRITISH NUCLEAR FUELS PLC	SELLAFIELD	UNITED KINGDOM	128
UKAEA GOVERNMENT DIVISION	DOUNREAY	UNITED KINGDOM	ca 1 (Heu) ca 1 (***)

(***) = Pu residues

(¹) Capacity is expressed in tonnes of heavy metal per year.

US DELINEATED PEACEFUL NUCLEAR PROGRAM

I. Facilities for reprocessing or alteration in form or content of plutonium, uranium 233 and high enriched uranium in an aggregate quantity exceeding one (1) effective kilogram.

A. Reprocessing facilities

None

B. Facilities for alteration in form or content

1. Conversion Plants

Name and location	Type	Licensed capacity
Nuclear Fuel Services P.O. Box 337, MS123, Erwin, TN 37650	Uranium downblending	7 000 kg U-235
Radiochemistry Processing Pilot Plant Oak Ridge National Lab P.O. Box X, Oak Ridge, TN 37830	Conversion	Less than 1 000 kg of HEU and more than 100 kg of U-233

2. Fuel Fabrication and Processing Plants

Name and location	Type	Licensed capacity
General Atomics P.O. Box 81608 San Diego, CA 92138	Fuel fabrication for TRIGA research reactors	>20% enriched U, 100 kg U-235

II. Facilities for reprocessing or alteration in form or content of plutonium, uranium 233 and high enriched uranium in an aggregate quantity not to exceed one (1) effective kilogram do not require specification.

ANNEX B

INTELLECTUAL PROPERTY RIGHTS

Pursuant to Article 17 of this Agreement, rights to intellectual property created or furnished under this Agreement shall be allocated as provided in this Annex.

I. Application

This Annex is applicable to all cooperative activities undertaken pursuant to this Agreement, except as otherwise specifically agreed.

II. Ownership, Allocation and Exercise of Rights

1. For purposes of this Agreement "intellectual property" shall have the meaning found in Article 2 of the Convention establishing the World Intellectual Property Organization, done at Stockholm, 14 July 1967.

2. This Annex addresses the allocation of rights, interests and royalties between the Parties and participants. Each Party shall ensure that the other Party may obtain the rights to intellectual property allocated to it in accordance with this Annex. This Annex does not otherwise alter or prejudice the allocation between a Party and its nationals, which shall be determined by that Party's laws and practices.

3. Termination or expiry of this Agreement shall not affect rights or obligations under this Annex.

4. (a) In the case of cooperative activities between the Parties, intellectual property arising from joint research, i.e., cooperative research supported by both Parties, shall be treated in a Technology Management Plan according to the following principles:

   (i) The Parties shall notify each other within a reasonable time of any intellectual property rights arising under this Agreement (or relevant implementing arrangements).

   (ii) Unless otherwise agreed, rights and interests in intellectual property created during joint research shall be exploitable by either Party without territorial restriction.

   (iii) Each Party shall seek protection for the intellectual property to which it obtains rights and interests under the Technology Management Plan in a timely fashion.

   (iv) Each Party shall have a non-exclusive, irrevocable, royalty-free license to use any intellectual property arising under the Agreement for research and development purposes only.

(v) Visiting researchers shall receive intellectual property rights and royalty shares earned by the host institutions from licensing of such intellectual property rights under the policies of the host institutions.

(b) In all other cases, to the extent required by its laws and regulations, each Party shall require all its participants to enter into specific agreements concerning the implementation of joint research and the respective rights and obligations of the participants. With respect to intellectual property, the agreement will normally address, among other things, ownership, protection, user rights for research and development purposes, exploitation and dissemination, including arrangements for joint publication, the rights and obligations of visiting researchers and dispute settlement procedures. The agreement may also address foreground and background information, licensing and deliverables.

5. While maintaining the conditions of competition in areas affected by the Agreement, each Party shall endeavour to ensure that rights acquired pursuant to this Agreement and arrangements made under it are exercised in such a way as to encourage, in particular (i) the use of information created, or otherwise made available, under the Agreement and its dissemination insofar as this is in accordance both with the conditions set out in this Agreement, the provisions of section IV hereof and any rules which may be in force under the Parties' domestic laws governing treatment of sensitive or confidential information in the nuclear field, and (ii) the adoption and implementation of international standards.

III. Copyright works

Consistent with the terms of this Agreement, copyright belonging to the Parties or to participants shall be accorded treatment consistent with the Agreement on Trade Related Aspects of Intellectual Property Rights administered by the World Trade Organization.

IV. Scientific Literary Works

Subject to the treatment provided for undisclosed information in section V, the following procedures shall apply:

1. Each Party shall be entitled to a non-exclusive, irrevocable, royalty-free licence in all countries to translate, reproduce and publicly distribute information contained in scientific and technical journals, articles, reports, books, or other media, directly arising from joint research pursuant to this Agreement by or on behalf of the Parties.

2. All publicly distributed copies of a copyrighted work prepared under this provision shall indicate the names of the authors of the work unless an author explicitly declines to be named. They shall also bear a clearly visible acknowledgment of the cooperative support of the Parties.

V. Undisclosed Information

A. Documentary undisclosed information

1. Each Party and the participants shall identify at the earliest possible moment the information that they wish to remain undisclosed in relation to this Agreement, taking account, inter alia, of the following criteria:

   - the information is secret in the sense that it is not, as a body or in the precise configuration or assembly of its components, generally known or readily accessible by lawful means;

   - the information has actual or potential commercial value by virtue of its secrecy;

   - the information has been subject to steps that were reasonable under the circumstances by the person lawfully in control, to maintain its secrecy.

   The Parties or the participants may in certain cases agree that, unless otherwise indicated, parts or all of the information provided, exchanged or created in the course of joint research pursuant to this Agreement may not be disclosed.

2. Each Party or participant shall ensure that undisclosed information under the Agreement and its ensuant privileged nature is readily recognizable as such by the other Party or participant, for example by means of an appropriate marking or restrictive legend. This also applies to any reproduction of the said information, in whole or in part.

   A Party or participant receiving undisclosed information pursuant to such agreement shall respect the privileged nature thereof. These limitations shall automatically terminate when this information is disclosed by the owner without restriction.

3. Undisclosed information communicated under this Agreement may be disseminated by the receiving Party or participant to persons employed by the receiving Party or participant including its contractors, and other concerned departments of the Party or participant authorized for the specific purposes of the joint research underway, provided that any undisclosed information so disseminated shall be protected to the extent provided by each Party's laws and regulations and shall be readily recognizable as such, as set out above.

B. Non-documentary undisclosed information

Non-documentary undisclosed or other confidential or privileged information provided in seminars and other meetings arranged under the Agreement, or information arising from the attachment of staff, use of facilities, or joint projects, will be treated by the Parties or their designees according to the principles specified for documentary information in the Agreement, provided, however, that the recipient of such undisclosed or other confidential or privileged information has been made aware in writing of the confidential character of the information communicated not later than the time such a communication is made.

C. Control

Each Party shall endeavour to ensure that undisclosed information received by it under this Agreement shall be controlled as provided herein. If one of the Parties becomes aware that it will be, or may be reasonably expected to become, unable to meet the non-dissemination provisions of paragraphs A and B above, it shall immediately inform the other Party. The Parties shall thereafter consult to define an appropriate course of action.

VI. Dispute Settlement and New Types and Unforeseen Intellectual Property

1. Disputes between the Parties concerning intellectual property shall be resolved in accordance with Article 12 of this Agreement.

2. In the event either Party or a participant concludes that a new type of intellectual property not covered in a TMP or agreement between participants may result from a cooperative activity undertaken pursuant to this Agreement, or if other unforeseen difficulties arise, the Parties shall enter into immediate discussions with the object of assuring that the protection, exploitation and dissemination of the intellectual property in question are adequately provided for in their respective territories.

DECLARATION ON NON-PROLIFERATION POLICY

1. On the occasion of the signature of the new Agreement for cooperation in the peaceful uses of nuclear energy between the European Atomic Energy Community and the United States of America, the United States of America, hereinafter referred to as the United States, and the European Union have decided to record the following understandings.

2. The United States and the European Union re-affirm their support for appropriately strengthening nuclear non-proliferation measures on a worldwide basis, their commitment increasingly to open peaceful nuclear trade and technology for States that abide by accepted international non-proliferation rules and their opposition to controls that unfairly burden legitimate commerce and unduly restrain worldwide growth and opportunity in the peaceful nuclear area.

3. The United States and the European Union are committed to ensuring that research on, and development and use of, nuclear energy for peaceful purposes are carried out in a manner consistent with the objectives of the Treaty on the Non-proliferation of Nuclear Weapons (the Treaty), to which the United States and all Member States of the Community are parties. They affirm their intention to work closely together and with other interested States to urge universal adherence to the Treaty. They share the view that the Treaty is the cornerstone of the global non-proliferation regime, and that an effective non-proliferation regime is necessary to achieve a full realization of the peaceful benefits of nuclear energy and the objectives of Article IV of the Treaty. They further share the view that assurance of non-proliferation has an important bearing on assurance of supply and that recognition of this relationship has proved important in many deliberations on measures to facilitate international nuclear trade and co-operation.

4. Neither expects any policy changes or other circumstances to take place that would adversely affect the terms for co-operation established by the Agreement including, in particular, those terms relating to agreement for certain activities to be carried out on an assured, secure and uninterrupted basis over the life of the agreement.

5. The United States furthermore confirms its readiness to engage in negotiations with the European Atomic Energy Community concerning elimination of provisions regarding consent in so far as improvements in the global non-proliferation environment lead to changes in the U.S. position in this respect.

6. The United States and the European Union fully support the International Atomic Energy Agency (IAEA) and its indispensable role in non-proliferation. They recognize the IAEA's safeguards system as an essential element of the international non-proliferation regime.

   They have confidence in the IAEA safeguards system, while recognizing the need for the continuation of work on improvement of that system, especially in areas of proliferation concern. They share the view that the non-nuclear weapon States having nuclear facilities that are not under IAEA safeguards should put such facilities under IAEA safeguards, and that adherence to the Treaty is the best way to achieve this result.

7. The United States and the European Union are prepared to continue to take such steps as are necessary to allow the IAEA to apply safeguards effectively and efficiently and to attain its inspection goals at nuclear facilities in their respective juridictions in accordance, respectively with the safeguards agreement between the Agency and the United States of

America and the safeguards agreements between the Agency, the Community and the Member States of the Community.

8. The United States further recognizes that pursuant to the Euratom Treaty, the Community has to make certain, by appropriate supervision, that nuclear materials are not diverted to purposes other than those for which they are intended, and that to this end safeguards are applied in accordance with Chapter VII of the Euratom Treaty. The United States and the European Union share the view that the Community's regional safeguards system makes an important and valuable contribution to the achievement of non-proliferation goals and the above-mentioned objectives.

9. The United States, the Community, and all its Member States recall that they are parties to the International Convention on the Physical Protection of Nuclear Material, the provisions of which are important to the prevention of the illicit circulation of nuclear material. The United States and the Member States of the Community affirm their intention to ensure application of adequate physical protection to the use, storage and transport of nuclear material within their respective jurisdictions.

10. The United States and the European Union re-affirm their shared view that the common nuclear non-proliferation export policies and practices reflected in the Nuclear Suppliers Group (NSG) guidelines and the ZANGGER Committee understandings play an important role in ensuring that peaceful nuclear cooperation is carried out under appropriate conditions and controls. The United States and the European Union stress in particular the importance of the NSG policy of requiring IAEA safeguards on all nuclear activities, present and future, as a condition for transfer to any non-nuclear weapon State of any nuclear facilities, equipment, components or materials on the NSG and ZANGGER Committee trigger list, and of the NSG arrangement for the control of nuclear-related dual-use equipment, material and related technology.

They also reaffirm their intention to exercise caution and restraint in the export of sensitive items such as reprocessing and enrichment equipment and technology, recovered plutonium, and highly enriched uranium.

11. The United States and the European Union affirm their intention to co-operate with each other and with other interested States to urge all nuclear suppliers to adhere to the NSG guidelines for nuclear transfers and otherwise to conduct nuclear export policies in a manner that contributes to the prevention of nuclear proliferation.

12. The United States and the European Union acknowledge that the separation, storage, transportation, and use of plutonium call for the continuation of measures to ensure the avoidance of risk of nuclear proliferation. They are determined to continue to support the strengthening of international safeguards and other non-proliferation measures.

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7 November 1995

EUROPEAN COMMISSION

Brussels, 7 November 1995

H.E. Mr. Warren Christopher,
Secretary of State of the
United States of America

Sir,

We have the honour to refer to Article 4.2 of the Agreement for Cooperation in the Peaceful Uses of Nuclear Energy between the European Atomic Energy Community and the United States of America.

With regard to the implementation of that Article it is our understanding that we have agreed on the following. Authorizations, including export and import licences as well as authorizations or consents to third parties relating to trade, industrial operations or nuclear material movements on the territories of the Parties should generally be issued within a period of two months of a submission to the relevant authority. Nuclear trade between the European Community and the US should be facilitated and encouraged; it is recognized that reliability of supply is essential and that industry in the Community and in the USA needs continuing reassurance that deliveries can be made on time in order to plan for the efficient operation of nuclear installations; it is further recognized that undue delays in the grant of export licences and other relevant authorizations including import licences would be inconsistent with the sound and efficient administration of this Agreement.

We wish to recall that, in accordance with Article 10 of the Agreement, the Parties will not interfere in the nuclear programmes of each other; they recognize that the European Union, its Member States and the USA are equally strongly committed to international nuclear non-proliferation and safeguards regimes.

In the negotiation of the Agreement the Parties took due note of the undertakings which had been entered into in this field.

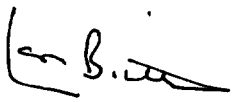
The Parties express their full confidence in each other's compliance with such undertakings. Accordingly the Parties, in the grant of licences for the export of items pursuant to this Agreement, will refrain from requiring additional confirmation from the other Party and its relevant persons, undertakings or authorities about full compliance with these commitments.

In this context, it is further agreed that if the relevant authority considers that an application cannot be processed within the target two months period, it shall immediately provide a reasoned information to the submitting persons or undertakings. In the event of a refusal to authorize an application or of a delay exceeding four months from the date of the first application, the Party of the submitting persons or undertakings may call for urgent consultations under Article 12 of the Agreement which shall take place at the earliest opportunity, and in any case not later than 30 days after such request.

We would appreciate your confirmation that you share the understandings recorded in this letter.

Please accept, Sir, the assurance of our highest consideration.

For the European Atomic Energy Community:



The Honourable
Sir Leon Brittan
Vice-President of the Commission
of the European Communities

The Honourable
Christos Papoutsis
Member of the Commission
of the European Communities

Brussels, November 7, 1995

No. 42

Sirs:

I have the honor to acknowledge receipt of your letter, dated today, concerning the issue of Export Licenses, a copy of which is attached.

I have the further honor to inform you that the Government of the United States of America shares the understandings recorded in that letter.

Accept, Sirs, the assurances of my highest consideration.

Stuart E. Eizenstat

Ambassador

The Honorable
Sir Leon Brittan,
Vice President of the
Commission of the
European Communities.

The Honorable
Christos Papoutsis,
Member of the
Commission of the
European Communities.

No. 43

The United States Mission to the European Union has the honor to present its compliments to the Commission of the European Communities and wishes to inform the Commission that the United States of America is firmly committed to eliminating over time the use of high enriched uranium from civil nuclear energy uses. Toward that end it has promoted the Reduced Enrichment for Research and Test Reactors (RERTR) program to develop low enriched fuels for such reactors and has proposed to adopt a policy of managing spent nuclear fuel from foreign research reactors including the possibility of accepting U.S. origin spent research reactor fuel in the United States for disposal. In the latter case, the United States is preparing a programmatic environmental impact statement which will be completed in 1995.

The United States of America recognizes, however, that specific research reactors in the European Atomic Energy Community may, under certain circumstances, need to use high enriched uranium as fuel.

If, in order to meet such needs, the Community should seek to re-enrich high enriched uranium supplied under the previous agreements for cooperation, the United States of America confirms that it will use its best endeavors to come to agreement with the Community in accordance with the provisions of Article 8.1(A) on the conditions to be applied to such enrichment.

The United States Mission to the European Union wishes to renew to the Commission of the European Communities the assurances of its highest consideration.

S.E.E.

Stuart E. Eizenstat

Ambassador

United States Mission

to the European Union,

Brussels, November 7, 1995.

Brussels, November 7, 1995

No. 44

Sirs:

I have the honor to refer to the Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between the United States of America and the European Atomic Energy Community (hereinafter referred to as "the U.S.-Euratom Agreement") and in particular to Article 8.1 C(iii) of that Agreement.

I have the further honor to confirm that the United States is negotiating a new peaceful nuclear cooperation agreement with the Swiss Federation, and that the United States is prepared to offer long-term prior consent to the Swiss Federation for the transfer of irradiated nuclear material subject to such an agreement into Euratom for reprocessing and for storage of the recovered plutonium and its fabrication into mixed oxide fuel elements. The United States is also prepared, in connection with a new

The Honorable
Sir Leon Brittan,
Vice President of the
Commission of the
European Communities.

The Honorable
Christos Papoutsis,
Member of the
Commission of the
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peaceful nuclear cooperation agreement with the Swiss Federation, to offer long-term, prior consent to Euratom to the retransfer of Swiss plutonium, including such plutonium contained in MOX fuel elements, subject to the U.S.-Euratom Agreement, to Switzerland for use in that country's peaceful nuclear program.

Accept, Sirs, the renewed assurances of my highest consideration.

Stuart E. Eizenstat

Ambassador

No. 45

The United States Mission to the European Union presents its compliments to the Commission of the European Communities and refers the Commission to the Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between the United States of America and the European Atomic Energy Community, signed on 7 November 1995, and in particular to Article 21, paragraph 6, thereof.

According to the terms of that provision, plutonium is included in the definition of "special fissionable material."

In Article XX of the Statute of the International Atomic Energy Agency (IAEA), the definition of special fissionable material includes a reference to plutonium 239 and not to plutonium.

It is internationally recognized, e.g., in paragraph 36 of IAEA document INFCIRC 153, that plutonium with an isotopic composition of Pu238 exceeding 80% is of no relevance for safeguards purposes and may be exempt from the usual controls applied to special fissionable material.

The Parties agree that the adoption of the definition of special fissionable material in paragraph 6 of Article 21 is not intended to supersede the IAEA definition or to interfere with the multilateral safeguards regime.

Accordingly, the Parties confirm that plutonium with an isotopic composition of Pu238 exceeding 80% need not be brought within the scope of the Agreement.

The Mission would appreciate confirmation by the Commission that it shares the understandings recorded in this letter.

The United States Mission to the European Union wishes to renew to the Commission of the European Communities the assurances of its highest consideration.

S. E. E.

Stuart E. Eizenstat

Ambassador

United States Mission

to the European Union,

Brussels, November 7, 1995.

EUROPEAN COMMISSION

Brussels, 7 November 1995

The Commission of the European Communities presents its compliments to the Mission of the United States of America to the European Communities and has the honour to acknowledge receipt of the letter, dated 7 November 1995, from the Mission of the United States of America to the European Communities concerning Article 21.6, a copy of which is attached.

The Commission of the European Communities wishes to inform the Mission of the United States to the European Communities that it shares the understandings recorded in that letter.

The Commission of the European Communities avails itself of this opportunity to renew to the Mission of the United States of America to the European Communities the assurance of its highest consideration.

For the European Atomic Energy Community:

L.B.

The Honourable
Sir Leon Brittan
Vice-President of the Commission
of the European Communities

C.P.

The Honourable
Christos Papoutsis
Member of the Commission
of the European Communities

No. 46

The United States Mission to the European Union presents its compliments to the Commission of the European Communities and refers the Commission to the Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between the United States of America and the European Atomic Energy Community, signed 7 November 1995.

Sensitive Nuclear Technology

The Government of the United States of America notes that the Agreement does not provide for the transfer of sensitive nuclear technology or any component or group of components which are essential to the operation of a complete uranium enrichment, nuclear fuel processing or heavy water production facility. The Government of the United States of America confirms to the European Atomic Energy Community that sensitive nuclear technology, defined as any information (including information incorporated in a production or utilization facility or important component part thereof) which is not available

to the public and which is important to the design, construction, fabrication, operation or maintenance of a uranium enrichment or nuclear fuel reprocessing facility or a facility for the production of heavy water, but not including Restricted Data (1), may be transferred to the Community outside an agreement for cooperation pursuant to sections 127 and 128 of the U.S. Atomic Energy Act. The transfer of a reprocessing, enrichment or heavy water facility or a major critical component thereof may take place only pursuant to an agreement for cooperation.

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(1) "Restricted Data" means any data concerning (1) design, manufacture, or utilization of nuclear weapons, (2) the production of special fissionable material or (3) the use of special fissionable material in the production of energy, but does not include data of a Party which it has declassified or removed from the category of Restricted Data.

Reactor Technology

The Government of the United States of America further confirms that nuclear power reactor technology may be transferred to the Community outside an agreement for cooperation.

Non-nuclear material other than the one defined in Article 21.5 of the Agreement, e.g., zirconium and its alloys and compounds, may be transferred from the United States of America to persons and undertakings in the Community outside an agreement for cooperation.

The Government of the United States of America notes that Sensitive Technology and Reactor Technology may be transferred from the European Community to the United States outside an agreement for cooperation between them.

The United States Mission to the European Union wishes to renew to the Commission of the European Communities the assurances of its highest consideration.

S.E.E.

Stuart E. Eizenstat

Ambassador

United States Mission

to the European Union,

Brussels, November 7, 1995.

EUROPEAN COMMISSION

Brussels, 7 November 1995

The Commission of the European Communities presents its compliments to the Mission of the United States of America to the European Communities and has the honour to acknowledge receipt of the letter, dated 7 November 1995, from the Mission of the United States of America to the European Communities concerning sensitive nuclear technology and reactor technology, a copy of which is attached.

The Commission of the European Communities wishes to inform the Mission of the United States of America to the European Communities that it has taken due note of the contents of this letter.

The Commission of the European Communities avails itself of this opportunity to renew to the Mission of the United States of America to the European Communities the assurance of its highest consideration.

For the European Atomic Energy Community:

L. B.

C. P.

The Honourable
Sir Leon Brittan
Vice-President of the Commission
of the European Communities

The Honourable
Christos Papoutsis
Member of the Commission
of the European Communities

Brussels, November 7, 1995

No. 47

Sirs:

I have the honor to refer to the Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between the United States of America and the European Atomic Energy Community, signed today (hereinafter referred to as "the Agreement"), and in particular to paragraph 2 of Article 7 of the Agreement, which provides that "non-nuclear material, nuclear material and equipment transferred pursuant to this Agreement, and special fissionable material used in or produced through the use of such items shall not be used ..... for any military purpose."

In consequence of this provision, any U.S. nuclear cooperation with the Community or a Member State for military purposes would necessarily take place outside the

The Honorable
Sir Leon Brittan,
Vice President of the
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European Communities.

The Honorable
Christos Papoutsis,
Member of the
Commission of the
European Communities.

scope of the Agreement and would require a separate agreement for cooperation specifically intended to further such military purposes. I can confirm on behalf of the Government of the United States of America that such nuclear cooperation with a Member State for military purposes will be suitably considered when circumstances so warrant.

Accept, Sirs, the renewed assurances of my highest consideration.

Stuart E. Eizenstat

Stuart E. Eizenstat

Ambassador

No. 48

The United States Mission to the European Union presents its compliments to the Commission of the European Communities and refers the Commission to Annex B to the Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between the United States of America and the European Atomic Energy Community and desires to inform the Commission that agencies of the United States Government that may undertake cooperative activities pursuant to the Agreement for Cooperation (i.e., "Party to Party" cooperation) will in every case seek the specific agreement of the European Union, as foreseen in Article I of Annex B of the Agreement, to the inclusion of the following provision in the Technology Management Plan governing such cooperative activity:

> "In the event intellectual property developed pursuant to this cooperative activity is protected by one Party but not the other, either Party may suspend the cooperative activity pending agreement on the allocation of rights. If no agreement is reached within three months from the commencement of discussions, either Party may terminate the cooperative activity."

The United States Mission to the European Union wishes to extend to the Commission of the European Communities the assurances of its highest consideration

S.E.E.

Stuart E. Eizenstat

Ambassador

United States Mission

to the European Union,

Brussels, November 7, 1995.

THE WHITE HOUSE

WASHINGTON

November 1, 1995

Presidential Determination
No. 96-4

MEMORANDUM FOR THE SECRETARY OF STATE
THE SECRETARY OF ENERGY

SUBJECT: Presidential Determination on the Proposed Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between the United States of America and the European Atomic Energy Community (EURATOM)

I have considered the proposed Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between the United States of America and the European Atomic Energy Community, along with the views, recommendations, and statements of the interested agencies.

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

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

William J Clinton

UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY
Washington, D.C. 20451

THE DIRECTOR

SEP 8 1995

MEMORANDUM FOR THE PRESIDENT

SUBJECT: Nuclear Proliferation Assessment Statement for the Proposed Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between the European Atomic Energy Community and the United States of America

As required by Section 123a. of the Atomic Energy Act of 1954, as amended, I am submitting to you an unclassified Nuclear Proliferation Assessment Statement with respect to the proposed Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between the European Atomic Energy Community and the United States of America. After providing background on the nuclear programs and nuclear nonproliferation policies of member-states of the European Atomic Energy Community (Euratom) (Part I), this statement examines the applicable legal requirements (Part II) and relevant policy issues (Part III), and arrives at certain conclusions (Part IV).

The 15 member-states of Euratom are all parties to the Treaty on the Non-Proliferation of Nuclear Weapons with exemplary commitments to nonproliferation; eleven are NATO allies. The proposed Agreement will replace an agreement that expires on December 31, 1995, and will place our civil nuclear cooperation with these key countries on a stable, long-term and predictable basis. The proposed Agreement will also promote U.S. nonproliferation goals by ensuring continued close cooperation with these nations on key issues including ensuring the highest possible standards of security and accountability on highly enriched uranium and plutonium used for civil purposes.

I have concluded that the proposed Agreement meets all statutory requirements. Further, I have reached a favorable assessment of the adequacy of the safeguards and other control mechanisms and the peaceful use assurances contained in the proposed Agreement to ensure that any assistance furnished thereunder will not be used to further any military or nuclear explosive purpose.

John D. Holum

Attachment:
As stated

NUCLEAR PROLIFERATION ASSESSMENT STATEMENT

**Pursuant to Section 123a of the
Atomic Energy Act of 1954, as amended,
with Respect to the Proposed Agreement for
Cooperation in the Peaceful Uses of Nuclear Energy
Between the European Atomic Energy Community
and the United States of America**

This Nuclear Proliferation Assessment Statement relates to the proposed Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between the European Atomic Energy Community (Euratom) and the United States of America. This agreement for cooperation (which, together with its accompanying Agreed Minute, is hereinafter called the "proposed Agreement") is concurrently being submitted to the President for his authorization for execution.

Section 123a of the Atomic Energy Act of 1954, as amended ("Atomic Energy Act"), provides that a Nuclear Proliferation Assessment Statement shall analyze the "consistency of the text of the proposed agreement for cooperation with all the requirements of this Act ...and ... the adequacy of the safeguards and other control mechanisms and the peaceful use assurances contained in the agreement for cooperation to ensure that any assistance furnished thereunder will not be used to further any military or nuclear explosive purpose." With this statutory mandate in mind, this assessment statement begins with background on the nuclear programs and policies of Euratom member-states (Part I); describes the nature and scope of cooperation contemplated in the proposed Agreement (Part II A), and reviews the applicable substantive requirements of the Nuclear Non-Proliferation Act and the Atomic Energy Act and how they are met by the proposed Agreement (Part II B); discusses other nonproliferation policy issues pertinent to this case (Part III); and then sets forth the net assessment, conclusions, views and recommendations of the United States Arms Control and Disarmament Agency, as contemplated by Section 123a of the Atomic Energy Act (Part IV).

I. EURATOM NUCLEAR PROGRAMS AND POLICIES

A. Civil Nuclear Programs in Euratom

The European Atomic Energy Community (Euratom) was established in 1957, inter alia, to facilitate the development of nuclear energy, ensure a regular supply of nuclear fuel and guarantee that nuclear materials are not diverted for purposes other than those for which they are intended. The original six members have grown to 15 -- the United Kingdom, France, Belgium, Netherlands, Luxembourg, Italy, Germany, Denmark, Greece, Ireland, Portugal, Spain, Austria, Sweden, and Finland. Euratom is one of the three communities which comprise the European Union.

The 1958 Treaty of Rome, which established Euratom, granted to that organization the powers necessary to conduct and regulate trade in source and special fissionable material (e.g., uranium and plutonium) among the member-states. This has resulted in a common market of such materials which are freely transferred within Euratom subject to certain guarantees, safeguards, and other restrictions. The Treaty grants Euratom exclusive ownership of all special fissionable material produced or imported by a member-state, except that declared for military uses. Euratom nuclear material is subject to an elaborate safeguards system operated by Euratom that is independent from, but functions in close cooperation with the IAEA safeguards system.

The civil nuclear programs of Euratom member-states present a sharp contrast: France has a large nuclear power program, including uranium enrichment and reprocessing facilities; six states have no nuclear power program (Austria, Denmark, Greece, Ireland, Luxembourg, and Portugal); and one state (Italy) shut down its power reactors. The rest all have nuclear power programs of varying sizes. The nuclear fuel cycle facilities of Euratom member-states that pertain to uranium enrichment, reprocessing or plutonium use include reprocessing plants in the United Kingdom and France; enrichment plants in the United Kingdom, France, Germany, and the Netherlands; plutonium fuel fabrication plants in Belgium, France, Germany, and the United Kingdom; and reactors using plutonium fuel in France, Belgium, and Germany.

B. U.S.- Euratom Civil Nuclear Cooperation

The first U.S.- Euratom civil nuclear cooperation agreement was concluded in 1958. Over the years, the United States has provided significant amounts of assistance to nuclear energy programs in Euratom member-states, including fuel, reactors, and reactor components. Moreover, reactor technology licensing arrangements with Westinghouse and General Electric led to the establishment of manufacturing capability in France, Germany, and other Euratom nations. During the 1970s European enrichment enterprises began to produce large amounts of

enriched uranium reactor fuel and -- when combined with the development of an indigenous reactor manufacturing industry -- gradually reduced the reliance of European programs on nuclear supply from the United States.

Today, the major nuclear exports from the United States to Euratom under the current agreement for cooperation -- which was last amended in 1972 -- are reactor fuel and minor reactor components. The United States provides only a small share of Euratom's requirements for low enriched uranium power reactor fuel. Nonetheless, the maintenance of a U.S.-Euratom agreement for cooperation is important to the commercial interests of both parties for a number of reasons. The U.S. share of the Euratom nuclear fuel market may be small, but the export revenues are substantial. Moreover, there is a possibility that this trade could expand given the competitiveness of U.S. fuel fabrication services and the acquisition by the United States of large quantities of low enriched uranium derived from highly enriched uranium taken from dismantled Russian nuclear weapons. Further, the existence of a U.S.-Euratom agreement for cooperation is essential to the retransfer from third nations (e.g., Japan) of U.S.-controlled spent power reactor fuel to the large commercial reprocessing enterprises in the United Kingdom and France.

Although Spain, Portugal, Austria, Sweden, and Finland have joined Euratom, U.S. nuclear cooperation with these countries has continued to take place largely under the existing bilateral agreement for cooperation with these countries. These agreements will terminate upon entry into force of the new agreement with Euratom. Thereafter, all U.S. exports of nuclear material and equipment to any of the fifteen Euratom member-states will take place under the new agreement.

The United States and Euratom member-states have experienced difficulties over the past 18 years in their nuclear trading relationship. These problems stem from laws and policies enacted by the United States in 1977-78 that expanded controls on nuclear exports to all U.S. trading partners -- particularly in regard to reprocessing and the use of plutonium and highly enriched uranium. Euratom member-states opposed the application of some of these new laws and policies to their civil nuclear programs, particularly when they "interfered" in their normal operation.

These U.S. policies led to many delays in approvals for retransfers of spent fuel from third countries into Euratom for reprocessing and for subsequent use of separated plutonium in reactors. There have also been many delays in approving direct U.S. exports of highly enriched uranium fuel for research reactors in Euratom that the United States had been supplying routinely for many years. (Such exports are effectively prohibited under a 1992 U.S. law.) This led to perceptions by many in Europe that the United States was seeking to use its national policies to intrude on their sovereign decisions related to critically important domestic energy matters. Moreover, these developments caused concern over reliability of supply from the United States and further contributed to problems in the nuclear trading relationship.

These concerns continue to this day and were the principal reason behind the arduous negotiations on the proposed Agreement. Euratom member-states understand the importance of

strict controls on fuel-cycle activities related to plutonium and highly enriched uranium. They do not believe, however, that U.S. controls on such material need to be applied as rigidly on Euratom as in other countries due to the long and close relationship between the United States and Euratom member-states and in view of their strong commitment to nonproliferation principles. They become particularly concerned if they perceive that the United States is using its controls to "dictate" nuclear fuel cycle policies to Euratom member-states.

The 1978 Nuclear Non-Proliferation Act (NNPA) requires the Executive Branch to seek to upgrade all existing agreements for cooperation to include the more stringent controls established in that Act. Following passage of the NNPA, Euratom member-states were not willing to negotiate a new agreement since the U.S.-Euratom agreement did not expire until 1995 and did not contain consent rights over activities such as enrichment and reprocessing. Consultations on the terms of a new agreement began almost immediately following enactment of the NNPA. Draft texts were provided and views exchanged on U.S. legal requirements. In 1992, formal negotiations began and culminated in the negotiating teams reaching an agreed text in early May 1995. With further minor changes and clarifications, the draft agreement was formally approved by the General Affairs Council of the European Union on August 3, 1995.

From 1980 to the present, U.S.-Euratom civil nuclear cooperation continued under the existing agreement pursuant to an annual Presidential waiver authority contained in the NNPA. This waiver authority was necessary because the NNPA had made a reprocessing consent right a condition for the export of nuclear fuel and the existing agreement did not contain such a right. In the absence of such waivers, the United States would have been prevented by law from exporting nuclear fuel to Euratom. On March 9, 1995, President Clinton issued the 16th such waiver (E.O. 12955) -- following the practice of Presidents Carter, Reagan, and Bush -- which is effective until December 31 of this year when the existing agreement expires.

Euratom negotiators pressed very strongly for a Presidential waiver of consent rights in the new agreement, but the United States was firmly opposed to such a waiver and this position was confirmed by the Secretary of State in a June 1994 letter to the European Union's Energy Commissioner. The Administration was convinced that an agreement could be negotiated that included all the requirements necessary for ensuring strict controls on plutonium and highly enriched uranium while providing a framework for a stable and long-term nuclear trading relationship. Certain other accommodations by the United States were necessary, however, to obtain a new agreement. There was substantial opposition within certain Euratom member-states to acceptance of an agreement that contained consent rights such as reprocessing, and it was necessary for the United States to show some flexibility on other issues, within the requirements of U.S. law.

Most importantly, the successful conclusion of the negotiations avoided a serious rupture in the U.S.-Euratom nuclear trading partnership while placing this cooperation on a secure, long-term basis with updated controls mandated by the U.S. Atomic Energy Act. A substantial

break in this relationship could have led to serious, negative consequences across-the-board in our relations with Euratom member-states, including on nonproliferation matters.

C. Nuclear Nonproliferation Policies of Euratom Member-States

All 15 members of Euratom are NPT parties and were strongly supportive of efforts to extend the NPT indefinitely and without conditions, an objective that was achieved on May 11, 1995, at the NPT Review and Extension Conference held in New York. President Clinton stated on March 1, 1995, that nothing was more important to the United States than to achieve the indefinite and unconditional extension of the NPT; the efforts of our friends and allies in Euratom contributed significantly to that outcome.

The 15 members of Euratom are also members of the IAEA and have provided firm support to efforts to strengthen IAEA safeguards. Moreover, these states have also helped to develop an increasingly strong partnership between the Euratom Safeguards Directorate and the IAEA in ensuring the most efficient and effective application of IAEA safeguards in Euratom member-states. A cooperative approach has been developed that allows both Euratom and the IAEA sufficient latitude to arrive at independent conclusions with regard to continued peaceful use of nuclear material subject to Euratom safeguards. U.S.-Euratom cooperation on IAEA safeguards issues remains close through periodic consultations.

The existence of the Euratom safeguards system offers an extra degree of confidence in the peaceful use assurances provided by Euratom, whether in connection with the obligations of Euratom member-states under the NPT or pursuant to agreements for cooperation such as with the United States. Indeed, the long experience of Euratom on safeguards and on ensuring adequate levels of physical protection, when combined with the strong nonproliferation credentials and long-term political stability of these democracies, adds credence to the assurances offered by Euratom in the proposed Agreement.

All Euratom states are members of the Nuclear Suppliers Group and of the Zangger (NPT Exporters) Committee. As NSG members, they are committed to requiring full-scope IAEA safeguards as a condition of new nuclear supply commitments, to an effective system of controls on nuclear dual-use commodities, and to the exercise of restraint both in the export of certain sensitive items (e.g., reprocessing technology) and where there is a significant increase in the risk of nuclear proliferation.

Euratom has forged common policies among its members which have contributed to nuclear nonproliferation objectives. In the mid-1980s, Euratom made Spain's membership contingent on Spain, which was not an NPT party at the time, accepting full-scope IAEA safeguards. Spain took this step and shortly thereafter joined the NPT. In 1984 and again in 1990, first the European Community and then the European Council issued strong policy statements on key issues related to nuclear exports and nonproliferation matters. The 1984 document recognized

the risks associated with the use of plutonium and highly enriched uranium in civil applications and adopted special procedures to increase the transparency of such operations.

The member-states of Euratom also support the negotiation of a Comprehensive Test Ban Treaty (CTBT) and of a convention that would ban the production of fissile material for nuclear weapons or other nuclear explosive devices. These negotiations are initiatives of the United States which are important to our broader nonproliferation objectives. Both France and the United Kingdom have been participating in a moratorium on nuclear testing. However, on June 13, President Chirac announced that France would resume nuclear testing in September 1995. The White House issued a statement of "regret" but noted that President Chirac strongly affirmed France's commitment to end testing no later than May 1996 and to sign a CTBT in the fall of 1996. All Euratom members supported the decision taken at the 1995 NPT Conference that calls for the completion of a CTBT no later than 1996 and the immediate commencement and early conclusion of negotiations on a fissile material convention as described above.

There has been no credible reporting that would raise any question about the commitment of any members of Euratom to their NPT obligations. As noted earlier, Spain did not join the NPT until 1987 -- two years after it joined Euratom -- but it is now a firm supporter of the NPT regime. France joined the NPT in 1992, but its policy had been that France would act as if it were a party to the Treaty. France also was one of the original members of the Nuclear Suppliers Group in the late 1970s.

In general, the members of Euratom provide strong support to the full range of regional, export control, and global issues related to advancing nonproliferation goals. The draft joint U.S.- European Union Declaration on Non-Proliferation Policy that will be issued upon the signature of the proposed Agreement demonstrates the substantial congruence of views between the United States and Euratom member-states on these matters.

II. COMPLIANCE WITH STATUTORY REQUIREMENTS

As will be shown below, the proposed Agreement between the European Atomic Energy Community (hereinafter the Community) and the Government of the United States of America (hereinafter the U.S.) meets the applicable requirements of the law, specifically the Atomic Energy Act, (hereinafter the Act) and the Nuclear Non-Proliferation Act (hereinafter the NNPA). Section 123 a. of the Act, as amended by Section 401 of the NNPA, requires new or amended agreements for cooperation to include the terms, conditions, duration, nature and scope of the cooperation.

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

The most pertinent terms and conditions of the cooperation authorized by the proposed Agreement are discussed in Sections B, C, D, E, and F below.

The duration of the proposed Agreement is thirty (30) years from the date of its entry into force, and the proposed Agreement shall continue in force thereafter for additional periods of five years each. Either Party may terminate the proposed Agreement at the end of the initial thirty year period or at the end of any subsequent five year period by giving six months' written notice to the other Party.

A. Nature and Scope of Cooperation

Article 1 of the proposed Agreement describes in general terms the extent of the peaceful cooperation: nuclear fission research and development; nuclear safety matters; exchange and cooperation activities between persons and undertakings; supply of non-nuclear material, nuclear material, equipment, and provision of nuclear fuel cycle services; exchange of information; and controlled thermonuclear fusion.

Article 2 of the proposed Agreement provides that the Parties may cooperate in nuclear research and development including activities in nuclear safety, development of nuclear energy, nuclear safeguards, and research on controlled thermonuclear fusion.

Article 3 of the proposed Agreement provides that the Parties will facilitate commercial relations involving nuclear co-operation including investments, joint ventures, environmental aspects, nuclear trade, and licensing arrangements.

Article 4 (1) of the proposed Agreement provides that the Parties shall facilitate nuclear trade between themselves, and also, where appropriate, between third countries and either Party. Article 4 (2) provides that authorizations, including export and import licenses as well as authorizations or consents to third parties shall not be used to restrict trade.

Article 5 of the proposed Agreement establishes the procedure by which non-nuclear material, nuclear material and equipment transferred between the Parties will become subject, or cease to be subject, to the Agreement. Article 5 (1) provides that such items become subject to the Agreement upon their entry into the territorial jurisdiction of the receiving Party, provided that the supplying Party notifies the receiving Party in writing of the intended transfer and the receiving Party acknowledges in writing the receipt of this notification. Article 5 (2) provides that such items shall remain subject to the Agreement until it has been determined, in accordance with the procedures set out in an Administrative Arrangement, that such items have been retransferred beyond the jurisdiction of the receiving Party, that the nuclear material or non-nuclear material is no longer usable for any nuclear activity relevant to safeguards or has become practically irrecoverable, or that equipment is no longer usable for nuclear purposes.

Article 6 of the proposed Agreement describes the safeguards that are the basis for cooperation under the Agreement. For the non-nuclear weapon states of the Community, safeguards are required on all nuclear material in all peaceful nuclear activities in those states, in accordance with the agreement between the Community, the International Atomic Energy Agency (hereinafter the IAEA), and those states. For the United Kingdom and France, safeguards are those established pursuant to the separate agreements between those states, the Community and the IAEA. For the United States, safeguards are those called for pursuant to the agreement between the United States and the IAEA.

Article 7 of the proposed Agreement requires that cooperation under the proposed Agreement must be carried out for peaceful purposes. Article 7 (2) requires that non-nuclear material, nuclear material and equipment transferred pursuant to the proposed Agreement, as well as special fissionable material used in or produced through the use of such items, shall not be used for any nuclear explosive device, for research on or development of any nuclear explosive device or for any military purpose.

It should be noted that the term "special fissionable material" used in the Agreement and the term "special nuclear material" used in the Act have the same scope. The proposed Agreement uses "special fissionable material" because that term is used by the IAEA and has wide international acceptance.

The proposed Agreement does not provide for the transfer of Restricted Data, sensitive nuclear technology, or major critical components. At the request of the Community, the United States provided an explanatory side letter that notes that "...the Agreement does not provide for the transfer of sensitive nuclear technology or any component or group of components which are

essential to the operation of a complete uranium enrichment, nuclear fuel processing or heavy water production facility." The side letter also informs the Community that sensitive nuclear technology may be transferred outside an agreement for cooperation pursuant to sections 127 and 128 of the Act; and that transfer of a reprocessing, enrichment or heavy water facility or a major critical component thereof may take place only pursuant to an agreement for cooperation.

B.. Specific Requirements for Agreements for Cooperation

Section 123 a. of the Atomic Energy Act sets forth nine specific requirements that must be met in an agreement for cooperation. These are set forth below, with a description and explanation of the provisions of the proposed Agreement that address each requirement.

(1) Duration of Safeguards

Subparagraph (1) of Section 123 a. of the Act requires:

> a guaranty by the cooperating party that safeguards as set forth in the agreement for cooperation will be maintained with respect to all nuclear materials and equipment transferred pursuant thereto, and with respect to all special nuclear material used in or produced through the use of such nuclear materials and equipment, so long as the material or equipment remains under the jurisdiction or control of the cooperating party, irrespective of the duration of other provisions in the agreement or whether the agreement is terminated or suspended for any reason.

This provision is designed to require the application of safeguards to items subject to the proposed Agreement and to provide protection against any termination of such safeguards. Article 6 of the proposed Agreement satisfies the requirements of the Act for the application of safeguards. Article 14 (3) of the proposed Agreement satisfies the requirement of the Act that the safeguards be applied in perpetuity.

Article 6 (1) of the proposed Agreement provides that the safeguards required as a basis for cooperation under the proposed Agreement shall be those applied by Euratom and by the IAEA pursuant to the relevant safeguards agreements, as they may be revised and replaced so long as coverage as required by the Non-Proliferation Treaty (NPT) is provided for. The safeguards agreements in question are those involving the Community, its non-nuclear weapons states, and the IAEA; the Community, the United Kingdom and the IAEA; and the Community, France and the IAEA. A similar requirement is applicable to the United States and is provided for by the safeguards agreement between the United States and the IAEA. The Non-Proliferation Treaty is

referenced here so as to provide a standard that must be maintained by any revision or replacement of the current agreements with the IAEA.

Article 6 (2) of the proposed Agreement provides that nuclear material transferred to the Community (or to the U.S. as the case may be) pursuant to the Agreement and special fissionable material used in or produced through the use of any non-nuclear material, nuclear material or equipment, so transferred, shall be subject to the relevant agreements in Article 6 (1).

Article 6 (3) of the proposed Agreement provides further assurance of the continued applicability of safeguards by requiring that in the event that any of the IAEA safeguards agreements involving member-states of the Community are not being applied, the Community shall enter into an agreement or agreements with the IAEA for the application of safeguards which provide for effectiveness and coverage equivalent to that provided by the safeguards agreement or agreements not being applied. If that is not possible, the Community shall give the U.S. an assurance that safeguards are being applied by the Community which provide equivalent coverage and effectiveness. The U.S. takes note here of the unique role and importance of the Euratom safeguards system and of its application in the Community pursuant to the Euratom Treaty. In the event conditions do not permit application of such safeguards by the Community, then the Parties to the Agreement shall immediately establish safeguards arrangements that provide equivalent effectiveness and coverage.

Article 6 (4) provides that in the event that the safeguards pursuant to the agreement between the U.S. and the IAEA are not being applied then the U.S. shall enter into an agreement with the IAEA for the application of safeguards with effectiveness and coverage equivalent to the U.S./IAEA agreement. If that is not possible, then the Parties to this Agreement shall immediately establish safeguards arrangements which provide for equivalent effectiveness and coverage.

Article 20 (3) of the proposed Agreement provides for the establishment by each Party of inventories of nuclear material, equipment and non-nuclear material subject to former agreements between the U.S. and the Community and between the U.S. and other states in the Community. Article 20 (1) provides that the provisions of this Agreement shall apply to these inventories of nuclear material. This Article continues the application of safeguards to nuclear material subject to these former agreements.

As required by the Act, the safeguards rights contained in the proposed Agreement continue in effect even if the Agreement is terminated or suspended for any reason and irrespective of the duration of the other provisions of the Agreement. Article 14 (3) provides:

> Notwithstanding the termination or suspension of this Agreement, the rights and obligations pursuant to Articles 6, 7, 8.1.(C) and 11 and to paragraphs 2, 3, 4, 5, 8, 9, 10, 11 and 12 of the Agreed Minute shall continue in effect.

(2) Full-Scope Safeguards

Subparagraph (2) of Section 123 a. of the Act requires:

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

Article 6 (1) satisfies this requirement by providing that safeguards required under the proposed Agreement (this cooperation under the proposed Agreement is, inter alia, "continued United States nuclear supply") for the non-nuclear weapon states of the Community are those applied in the Community pursuant to the NPT safeguards agreement between the Community, its non-nuclear weapon Member States and the IAEA. The NPT, of course, requires IAEA safeguards on all source and special fissionable material in all peaceful nuclear activities in a non-nuclear weapon state (i.e. full-scope safeguards). Thus the NPT safeguards agreement between the Community, its non-nuclear weapon Member States, and the IAEA satisfies the requirement of the Act that IAEA safeguards be maintained. An additional guarantee is provided by the provision in Article 6 (1) which requires that any revision or replacement of the current agreement between the IAEA and the non-nuclear weapon states of the Community contain coverage as required by the Non-Proliferation Treaty.

(3) No Military or Explosive Use

Subparagraph (3) of Section 123 a. of the Act requires:

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

Article 7 of the proposed Agreement satisfies this requirement by requiring that:

> 1. Co-operation under this Agreement shall be carried out for peaceful purposes.

> 2. Non-nuclear material, nuclear material and equipment transferred pursuant to this Agreement and special fissionable material used in or produced through the use of such items shall not be used for any nuclear explosive device, for research on or development of any nuclear explosive device or for any military purpose.

With reference to Article 7, paragraph 1 of the Agreed Minute sets forth the agreement of the Parties that "peaceful purposes" includes provision of power for a military base drawn from any power network or production of radioisotopes to be used for medical purposes in a military hospital.

It should also be noted that the scope of co-operation set forth in Article 1 (1) is for the Parties to "...co-operate in the peaceful uses of nuclear energy...." Also, Article 14 (3) provides that the peaceful use requirement of Article 7 continues in effect even in the event of termination or suspension of the Agreement. Further, as the transfer of sensitive nuclear technology is not provided for by the proposed Agreement (i.e., sensitive nuclear technology can not be transferred under this Agreement), there is no provision relating to the use of sensitive nuclear technology for peaceful purposes only.

(4) Right of Return

Subparagraph (4) of Section 123 a. of the Act requires:

> ...a stipulation that the United States shall have the right to require the return of any nuclear materials and equipment transferred pursuant thereto and any special nuclear material produced through the use thereof if the cooperating party detonates a nuclear explosive device or terminates or abrogates an agreement providing for IAEA safeguards.

Paragraphs (2), (3) and (4) of Article 13 of the proposed Agreement meet this requirement by providing:

> 2. If either Party or a Member State of the Community at any time following entry into force of this Agreement terminates or abrogates a safeguards agreement with the Agency and the safeguards agreement so terminated or abrogated has not been replaced by an equivalent safeguards agreement when appropriate and relevant, the other Party shall have the right to require the return in whole or in part of non-nuclear material, nuclear material or equipment transferred pursuant to this Agreement and special fissionable material produced through the use of such items.

3. If the Community or a non-nuclear weapon State member of the Community detonates a nuclear explosive device, the Government of the United States of America shall have the right specified in paragraph 2 of this Article.

4. If a nuclear-weapon-State member of the Community detonates a nuclear explosive device using any item subject to this Agreement, the United States shall have the right specified in paragraph 2 of this Article.

Three separate paragraphs of Article 13 were needed to satisfy this requirement of the Act because the Community consists of a combination of non-nuclear weapon states and nuclear-weapon states, and the Community is a "Party" but the individual member states are not "Parties".

As the Community and the United States are the Parties to the proposed Agreement, clearly it would not be sufficient for the Agreement to provide merely for a right of return if a Party terminated or abrogated a safeguards agreement, because then a member state of the Community could take such an action without violating the Agreement, as the member state would not be a "Party". Therefore to meet both the letter of the requirement and to satisfy fully the intent of the requirement, Article 13 (2) provides that such an action by a member state also triggers the right of return for the United States. The phrase "when appropriate and relevant" modifies "replaced by an equivalent safeguards agreement" in Article 13 (2) because some safeguards agreements terminate in accordance with their own terms and are not replaced.

Recognizing the same difference between a Party and a member state of the Community, Article 13 (3) provides that if the Community or a non-nuclear weapon state member of the Community detonates a nuclear explosive device, the U.S. has the right of return.

Finally, recognizing the same issue and that two member states of the Community are nuclear-weapon states, Article 13 (4) provides that if a nuclear-weapon state member of the Community detonates a nuclear explosive device using any item subject to this Agreement, the U.S. has the right of return.

As this proposed Agreement is reciprocal, Article 13 (5) provides the Community with a right of return if the U.S. detonates a nuclear explosive device using any item subject to the Agreement.

In order to avoid a problem which might lead to a cessation of cooperation, a suspension or termination of the Agreement, or an invocation of the right of return, Article 13 (6) of the proposed Agreement provides for consultations before such action is taken by either the U.S. or the Community. These consultations are for the purpose of taking corrective measures and shall

carefully consider the effects of such action, taking into account the need to make such other appropriate arrangements as may be required and, in particular, to ensure security and continuity of supply and adequate time for replacement and further to honor commitments to third countries.

Additionally, paragraphs (7) and (8) of Article 13 provide that before action is taken the Parties shall consider whether the events triggering such steps may have been inadvertent and permit action only if the other Party fails to take corrective measures within an appropriate period of time.

As is the case with other agreements for cooperation that contain the right of return as required by the Act, Article 13 (9) provides that should the right of return be exercised by a Party, the other Party shall be compensated promptly for the fair market value of the items returned and for the costs incurred as a consequence of such removal.

(5) Retransfer

Subparagraph (5) of Section 123 a. of the Act requires:

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

This Agreement is with a group of nations, the Community, as authorized by section 124 of the Act. The Community is considered a single entity for purposes of this Agreement and the provisions of the Agreement apply for all of the member states of the Community. Therefore, movement of items subject to the Agreement between member states of the Community is not a retransfer either under the Act or under the Agreement. A retransfer is the movement of items subject to the Agreement to third countries outside of the Community.

Retransfers to third countries can only be accomplished in accordance with the provisions of Article 8 (1)(C) of the Agreement and paragraphs 2, 3, 4, and 5 of the Agreed Minute. These provisions satisfy the requirements of sections 123 a. and 109 of the Act as discussed below.

Paragraphs (i), (ii) and (iii) of Article 8 (1)(C) provide for the retransfer to third countries according to procedures set out in the Agreed Minute of:

(i) low enriched uranium, non-nuclear material, equipment and source material transferred pursuant to this Agreement or of low enriched uranium produced through the use of nuclear material or equipment transferred pursuant to this Agreement, for nuclear fuel cycle activities other than the production of highly enriched uranium (HEU);

(ii) irradiated nuclear material transferred pursuant to this Agreement or irradiated nuclear material used in or produced through the use of non-nuclear material, nuclear material or equipment transferred pursuant to this Agreement, for storage or disposal not involving reprocessing;

(iii) other nuclear material transferred pursuant to this Agreement and other special fissionable material produced through the use of non-nuclear material, nuclear material or equipment transferred pursuant to this Agreement, for other fuel cycle activities including those specified in paragraphs 2 and 3 of this Article.

Article 8 (1)(C) (i), (ii) and (iii) provide that material transferred pursuant to the Agreement (i.e., low enriched uranium, non-nuclear material, source material, irradiated nuclear material, or other nuclear material) can only be retransferred according to procedures set out in the Agreed Minute. This satisfies the requirement of the Act that material transferred pursuant to the Agreement not be retransferred without U.S. consent.

Article 8(1)(C) (i), (ii) and (iii) also provide that low enriched uranium, produced through the use of nuclear material or equipment transferred pursuant to the Agreement; and irradiated nuclear material, and other special fissionable material produced through the use of non-nuclear material, nuclear material or equipment transferred pursuant to the Agreement; can only be retransferred according to procedures set out in the Agreed Minute. Note that low enriched uranium, irradiated nuclear material, and other special fissionable material encompass special nuclear material referred to in section 123 a.(5) of the Act. Thus, these provisions of Article 8(1)(C) cover the production of any special nuclear material through the use of equipment or material transferred pursuant to the Agreement. The definition of "equipment" in Article 21 includes any reactor (i.e., a production or utilization facility) that can be supplied under the proposed Agreement, and could include any other item if designated jointly by appropriate authorities of the Parties. Therefore, even though the proposed Agreement uses the term "equipment" rather than "production or utilization facility", taking into account the definitions of the terms used, these provisions of Article 8 satisfy the requirement of the Act that any special nuclear material produced by a production or utilization facility transferred pursuant to the proposed Agreement, or through use of material transferred pursuant to the proposed Agreement, not be retransferred without U.S. consent.

Article 8 (1)(C)(i) provides that equipment transferred pursuant to the Agreement can only be retransferred according to procedures set out in the Agreed Minute. Again, the definition of "equipment" in Article 21 includes any reactor (i.e., a production or utilization facility) that can be supplied under the Agreement, and includes any other item if designated jointly by the appropriate authorities of the Parties. A production facility that is not a reactor would have to be designated as equipment before it could be supplied under the Agreement. Therefore, this provision satisfies the requirement of the Act that any production or utilization facility transferred pursuant to the Agreement not be retransferred without U.S. consent.

Article 8 (1)(C) does not refer to the retransfer of Restricted Data because, as noted above, the Agreement does not allow the transfer of Restricted Data to the Community.

The exercise of this particular U.S. control with respect to special fissionable material produced through the use of nuclear material and/or non-nuclear material transferred pursuant to the Agreement, when such nuclear material and/or non-nuclear material is used in equipment not so transferred, is limited by the rule of proportionality set out in paragraph 14 of the Agreed Minute. Paragraph 14 provides that under this rule the requirements pertaining to retransfer shall be applied to that proportion of special fissionable material produced that represents the ratio of transferred nuclear material and/or non-nuclear material used in the production of the special fissionable material to the total amount of nuclear material and/or non-nuclear material so used. This rule of proportionality, in effect, serves to define the term "produced through the use of" -- a term that is not defined in the Act or the NNPA -- in a reasonable way that corresponds to accepted practice of nuclear facility operators. This rule of proportionality has been embodied in all recent U.S. agreements for cooperation concluded since enactment of the NNPA, including the U.S.-Japan Agreement which involves another advanced nuclear program of great complexity.

As noted above, Article 8 (1)(C)(i),(ii) and (iii) contains the U.S. approval for the retransfer of nuclear material and equipment required by the Act. Paragraphs 2 through 5 of the Agreed Minute set out the procedures that must be followed for such retransfers. Because of the manner in which the procedures are set out, the only retransfers that will have been approved in advance by the United States when the Agreement enters into force are those allowed by paragraph (i) of Article 8 (1)(C). Paragraph 2 of the Agreed Minute covers these retransfers.

Paragraph 2 of the Agreed Minute provides that upon entry into force of the Agreement lists of third countries to which retransfers pursuant to Article 8 (1)(C)(i) may be made shall be exchanged by the Parties. Each Party will provide a list of third countries to which the other Party may retransfer items. Therefore the U.S. will provide to the Community a list of third countries to which the Community may retransfer U.S. controlled items. For third countries to be eligible for continued inclusion on such lists they must at a minimum: have made effective nonproliferation commitments, normally by being party to and in full respect of their obligations under the Non-Proliferation Treaty or the Treaty of Tlatelolco; have effective physical protection

measures by being in compliance with the conditions of INFCIRC 254/Rev. 1/Part 1; and in case of retransfer of items obligated to the U.S. from the territory of the Community to a third country, such a third country must be a party to a nuclear cooperation agreement with the United States. Paragraph 4 of the Agreed Minute provides that either Party may add eligible third countries to its own list at any time. After consultations, either Party may delete countries from its own list. (Deletion of countries will not be done for commercial advantage or to hinder the program of the other Party.)

Paragraph 5 of the Agreed Minute has a special provision for transfers from the Community to Japan. These transfers (including plutonium in mixed oxide fuel) are permitted as long as this Agreement remains in force. Note that this is a reconfirmation of a consent already given by the U.S. in connection with the U.S.-Japan Agreement. However, there is a suspension right (to be discussed below), and the U.S. also has control over such transfers by means of the U.S.-Japan Agreement for Cooperation.

For all retransfers pursuant to Article 8 (1)(C)(i) the material or equipment would remain subject to a U.S. agreement for cooperation which, inter alia, means that there could be no further retransfer without U.S. approval. Also, the U.S. maintains complete control of its own list of third countries to which the Community can retransfer items obligated to the U.S., as only the U.S. can add (at any time) or delete (after consultations) countries from the list. It should be noted that there is no requirement for the consultations to result in agreement.

As discussed above, the U.S. has provided approval for the retransfers set out in Article 8(1)(C)(i) in the proposed Agreement. Under U.S. law, approvals for retransfers may be processed in accordance with the subsequent arrangement procedures set forth in section 131 of the Act. In addition, the law allows such approvals to be given in the agreement for cooperation itself, and more recent U.S. agreements, including those with Japan, Norway, Finland and Sweden have contained such approvals in the agreement. As also noted in connection with those agreements, the procedural requirements and substantive findings applicable to an agreement for cooperation are more stringent than those applicable to subsequent arrangements, and as explained in greater detail below in section II B(7) of this assessment statement, this will ensure that including a long-term approval for retransfers in the Agreement will be under conditions that will satisfy all pertinent provisions of the Act.

Retransfers pursuant to paragraphs (ii) and (iii) of Article 8(1)(C) may take place according to the procedures set out in paragraph 3 of the Agreed Minute. However, at this time no such retransfers are being considered and there will be no lists exchanged upon entry into force of the Agreement. Further, the procedures in paragraph 3 require that a request must be made in the future. The U.S. would therefore be required to approve the list of countries for such retransfers by means of the subsequent arrangement procedures of section 131 of the Act. Paragraph 3 of the Agreed Minute sets out some additional criteria that must be considered in making a list of third countries in addition to the criteria required in paragraph 2.

Paragraph 4 of the Agreed Minute also provides that retransfers to third countries not included on the lists may be considered on a case-by-case basis. This provision ensures that other retransfers to third countries that might not be appropriate for inclusion on any of the lists would be permissible if agreed by the Parties after case-by-case consideration. The U.S. would be required to use the subsequent arrangement procedures of section 131 of the Act for approval of such retransfers.

The requirement that EURATOM undertake not to retransfer material or equipment transferred under the agreement to unauthorized persons is satisfied under Article 1(2), which authorizes cooperation to take place between persons and undertakings "established" in the respective territories of the Parties. Each Party has the right to determine which of its persons or undertakings are authorized (i.e., "established") in its territory to engage in designated areas of nuclear cooperation under the agreement. Cooperation under the agreement, in particular "supply...of nuclear material and equipment and provision of nuclear fuel cycle services" (Article 1(1)(d)) may not take place if it involves a "person or undertaking" not so authorized.

(6) Physical Security

Subparagraph (6) of Section 123 a. of the Act requires:

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

Article 11 of the proposed Agreement satisfies this requirement by requiring that:

> 1. Nuclear material transferred pursuant to this Agreement and special fissionable material used in or produced through the use of non-nuclear material, nuclear material or equipment so transferred shall be subject to adequate measures of physical protection.
>
> 2. Such physical protection measures shall be at levels which shall satisfy the criteria set out in Annex C to IAEA document INFCIRC 254/Rev 1/Part 1 (Guidelines for nuclear transfers) as it may be revised and accepted by the Parties and the Member States of the Community. As a supplement to this document, the Member States of the Community, the Commission of the European Communities (as appropriate), and the United States of America will refer, when applying these measures, to the recommendations of IAEA document

INFCIRC 225/Rev. 3 on the Physical Protection of Nuclear Material, as it may be revised and accepted by the Parties and the Member States of the Community.

3. International transport of nuclear material subject to this Agreement shall be subject to the provisions of the International Convention on the Physical Protection of Nuclear Material (INFCIRC 274/Rev. 1), as it may be revised and accepted by the Parties and the Member States of the Community.

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

Article 11 (2) of the Agreement provides that physical security measures shall be applied so as to satisfy the standards accepted by the United States and the international community as set out in documents of the IAEA that concern physical protection measures for nuclear transfers and for the application of physical protection measures at all other times in the nuclear fuel cycle. Additionally, Article 11(3) of the Agreement provides that international transport of nuclear material subject to the Agreement will be subject to the International Convention on the Physical Protection of Nuclear Material (INFCIRC 274/Rev. 1). Therefore, the standards of physical security that must be met under this Agreement are those that are accepted and implemented world-wide as adequate. These standards are also equivalent to those required by U.S. Nuclear Regulatory Commission (NRC) regulation. The Agreement also is clear that continued compliance with the most current international standards shall be required under this Agreement as reference is made in Articles 11 (2) and (3) to IAEA documents as they "may be revised and accepted by the Parties and Member States of the Community". So the latest version of internationally accepted standards will continue to be applied during the life of the Agreement. Further, Article 14 (3) provides that even if the Agreement is terminated or suspended the obligations of Article 11 shall continue in effect. Finally, Article 12 (2) provides that consultations shall be held, concerning any question arising out of the application of this Agreement (this would include physical security measures), at the request of either Party, and Article 12 (1) provides for a Joint Committee to be established to ensure the effective implementation of the Agreement. In light of the discussion above, the physical security provisions of this Agreement satisfy the requirements of section 123 a.(6) of the Act.

Paragraph 5 of the Agreed Minute provides that the consent previously given to the Community in connection with the U.S.-Japan Agreement for Cooperation for the transport of plutonium reprocessed in the Community back to Japan shall remain in effect as long as this Agreement remains in force. The physical security measures for those shipments are controlled by the provisions of the U.S.-Japan Agreement and were analyzed in detail in the Nuclear

Proliferation Assessment Statement prepared for that agreement and were found to satisfy the requirements of the Act. That analysis is still applicable to such shipments. The consent given for those shipments can be suspended by the U.S. under the terms of the U.S.-Japan Agreement. Also, under the proposed Agreement, paragraph 5 of the Agreed Minute provides that the consents granted may be suspended, but only if an event arises of the same or greater degree of seriousness as those referred to in paragraph 8 of the Agreed Minute. Among the factors set forth in paragraph 8, two specifically mention physical protection matters. One is if the Community or a member state violates, terminates, or declares itself not to be bound by the guidelines in document INFCIRC 254/Rev. 1/Part 1; the other is acts of war or other disturbances that threaten severely and directly the activities to be suspended (here those activities would be the physical protection of the plutonium transfers.) Of course, events constituting a serious threat to the national security or a significant increase in the risk of nuclear proliferation would also provide a basis for suspension. Considering the discussion above, the requirements of the Act for physical security are satisfied in connection with transfers of plutonium to Japan.

This Agreement does not provide for the advance consent by the U.S. to any other transfers of plutonium. Such transfers could only take place upon a future request to the U.S. under Article 8 (1)(C)(iii). As discussed above in connection with retransfers (Section II B(5) of this assessment statement), the subsequent arrangement procedure of section 131 of the Act would need to be followed for the approval of such a request. Physical protection matters would be a factor in the subsequent arrangement analysis.

Article 8 (1)(C)(i) of the Agreement provides U.S. consent for the retransfer of low enriched uranium and source material to third countries for fuel cycle activities other than the production of HEU. These retransfers are subject to the physical protection requirements of Article 11 as discussed above.

The physical security of nuclear material is an important part of this Agreement and provisions providing for physical protection appear in several other places in the Agreement. For example, adequate physical protection is a requirement for storage facilities in Article 8 (3). Violation of the fundamental provisions of Article 11 would be a ground for suspension or termination of the Agreement in Article 13 (1). Notwithstanding suspension or termination of the Agreement the obligations of Article 11 shall continue in effect under Article 14 (3). For an addition of a facility to the peaceful nuclear program delineated by the Community in Annex A, the procedures set out in paragraph 7 (A) of the Agreed Minute require a confirmation from the Community that physical protection measures required by Article 11 will be applied.

The proportionality provision in paragraph 14 of the Agreed Minute is not applicable to Article 11.

(7) Reprocessing, Enrichment or Other Alteration

Subparagraph (7) of Section 123 a. of the Act requires:

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

Subparagraph (A) of paragraph 1 of Article 8 provides the basis for the U.S. control of enrichment required by the Act, and paragraph 2 of Article 8 provides the basis for the U.S. control of reprocessing and alteration in form or content required by the Act.

Article 8 (1)(A) provides the following:

> 1. The nuclear fuel cycle activities carried out pursuant to this Agreement include:
>
> (A) Within the territorial jurisdiction of either Party, enrichment up to twenty percent in the isotope 235, of uranium transferred pursuant to this Agreement, as well as of uranium used in or produced through the use of equipment so transferred. Enrichment of such uranium to more than twenty percent in the isotope 235 and reenrichment of such uranium already enriched to more than twenty percent in the isotope 235 may be carried out according to conditions agreed upon in writing which shall be the subject of consultations between the Parties within 40 days of the receipt of a request from either Party.

Article 8 (2) provides the following:

> The following nuclear fuel cycle activities may be carried out pursuant to this Agreement within the territorial jurisdiction of either Party in facilities forming part of the delineated peaceful nuclear programs described in Annex A:
>
> (A) Reprocessing of nuclear material transferred pursuant to this Agreement and nuclear material used in or produced through the use of non-nuclear material, nuclear material or equipment so transferred;

(B) Alteration in form or content of plutonium, uranium 233 and high enriched uranium transferred pursuant to this Agreement or used in or produced through the use of non-nuclear material, nuclear material or equipment so transferred;

The requirement of the Act for prior U.S. approval for reprocessing of material subject to the proposed Agreement is met by Article 8 (2)(A). Subject to the condition of Article 8 (2) that the activity be "pursuant to this Agreement" advance U.S. consent for reprocessing is provided in Article 8 (2)(A). However, the consent is circumscribed by the conditions found in the proposed Agreement. In addition to other provisions of the proposed Agreement, Article 8 (2) provides: 1. that the reprocessing may be carried out "within the territorial jurisdiction" of the Community; and, 2. "in facilities forming part of the delineated peaceful nuclear programs described in Annex A." Unless these two conditions are met no reprocessing of material subject to the proposed Agreement is permitted.

Similarly, the requirement of the Act for prior U.S. approval for any alteration in form or content of weapons-usable material subject to the proposed Agreement is met by Article 8 (2)(B). Again, subject to the condition of Article 8 (2) that the activity be "pursuant to this Agreement" advance U.S. consent for alteration in form or content is provided in Article 8 (2)(B). The same two conditions of Article 8 (2) (i.e. within the territorial jurisdiction and in facilities set out in Annex A) also apply to alteration. Again, unless these two conditions are met, no alteration in form or content of weapons-usable material subject to the proposed Agreement is permitted.

The requirement of the Act regarding prior approval of the U.S. for enrichment is met by Article 8 (1)(A) of the proposed Agreement, which provides advance U.S. consent for enrichment up to twenty percent in the isotope 235, but requires that enrichment greater than twenty percent or reenrichment of uranium already over the twenty percent mark may only be carried out according to conditions agreed upon in writing after consultations between the Parties. The consultations will be held within 40 days of a receipt of a request. However, for enrichment beyond twenty percent or for reenrichment the U.S. must provide further agreement in writing. Such a future agreement would be subject to the subsequent arrangement procedures of section 131 of the Act. The approval for enrichment up to twenty percent without further U.S. action is authorized in section 402(a) of the NNPA (see below).

In the previous U.S.-Euratom agreement the U.S. did not have a consent right over reprocessing or alteration in form or content within the Community. During the course of the negotiations, in exchange for agreeing to a U.S. consent right and consistent with the requirement of the Act for prior U.S. approval, the U.S. offered to provide Euratom advance approval for reprocessing and alteration on a long term basis within a defined program in the Community. In Article 8 (2) U.S. consent to reprocessing and alteration is granted, within the territorial

jurisdiction of the Community, at facilities enumerated in Annex A. Specifically, there are four facilities named in Annex A for reprocessing, and nine facilities named for alteration in form or content. Two alteration facilities are in Belgium and one is in Germany; all ten of the other facilities are either in France or the United Kingdom.

The U.S. has sufficient information about these facilities to ensure that these activities meet applicable statutory criteria, both for new agreements for cooperation and the subsequent arrangement procedure. In particular, the U.S. has extensive knowledge in regard to the safeguards procedures applicable at these reprocessing and alteration facilities.

The same degree of assurance is also provided for any addition of facilities for alteration or reprocessing. Paragraph 6 of the Agreed Minute requires that changes to the peaceful nuclear programmes delineated by either Party [in Annex A] be in accordance with procedures set forth in the Agreed Minute. The Community must notify the U.S. and receive a written acknowledgement. Paragraph 7 of the Agreed Minute provides that the acknowledgement, a statement that the notification has been received, shall be provided within thirty days. Paragraph 7 also provides that intended changes shall receive the fullest possible consideration during consultations under the Agreement, which may include an exchange of information and views on safeguards matters of mutual interest. Paragraph 7(A) of the Agreed Minute sets out the requirements of the notification. The notification shall contain, inter alia, a confirmation by the Community that: the Euratom Safeguards Regulation 3227/76, as amended, is fully applied; that relevant safeguards arrangements that will permit the IAEA to exercise fully its rights and meet its objectives and inspection goal have been agreed upon with the IAEA; and, that physical protection measures as required by Article 11 of the Agreement will be applied. The confirmations required by the Agreed Minute, together with the safeguards requirements of Article 6 of the proposed Agreement, ensure that only those reprocessing and alteration activities for which the U.S. is presently in a position to make the necessary judgments under the Act are approved under the proposed Agreement.

It should be noted that as the proposed Agreement is reciprocal, similar conditions apply to the United States in regard to reprocessing, alteration in form or content, and enrichment. Moreover, similar requirements apply to the U.S. for the addition of facilities to the U.S. delineated program.

Paragraph 7(C) of the Agreed Minute to the proposed Agreement provides that either Party may delete a facility from its own delineated program, by providing the other Party a notification of the name of the facility and any other relevant information.

In addition to the controls discussed above, paragraph 8 of the Agreed Minute provides a significant additional control. Paragraph 8 allows the U.S. to suspend the approvals for reprocessing and alteration in form or content with respect to the entire Community program for reprocessing and alteration if the U.S. considers that there is objective evidence that the

continuation of such activities would entail a serious threat to the security of the U.S., or a significant increase in the risk of nuclear proliferation. The Agreed Minute provides that a U.S. decision to suspend shall only be taken after consultations with the Community, and by the President; however there is no requirement that the consultations be successful or take any set amount of time. Additionally, paragraph 12 of the Agreed Minute provides that a decision to suspend shall only be taken "... in the most extreme circumstances of exceptional concern from a non-proliferation or security point of view...", but the United States makes the final decision.

In sum, the advance U.S. approval for reprocessing or alteration in form or content has been carefully drawn to include only a known Community program and future additional facilities that conform to the requirements of the proposed Agreement. The conditions of the proposed Agreement ensure that the United States will be at all times assured of the application of appropriate and effective safeguards and physical security measures.

U.S. approval is also provided in Article 8 (1)(B)(D) and (E) of the proposed Agreement for the following nuclear fuel cycle activities:

> (B) Irradiation within the territorial jurisdiction of either Party of plutonium, uranium-233, high enriched uranium and irradiated nuclear material transferred pursuant to this Agreement or used in or produced through the use of non-nuclear material, nuclear material or equipment so transferred;
>
> (D) Post-irradiation examination involving chemical dissolution or separation of irradiated nuclear material transferred pursuant to this Agreement or irradiated nuclear material used in or produced through the use of non-nuclear material, nuclear material or equipment so transferred.
>
> (E) Conditioning, storage and final disposal of irradiated materials transferred pursuant to this Agreement or used in or produced through the use of non-nuclear material, nuclear material and equipment transferred pursuant to this Agreement.

One of the most significant features of the proposed Agreement is the advance approval provided by the U.S. for various activities of the nuclear fuel cycle in the Community that involve material and equipment subject to the proposed Agreement. Such advance approval is permissible under the Act. Sections 123 and 127 of the Act require that the United States have certain approval rights, including reprocessing and retransfer approval rights. However, no provision of the Act or the NNPA precludes the United States from giving such approvals in advance when all the requirements of the Act can be properly met. In fact the Act clearly

indicates that U.S. consent rights can be granted in advance. In that regard, section 131a(3) of the Act provides:

> The United States will give timely consideration to all requests for prior approval, when required by this Act, for the reprocessing of material proposed to be exported, previously exported and subject to the applicable agreement for cooperation, or special nuclear material produced through the use of such material or a production or utilization facility transferred pursuant to such agreement for cooperation, or to the altering of irradiated fuel elements containing such material, and additionally, to the maximum extent feasible, will attempt to expedite such consideration when the terms and conditions for such actions are set forth in such agreement for cooperation....

The reference to "material proposed to be exported" makes clear that the consent for reprocessing or alteration of irradiated fuel may be granted prior to the export of any nuclear material. In the course of normal reactor operations, the fuel to be exported and then used in a reactor would not be reprocessed for five or more years. Therefore the "prior approval" that this section of the Act would allow the U.S. to give, would be far in advance of the actual time that the material in question would be reprocessed or altered in form or content.

Section 131a(3) of the Act provides that expedited consideration will be given to requests for consent for reprocessing "...when the terms and conditions for such actions are set forth in such agreement for cooperation...." This provision authorizes the U.S. to specify in the proposed Agreement with the Community the conditions that would have to be met for a subsequent approval of a request for reprocessing, alteration in form or content, or other fuel cycle activities. There is no substantive difference between that and the proposed Agreement which makes the approvals granted by the proposed Agreement and Agreed Minute contingent on continued compliance with the provisions of the proposed Agreement.

Paragraph 8(A) of the Agreed Minute provides that the activities referred to in Article 8 (2) of the proposed Agreement (i.e. reprocessing and alteration) "... may proceed ... unless the other Party considers ... that these activities should be suspended on the basis of objective evidence that their continuation would entail a serious threat to the security of either Party ... or a significant increase in the risk of nuclear proliferation...." The "objective evidence" referred to is not further described, and there is no requirement that there be agreement that objective evidence either exists or is in fact persuasive. Therefore the United States has extremely wide discretion in deciding what evidence to consider and what weight to give to such evidence. The Agreed Minute does require that the matter causing the consideration of suspension be of the same or greater degree of seriousness as a list of possibilities set out in subparagraphs (i) through (vi) of paragraph 8(A)(a) of the Agreed Minute. The items listed include: a non-nuclear-weapon state detonating a nuclear explosive device; a nuclear-weapon State using any item subject to the

Agreement in a nuclear weapon or in any other nuclear explosive device; a member State or the Community violating the NPT, a relevant safeguards agreement, or physical protection guidelines; a member State retransferring an item subject to the Agreement to a non-nuclear weapon State that does not have full-scope safeguards with the IAEA; a Member State being subject to IAEA sanctions; and, acts of war, serious internal disturbances, or international threats of war which threaten safeguards or physical protection for the activities to be suspended.

Additionally, as noted above, consultations (at the Cabinet level for the United States) are required before a U.S. decision to suspend, and the decision must be taken by the President. However, there is no requirement that the consultations result in agreement or take any set amount of time. In the end, the United States, on the basis of evidence that the U.S. considers persuasive, and on a matter that the U.S. considers to be of sufficient seriousness, can suspend the entire reprocessing and alteration program of the Community. Thus the United States will be in a position to ensure that the substantive requirements for agreements for cooperation in section 123 of the Act, and for subsequent arrangements in section 131 of the Act are met, and continue to be met throughout the life of the proposed Agreement.

Also, advance consent in an agreement for cooperation means that under the approval provisions of section 123 b. of the Act the President approves and authorizes the proposed Agreement and makes a determination in writing that the performance of the proposed Agreement will promote, and will not constitute an unreasonable risk to, the common defense and security. In contrast, the subsequent arrangement procedures in section 131 of the Act only require the determination of the Secretary of Energy that the arrangement will not be inimical to the common defense and security. Obviously, a Presidential determination that an agreement will actually promote the common defense and security is far more comprehensive and substantive than a Secretarial determination that an arrangement will not be inimical.

The final point in regard to advance consent concerns Congressional review. Congressional review is enhanced by providing advance consent for reprocessing, alteration, and other activities in the proposed Agreement. This is because section 123 of the Act permits Congress to review a new agreement for cooperation for up to ninety days of continuous session, while section 131 provides that only subsequent arrangements involving reprocessing or the retransfer of plutonium in quantities greater than 500 grams must lie before Congress, and then only for fifteen days.

In conclusion, the advance consent granted by the United States in the proposed Agreement has been analyzed in regard to all the criteria of section 123 and section 131 of the Act, with foremost consideration given to timely warning (see the Department of Energy Analysis of Consents and Approvals), and it has been judged that such advance consents will not be inimical to the common defense and security; will not significantly increase the risk of proliferation; and will promote and will not constitute an unreasonable risk to the common defense and security.

The controls in Article 8 of the proposed Agreement are subject to the proportionality provision in paragraph 14 of the Agreed Minute.

(8) Storage

Subparagraph (8) of Section 123 a. of the Act requires:

> ...a guaranty by the cooperating party that no plutonium, no uranium 233, and no uranium enriched to greater than twenty percent in the isotope 235, transferred pursuant to the agreement for cooperation, or recovered from any source or special nuclear material so transferred or from any source or special nuclear material used in any production facility or utilization facility transferred pursuant to the agreement for cooperation, will be stored in any facility that has not been approved in advance by the United States....

Paragraph 3 of Article 8 of the proposed Agreement provides for the storage of plutonium, uranium-233 and high enriched uranium as follows:

> 3. The following nuclear materials:
>
> (i) plutonium, uranium-233 and high enriched uranium, if not contained in irradiated nuclear fuel, transferred pursuant to this Agreement;
>
> (ii) plutonium, uranium-233 and high enriched uranium recovered from nuclear material transferred pursuant to this Agreement;
>
> (iii) plutonium, uranium-233 and high enriched uranium recovered from nuclear material used in equipment transferred pursuant to this Agreement;
>
> may be stored in facilities that are at all times subject, as a minimum, to the levels of physical protection that are set out in Annex C to IAEA document INFCIRC 254/Rev. 1/Part 1 (Guidelines for nuclear transfers) as it may be revised and accepted by the Parties and Member States of the Community.

Article 8 (3) also requires that each Party shall record its facilities on a list available to the other Party. Changes in the list may be made by notifying the other Party in writing and receiving a written acknowledgement. If grounds exist to believe that these storage requirements are not being fully complied with, immediate consultations may be called for.

Article 8(3) also provides for the action to be taken in case the requirements for storage of the proposed Agreement are not being complied with, as follows:

> Following upon such consultations, each Party shall ensure by means of such consultations that necessary corrective measures are taken immediately. Such measures shall be sufficient to restore the levels of physical protection referred to above at the facility in question. If this proves not to be feasible, the nuclear material in question shall be transferred for storage at another appropriate, listed facility.

Article 8 (3) provides the approval of the U.S. for the storage of plutonium, U-233 and HEU at facilities that meet the appropriate standards for physical protection promulgated by the IAEA and accepted by the United States and the international community. In the event problems occur at a particular storage facility, consultations will be held and corrective measures taken immediately. If, for some reason, this does not prove adequate, then it is a requirement that the nuclear material in question be transferred to another facility.

The material covered by this provision of the proposed Agreement is as required by the Act. As noted above, "equipment" is defined in the proposed Agreement to effectively include any "production facility" or "utilization facility" subject to the Agreement. Therefore, the phrase "used in equipment" in Article 8 (3)(iii), means essentially the same thing as "used in any production or utilization facility" in section 123 a.(8) of the Act. Thus, Article 8 (3) of the proposed Agreement satisfies the requirements of the Act in regard to storage.

Article 8 (3) provides advance U.S. consent to storage of the nuclear material specified therein to the Community. As noted above with respect to reprocessing, such advance approval is permissible so long as the U.S. has sufficient information to make the statutory judgments required under sections 123 and 131 of the Act, and to ensure that the underlying basis for these judgments remains in effect while the approval continues. While the ability of the U.S. to suspend the consent to storage is not as explicit as is the right to suspend reprocessing and alteration in form or content, the provisions of Article 8 (3), Article 13 (1), and paragraph 8 of the Agreed Minute, in combination with the other underlying obligations of the Agreement, give the U.S. the ability to suspend or require corrective action in regard to facilities storing nuclear material subject to the Agreement in any credible situation involving an increase in the risk of proliferation or a threat to national security.

The storage control provided for in Article 8 (3) of the proposed Agreement is subject to the proportionality provision in paragraph 14 of the Agreed Minute.

(9) <u>Sensitive Nuclear Technology</u>

Subparagraph (9) of Section 123 a. of the Act

requires:

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

Inasmuch as transfers of sensitive nuclear technology are not provided for in the proposed Agreement this requirement of the Act does not pertain in this case.

C. NNPA Section 402 -- Additional Requirements

Section 402(a) of the NNPA requires that:

> Except as specifically provided in any agreement for cooperation, no source or special nuclear material hereinafter exported from the United States may be enriched after export without the prior approval of the United States for such enrichment....

As discussed earlier in regard to section 123 a.(7) of the Act, Article 8 (1)(A) of the proposed Agreement provides that enrichment of uranium to more than twenty percent in the isotope 235 and reenrichment of uranium already enriched to more than twenty percent in the isotope 235 may be carried out according to conditions agreed upon in writing. Therefore, the Community must get a specific U.S. approval for any such high enrichment. As noted above such approval would require compliance with the subsequent arrangement procedures of section 131 of the Act. Concurrently, the proposed Agreement provides U.S. advance approval for the enrichment of uranium subject to the Agreement up to twenty percent. This advance approval for low enrichment is fully consistent with the authority contained in section 402(a) that permits enrichment "as specifically provided" in the proposed Agreement.

Section 402(a) of the NNPA further requires that:

> ... no source or special nuclear material shall be exported for the purpose of enrichment or reactor fueling to any nation or group of nations which has, after the date of enactment of this Act, entered into a new or amended agreement for cooperation with the United States, except pursuant to such agreement.

This requirement is met by the requirement in subparagraph (D) of paragraph 1 of Article 1 that supply of nuclear material between the Parties is "[s]ubject to the provisions of this

Agreement" (emphasis added). No supply to the Community is permissible unless under the authority of the proposed Agreement.

Section 402 (b) of the NNPA requires that:

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

As with sensitive nuclear technology, the transfer of major critical components is not provided for in the proposed Agreement; therefore this requirement of the NNPA does not pertain in this case.

D. NNPA Section 404 -- Relationship to Existing Agreement

The proposed Agreement is the result of a negotiation to replace two agreements with the Community that were entered into in 1958 and 1960. The 1958 Agreement has no expiration date, but it only allows cooperation pursuant to another agreement, that was to be negotiated later (this was done in 1960), and was to be in conformity with the requirements of section 123 of the Act. The 1960 Agreement, which provided for the actual cooperation that has occurred since then, terminates on December 31, 1995. At U.S. insistence, negotiations for the purpose of replacing the previous agreements with a new (or amended) agreement which would, inter alia, satisfy the requirements of the NNPA, were conducted during the period from 1980 to 1995. However, until 1992 European negotiators did not have the formal approval from the requisite authorities of the Community to negotiate a new agreement. One reason for this was that the previous agreements did not contain a number of U.S. consent rights that the U.S. asked for in the proposed Agreement (including a reprocessing consent right), and the Europeans were satisfied with that state of affairs.

Section 404(a) of the NNPA contains two provisions applicable to the relationship between a renegotiated agreement and the earlier agreements and any transactions carried out thereunder, as follows:

> To the extent that an agreement for cooperation in effect on the date of enactment of [the NNPA] with a cooperating party contains provisions equivalent to any or all of the criteria set forth in section 127 of [the Act] with respect to materials and equipment transferred pursuant thereto or with respect to any special nuclear material used

> in or produced through the use of any such material or equipment, any renegotiated agreement with that cooperating party shall continue to contain an equivalent provision with respect to such transferred materials and equipment and such special nuclear material.
>
> To the extent that an agreement for cooperation in effect on the date of enactment of [the NNPA] with a cooperating party does not contain provisions with respect to any nuclear materials and equipment which have previously been transferred under an agreement for cooperation with the United States and which are under the jurisdiction or control of the cooperating party and with respect to any special nuclear material which is used in or produced through the use thereof and which is under the jurisdiction or control of the cooperating party, which are equivalent to any or all of those required for new and amended agreements for cooperation under section 123 a. of [the Act], the President shall vigorously seek to obtain the application of such provisions with respect to such nuclear materials and equipment and such special nuclear material.

Meeting the requirements of this part of the NNPA was complicated by the fact that the Community has expanded over the years by the addition of a number of new member States. The U.S. had separate bilateral agreements with five of the new member States (Austria, Spain, Portugal, Sweden, and Finland), and these needed to be replaced by the new Agreement. Additionally, provision had to be made for the expected entry of more new member States, as some of the expected new member States (e.g. Switzerland) also have bilateral Agreements with the U.S.. Therefore the proposed Agreement had to be negotiated so as to replace the previous U.S.-Euratom Agreements, the five existing bilateral agreements, and any agreement with a third State that accedes to the Community in the future.

Article 19 and Article 20 are the means by which the requirements of this part of the NNPA are satisfied by the proposed Agreement. Article 19 (1) terminates the previous U.S.-Euratom Agreements. Article 19 (2) terminates the U.S. bilateral agreements with Austria, Spain, Portugal, Sweden, and Finland, and provides that the rights and obligations with respect to nuclear supply arising out of those agreements shall be replaced by those of the proposed Agreement. Article 19 (3) provides that the rights and obligations with respect to nuclear supply arising out of a U.S. agreement with a third country that accedes to the Community shall be replaced by those of the proposed Agreement.

Article 20 (1) provides that the provisions of the proposed Agreement shall apply to nuclear material subject to all of the Agreements referred to in Article 19 from the date those agreements terminate. Article 20 (2) provides that the provisions of the proposed Agreement shall apply to

equipment and non-nuclear material transferred pursuant to all the agreements referred to in Article 19, but only to the extent covered by those agreements.

Therefore, the proposed Agreement will preserve the existing section 127 controls and apply the new section 123 a. controls to all nuclear material subject to the proposed Agreement, whether transferred under the previous Agreements or under the new Agreement. However, paragraph 13 of the Agreed Minute provides that in the event the activities agreed upon in paragraph 2 of Article 8 (i.e. reprocessing and alteration) are suspended, at the option of the Party against which the suspension is applied, a quantity of nuclear material equivalent to the amount subject to all the old Agreements referred to in Article 19, will be subject to this new Agreement only to the extent covered by the old Agreements. In essence, this means that the Community could continue to reprocess or alter this "old" nuclear material even if the U.S. had suspended its consent to these activities. However, important other U.S. controls (e.g. peaceful use, retransfer consent, safeguards) would continue to apply.

In another respect the proposed Agreement does not completely apply all new controls. In regard to non-nuclear material and equipment, Article 20 (2) provides that the provisions of the proposed Agreement only apply to the extent non-nuclear material and equipment were covered under the previous Agreements. Therefore, in this respect, the proposed Agreement is not completely retroactive. The controls common to the old and new Agreements (e.g. safeguards, peaceful uses, retransfer consent) would apply and any non-nuclear material and equipment transferred under the new Agreement would have all new controls attach. The chief effect of this difference is that if the Community uses non-U.S. nuclear material in a reactor transferred under the previous Agreement with the Community, U.S. consent rights do not attach to the produced nuclear material.

During the course of negotiations, the representatives of the Community were adamant that equipment transferred under the old Agreement should not "contaminate" non-U.S. nuclear-material under the provisions of the proposed Agreement. Further, the community representatives insisted that under the new Agreement the U.S. should not acquire the right to suspend reprocessing and alteration of nuclear material subject to the old Agreement over which the U.S. had never had such a right.

Because section 404(a) of the NNPA requires the President to "vigorously seek" the application of new controls to items subject to the renegotiated agreements, but does not require it so long as existing section 127 controls are not relinquished, this compromise formulation, which does not relinquish existing controls and satisfies the NNPA requirement, was accepted. One reason the negotiations were so lengthy was the vigor with which the U.S. sought the additional controls.

E. NNPA Section 307 – Conduct Resulting in Termination of Nuclear Exports

Section 307 of the NNPA added Section 129 to the Act, which prohibits exports of nuclear materials and equipment or sensitive nuclear technology to countries which engage in proscribed activities subsequent to the enactment of the NNPA (March 10, 1978). The activities in Section 129 include weapons-development activities in non-nuclear-weapons states, violation or termination of safeguards or an agreement for cooperation with the United States, or assistance to a non-nuclear weapon state relevant to acquisition of nuclear weapons. Based on all information available to ACDA, there is no basis for a finding that the Community or its Member-States have engaged in any of the types of activities that would require the imposition of sanctions set forth in Section 129.

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

Section 309 of the NNPA amended Section 109 of the Act to empower the Nuclear Regulatory Commission (NRC) to designate certain component parts, items and substances which, because of their significance for nuclear explosive purposes, should be subject to its licensing authority. Such licenses would be granted only upon a finding that (a) IAEA safeguards will be applied to such component, substance or item, (b) the component, substance or item will not be used for any nuclear explosive device or for research on or development of any nuclear explosive device, and (c) that no such component, substances or item will be retransferred without U.S. consent.

The NRC in its regulations (10 CFR Part 110) has identified certain reactor components and two substances -- heavy water and nuclear grade graphite -- as subject to these criteria.

The Act does not require that components be exported under an agreement for cooperation. In the case of this proposed Agreement, the transfer of components is not covered, and therefore any such transfers would have to be undertaken by means of arrangements outside of the proposed Agreement.

The Act also does not require that the "items and substances" subject to NRC licensing because of section 309 of the NNPA be exported under an agreement for cooperation. Article 5 of the proposed Agreement provides that the only "items" subject to the Agreement are non-nuclear material, nuclear material and equipment. The proposed Agreement does not provide for the transfer of any other items, so to the extent the term "items" refers to other things, they would have to be transferred by means of arrangements outside of the proposed Agreement.

The definition of non-nuclear material in Article 21(5) of the proposed Agreement includes heavy water. Article 21(5) also allows for the addition of other material to the definition if "jointly designated by the appropriate authorities of the Parties." Nuclear grade graphite could be so named at some point in the future. As the transfer of heavy water is provided for in the proposed Agreement, any transfer of heavy water under the Agreement would be required to

meet the terms of the Agreement, which are far more extensive than those of section 309 of the NNPA. Transfer of other "substances" required to be licensed by the NRC pursuant to section 309 of the NNPA, would have to be by means outside of the proposed Agreement, unless the substance is jointly designated by the Parties as non-nuclear material.

The Atomic Energy Act does not require that such exports be transferred under an agreement for cooperation. However, they may be so transferred and thus be subject to all the relevant provisions of the agreement.

III. OTHER NONPROLIFERATION POLICY ISSUES

In addition to ensuring that required legal rights, guarantees, and safeguards are incorporated in the applicable agreement for cooperation, a decision by the United States to engage in nuclear cooperation with a given nation entails nonproliferation policy considerations. These considerations include the scope and terms of the cooperation envisaged under the agreement; the implications for other agreements (present and future); the degree to which nuclear cooperation supports U.S. nonproliferation objectives; and the overall role of the state or states concerned in maintaining sound international nonproliferation standards of conduct. These issues will vary from case to case; this section addresses them as they relate to the proposed Agreement with Euratom.

The proposed Agreement significantly expands U.S. consent rights over fuel cycle activities in Euratom as they apply to nuclear material and equipment subject to the new agreement. This issue will be examined below along with the nature of the advance consent arrangements contained in the proposed Agreement. Safeguards considerations are also discussed, including the provisions for ensuring that effective IAEA safeguards will be applied to future facilities for reprocessing and alteration in form or content. The issue of retroactivity and the approach to perpetuity of safeguards and controls are each handled in a unique way in this agreement and are also examined. Finally, there are brief sections on reliability of supply, a comparison with the U.S.-Japan Agreement, on new members of Euratom, and on general considerations.

In the context of successfully concluding the negotiations the United States exercised maximum flexibility within its statutory requirements that led to compromises on a few issues that are not found in other post-NNPA agreements. We view this result as wholly justifiable under the circumstances, but consider the outcome on these issues as unique to the proposed Agreement with Euratom and that the manner in which they were resolved should not necessarily be considered a precedent for negotiating any other new post-NNPA agreement for cooperation.

A. Expanded Consent Rights and Guarantees in the Agreement

Section 404 of the Nuclear Non-Proliferation Act of 1978 (NNPA) calls on the President to seek to renegotiate pre-NNPA agreements for cooperation to obtain the added requirements for cooperation mandated for new agreements by the NNPA. The proposed Agreement meets that objective and contains all the requirements for agreements for cooperation mandated by the Atomic Energy Act of 1954, as amended by the NNPA. These provisions are especially important because they significantly expand consent rights and guarantees beyond those in the existing U.S.-Euratom agreement, particularly on weapons-usable material subject to the agreement. Moreover, the existing agreement will expire by its terms on December 31 of this

year and the entry-into-force of the new agreement will ensure a continuation of the long-standing U.S.-Euratom civil nuclear relationship.

The entry-into-force of the proposed Agreement will also result in the termination of existing bilateral U.S. agreements for cooperation with Euratom's five newest members -- Spain, Portugal, Austria, Finland, and Sweden. At such time, all cooperation with these countries requiring a Section 123 agreement will take place under the new U.S.-Euratom agreement. In the case of Finland and Sweden, however, this will not result in an expansion of consent rights and guarantees since both countries concluded post-NNPA agreements with the United States several years prior to joining Euratom.

The Administration has stated that it is important to ensure that highly enriched uranium and plutonium are subject to the highest standards of safety, security, and international accountability. The entry-into-force of this agreement would promote such standards and help to expand cooperation between the United States and key European allies in this important area. This cooperation is particularly important given the advanced nature of the civil nuclear programs in Western Europe, including extensive reprocessing and plutonium use activities.

The specific provisions of the proposed Agreement which create expanded consent rights or guarantees are:

(1) Storage of Special Nuclear Material

Article 8.3 specifies the conditions under which the storage of plutonium, uranium-233, and highly enriched uranium subject to the proposed Agreement may take place. The expiring agreement contains no such consent right.

(2) Reprocessing

Article 8.2(A) and paragraphs 6-8 of the Agreed Minute specify the conditions under which the reprocessing of nuclear material subject to the proposed Agreement may take place. The expiring agreement contains no such consent right.

(3) Alteration

Article 8.2(B) and paragraphs 6-8 of the Agreed Minute specify when the alteration in form or content of plutonium, uranium-233, high enriched uranium, and irradiated nuclear material subject to the proposed Agreement may take place. The expiring agreement contains no such consent right.

(4) Enrichment

Article 8.1(A) specifies that enrichment of uranium subject to the proposed Agreement to an isotopic level that exceeds 20% in the isotope 235 and re-enrichment of such uranium already enriched to more than 20% may occur only subject to conditions that are agreed upon in writing by the parties. The expiring agreement contains no such consent right.

(5) Suspension of Cooperation/Right of Return

Article 13 specifies the conditions under which either party may exercise its right to terminate or suspend cooperation under the proposed Agreement and/or to require the return of items subject to the agreement. The expiring agreement contains no such rights.

(6) Clarification of Existing Terms of Cooperation

Finally, as required by Section 123, there are additional terms of cooperation specified in the agreement which represent an updating and clarification of standards which already apply to U.S.-Euratom nuclear cooperation. Among these provisions are full-scope IAEA safeguards as a condition of nuclear supply to non-nuclear-weapon states in Euratom, a peaceful use assurance, retransfer controls, and a requirement for adequate measures of physical protection for items subject to the agreement. In addition, Article 14 specifies that certain consent rights and guarantees continue in effect regardless of a termination or suspension of the agreement for any reason.

B. Advance Long-Term Consent to Plutonium Use and Reprocessing

Euratom was very reluctant to negotiate a new agreement which would include the additional consent rights and guarantees added to Section 123 of the Atomic Energy Act by the NNPA of 1978, which required the U.S. to renegotiate pre-NNPA agreements to include these strictures. Many countries in Euratom believed that as an equal partner to the United States in nuclear matters and a strong proponent of nonproliferation, Euratom should not have to accept these additional controls. This reluctance also reflected uncertainties concerning how the United States would exercise such new controls, especially in light of the tensions that have characterized U.S.-Euratom nuclear relations since the NNPA was enacted in 1978 (see Part I of the NPAS). Moreover, the Administration had made clear that it would not encourage reprocessing and the civil use of plutonium -- while it is the view of key Euratom member-states that reprocessing is needed to dispose effectively of spent power reactor fuel and/or to acquire plutonium for future use as reactor fuel. To support such fuel cycle planning, private and governmental organizations in Euratom have made substantial investments in facilities for reprocessing of spent fuel and for fabricating fuel containing plutonium. These elements combined to form a difficult environment in which to complete negotiations on a new agreement.

To address these concerns, the Administration stated in 1993 that the United States would maintain its existing commitments to the use of plutonium in Western Europe and Japan, while nevertheless expressing doubt about the economics and proliferation risks of reprocessing. Moreover, the Administration reaffirmed the offer already on the table to provide Euratom, under certain conditions, with advance, long-term consent for the reprocessing of U.S.-controlled nuclear material and the related use of recovered plutonium within a new or amended agreement for cooperation that included all the requirements of the Atomic Energy Act. This offer helped to overcome Euratom opposition to accepting strengthened U.S. controls and created part of the incentive to undertake and conclude negotiations on a new agreement. At the same time, U.S. readiness to provide advance consent to reprocessing and other fuel cycle activities in Euratom rested on an assessment that such an approach would best serve our nonproliferation interests.

Over the next 10-20 years, more than 500 tons of plutonium are planned to be separated from spent power reactor fuel in Europe and Japan for use in civil nuclear energy programs. Of this amount, approximately half will be subject to U.S. controls. If the United States is to confront and minimize the potential risks of widespread plutonium use, we need to work cooperatively with the member-states of Euratom. In that way, we can seek to ensure that the strongest possible safeguards and physical protection measures would apply to reprocessing and subsequent plutonium use.

The alternative of abandoning the advance consent approach and of using case-by-case consent right approvals as a means to discourage reprocessing and plutonium use in Euratom would only lead to confrontation and to serious bilateral tensions and disputes, which would jeopardize cooperation not only in nonproliferation matters, but also in other areas of U.S. relations with the countries of Euratom. Such an approach would have little effect on the domestic energy plans of European countries. Moreover, we would have failed to obtain any new agreement and foregone the opportunity to obtain consent rights on reprocessing and plutonium use in Euratom countries over U.S.-controlled nuclear material. Indeed, it was not even clear until the last minute whether Euratom member-states would accept an agreement that met all the requirements of Section 123 of the Atomic Energy Act -- even one with an advance long-term consent arrangement.

The two previous Administrations had taken a similar approach and had concluded new U.S. agreements for cooperation with Finland, Norway, and Sweden which include long-term consent for the transfer of spent fuel to the United Kingdom and France for reprocessing. In 1988, a new agreement with Japan entered into force which provided long-term consent to reprocessing and plutonium use in Japan of nuclear material subject to the agreement. All of these agreements were submitted to Congress for review and are in force. Implementation has proceeded smoothly, and there has been a strengthening of safeguards and physical protection measures on plutonium due in part to the operation of these agreements, particularly with Japan.

Among the key consent rights in the proposed Agreement are those in Article 8.2 which relate to facilities for reprocessing, for converting weapons-usable material, and for fabricating fuel containing such material. These facilities are listed in Annex A of the proposed Agreement. Paragraph 8 of the Agreed Minute makes clear that the consent rights authorized in Article 8.2 may not continue if there is a serious threat to the security of the United States or a significant increase of the risk of nuclear proliferation. These are the statutory standards applicable under U.S. law.

Paragraph 8 of the Agreed Minute also lists actions by Euratom or a member-state of Euratom that could trigger such a suspension. However, the list is illustrative only; and ACDA believes the suspension right with regard to reprocessing and alteration in form or content is clear and unequivocal.

If the long-term consent is suspended, the Party against whom the suspension is invoked has two alternatives with regard to "old" nuclear material (i.e., the nuclear material subject to existing agreements, all of which will be folded into the new agreement when it enters into force). That party may decide to continue to apply all the provisions of the new agreement to this old material, or it may apply only those provisions of the new agreement that are comparable to the assurances that applied to this old nuclear material when it was subject to the existing agreement. (The 1988 U.S.-Japan agreement has a similar provision.) For example, if there were a suspension of the advance consent arrangement, Euratom could opt for the second alternative in which case the old material that had been subject to the existing U.S.- Euratom agreement would be subject only to peaceful use guarantees, safeguards, and retransfer rights (which are the assurances that apply to this material under the existing U.S.- Euratom agreement).

It is notable that the Agreed Minute stipulates that any decision by the United States to suspend the long-term arrangement would apply to <u>all</u> reprocessing and alteration activities in Euratom. Thus, for example, if a serious internal disturbance severely threatened the physical security at a MOX fabrication facility in Euratom and led to a decision by the United States to suspend the long-term consent granted in Article 8.2 -- this decision would also immediately suspend the approval in effect for all MOX fabrication and reprocessing plants in Euratom, even those located in other countries. This comprehensive approach to the application of any decision to suspend was included at the request of Euratom.

The proposed Agreement should serve to further strengthen cooperation with key European states on ensuring maximum transparency and security of civil plutonium stockpiles. However, we must continue to pursue vigorously other U.S. initiatives such as the ongoing multilateral consultations aimed at establishing voluntary guidelines to <u>inter alia</u> limit and ultimately reduce these stockpiles.

C. Storage Consent Right -- Article 8.3

The long-term consent for storage of weapons-usable material is handled differently in the proposed Agreement than the long-term consents for reprocessing and alteration in form or content. This outcome was due in part to the different nature of these fuel cycle activities. Each Party will list its facilities that are subject to the storage consent right. If the physical security standards required in the proposed Agreement are not being met at a particular facility, there may be immediate consultations for the purpose of determining the necessary corrective measures. And the nuclear material in question must be transferred to another facility for storage if it proves not feasible to correct the problem immediately.

Among the facilities subject to Article 8.3 are reactors that are being fueled with highly enriched uranium or plutonium, but not other reactors. Fresh fuel is often stored for months at a reactor site awaiting the refueling operation. During such time, highly enriched uranium or plutonium subject to the proposed Agreement must be subject to the storage consent right. Similarly, Article 8.3 will also apply to locations associated with reprocessing, conversion and fabrication facilities where highly enriched uranium or plutonium is being stored in connection with such operations.

The storage consent right was one of the most difficult issues in the negotiations. Euratom insisted that the act of storing nuclear material was different from reprocessing and alteration, and should not be subject to the same conditions as these fuel cycle activities. While neither party is given the explicit right to mandate corrective actions by the other party, the proposed Agreement clearly obligates Euratom to consult if the United States determines that the levels of physical protection at a storage site no longer meet the minimum standards. Moreover, the United States can insist that either the nuclear material be moved or corrective measures be taken immediately.

The U.S. right to suspend the storage consent is not explicitly defined in the proposed Agreement as it is for reprocessing and alteration in form or content. However, the provisions of Article 8.3, as well as the rights accorded to the parties elsewhere in the agreement, provide a sufficient basis for the United States to require actions necessary to address any serious threat related to implementation of this consent right.

D. Safeguards Considerations

All nuclear activities in the non-nuclear-weapon states of Euratom are safeguarded pursuant to the IAEA-Euratom NPT safeguards agreement which entered into force in 1977. The member-states of Euratom have been strong supporters of IAEA safeguards and have closely cooperated with the IAEA in developing methods for applying safeguards to large bulk-handling facilities containing separated plutonium such as reprocessing, fuel fabrication and conversion

facilities. Euratom and the IAEA have worked closely over the years to ensure the most effective and efficient application of safeguards.

It should be noted that the proposed Agreement is unique in that the cooperation provided thereunder will take place both in non-nuclear-weapon states and in France and the UK -- the two nuclear-weapon states in Euratom. Neither U.S. law nor the NPT requires that U.S. nuclear cooperation with other nuclear-weapon states be subject to IAEA safeguards. Nonetheless, France and the U.K. (and the U.S.) accepted language in the proposed Agreement that refers to the application of safeguards as set forth in the voluntary agreements which each country has in force with the IAEA. Euratom safeguards apply to all civil nuclear activities in Euratom, including in France and the United Kingdom, and will provide an added measure of assurance that nuclear material subject to the agreement is being used only for peaceful purposes.

In Article 8.2 of the agreement the United States provides its advance long-term consent to reprocessing and alteration in form or content at facilities specified in the nuclear program delineated by Euratom in Annex A. In the case of existing facilities to which approval for reprocessing and plutonium use is given, the United States is able to make an informed judgment that the safeguards on these facilities are adequate. This judgment is based on technical information acquired through close consultation with Euratom officials involved in safeguards application, as well as general knowledge of IAEA safeguards practices, procedures, and criteria. The United States and Euratom have engaged in semi-annual safeguards consultations for many years. These exchanges have allowed the United States to acquire much information about the operation of IAEA safeguards in Euratom and to have complete confidence in the ability of the IAEA to take independent measurements and otherwise evaluate nuclear material subject to Euratom safeguards.

For future reprocessing and plutonium conversion and fabrication facilities that will become subject to the advance long-term consent provisions, the United States is able to make now a reasonable judgment that the safeguards to be applied at such facilities will be adequate. This judgment is based on the notification that Euratom will provide to the United States at the time the facility is to be added to the delineated program in Annex A. The notification will state that safeguards arrangements agreed between IAEA and Euratom will permit the IAEA to exercise fully its rights so as to enable the IAEA to meet its objectives and inspection goal for that facility. This notification will be supplemented with non-confidential information on the IAEA and Euratom safeguards approach relevant to the facility in question. The two sides have also agreed that future changes in the delineated program set forth in Annex A shall be the subject of prior consultations, which may include discussions on safeguards.

This approach differs slightly from that taken in the 1988 U.S.-Japan agreement where safeguards concepts had to be agreed between the United States and Japan in connection with the addition to the delineated program of a new facility for which there was no comparable facility already subject to IAEA safeguards. The requirement for agreed safeguards concepts is not in

the proposed Agreement due largely to the fact that since 1988 the IAEA has adopted criteria for the achievement of inspection goals that are periodically updated and which can be used as dynamic standards for the application of IAEA safeguards to new facilities. By requiring the notification of new facilities to make clear that IAEA-Euratom arrangements will enable the IAEA to meet its inspection goal for a new facility, we are assured that these criteria will be satisfied and that our need for precise standards for safeguards on future facilities is being met.

The United States also has sufficient information about the IAEA safeguards approach being used at storage locations for weapons-usable nuclear material to be able to make the necessary judgment about the adequacy of safeguards. Moreover, we would not expect any future storage sites listed pursuant to Article 8.3 to require any significant departure in safeguards approaches.

We have confidence in this approach for the application of IAEA safeguards to existing and future facilities relevant to Article 8, paragraphs 2 and 3. The 1992 safeguards partnership arrangement between IAEA and Euratom will allow for the adoption of technical and other improvements to IAEA safeguards in Euratom as they become available. Moreover, this arrangement allows for changes in the application of safeguards as the IAEA refines and strengthens its criteria for assessing whether its goals have been attained. The joint U.S.-European Union nonproliferation policy declaration to be issued when the proposed Agreement is signed will reinforce Euratom's continuing commitment to work with the IAEA and to take such measures as are necessary to afford the IAEA full opportunity to attain its inspection goals.

In addition to our information about safeguards on weapons-usable nuclear material, we have considerable familiarity with the type of IAEA safeguards applied to natural and low enriched uranium. That knowledge combined with the high quality of Euratom safeguards and the strong commitment of Euratom member-states to nonproliferation lead to a very high degree of confidence about the adequacy of IAEA safeguards under the proposed Agreement to ensure that any assistance provided thereunder is not used for military or nuclear explosive purposes.

E. Retroactivity

Section 404 (a) of the NNPA requires the President "vigorously" to seek the application of the provisions of any new agreement concluded pursuant to Section 123 of the Atomic Energy to equipment and nuclear material previously transferred under an agreement for cooperation. In all agreements for cooperation concluded since the NNPA, the United States has achieved that objective, i.e., the new agreements were fully retroactive to previous exports of equipment and nuclear material. The agreement with Japan included a slight exception in that if the long-term consent arrangement was suspended, the items that had been subject to the previous agreement would revert to the controls of the previous agreement (a similar provision is included in the proposed Agreement). However, the new agreement with Euratom does not include the same degree of retroactivity contained in the U.S.-Japan agreement.

Euratom did agree to apply the controls of the new agreement to all nuclear material that had been previously transferred. This amounts to a sizable quantity that will henceforth be subject to the full range of controls. However, Euratom did object to folding in U.S. equipment (i.e., reactors) that had been previously exported. The proposed Agreement covers old reactors only to the extent they have already been covered under agreements pre-dating this agreement.

The impact of this provision varies depending on the nature of the existing agreements. For example, post-NNPA agreements have been concluded with Sweden and Finland and thus any U.S.-supplied reactors subject to those agreements already carry the full range of controls. And they will continue to carry the full range of controls under the new agreement with Euratom, including when using non-U.S. fuel. (In negotiating new agreements for cooperation, the NNPA prohibits giving up any rights contained in existing agreements.) However, the old agreements with Euratom, Spain, Portugal, and Austria are pre-NNPA agreements that do not have the full range of controls on reactors, and thus only certain provisions of the new agreement will apply to previously-supplied reactors (i.e., peaceful use assurances, safeguards, and retransfer controls). We estimate that of the approximately 150 power reactors in Euratom, no more than 15-20 came from the United States and many of them are either using U.S. fuel or already carry the full range of controls (e.g., in Sweden).

F. Perpetuity

By far the most difficult issue was Euratom's reluctance to accept the perpetuity of consent rights notwithstanding the termination or suspension of the agreement for any reason. This provision is included in all post-NNPA agreements for cooperation and is an important element of U.S. civil nuclear cooperation with other nations. Moreover, Euratom had accepted the principle in agreements concluded over a decade ago with Australia and Canada. However, the deep suspicion within Euratom member-states of U.S. policies toward the exercise of consent rights related to reprocessing and the use of plutonium created strong opposition to an acceptance of such U.S. consent rights in perpetuity.

The final outcome in the proposed Agreement requires in all cases perpetuity for peaceful use assurances, safeguards, physical protection assurances, and retransfer consent. The parties will consult about the continued application of the other provisions (e.g. reprocessing consent) in the unlikely event there is a notice of suspension or termination of the agreement under Article 13.1. If the parties cannot reach agreement: first, the nuclear material and equipment that had been subject to the old agreements (i.e. at the time the new U.S.-Euratom agreement entered-into-force) remains subject to the new agreement to the extent of the controls that had existed in the old agreements (e.g., the agreements with Euratom, Sweden, Spain, etc.). And second, the question about perpetuity on the remaining nuclear material and equipment for purposes of consent rights other than retransfer is put before an Arbitral Tribunal established pursuant to Article 12.3. Until this Tribunal reaches a decision or the parties reach a mutually acceptable arrangement, the agreement for cooperation is not terminated and thus this nuclear material and

equipment would remain subject to all controls. If the Tribunal decides against perpetuity of any of the provisions in question, the United States would have the right to require the return to the United States of this nuclear material and equipment.

We believe this compromise solution fully serves U.S. interests. There is no legal requirement for the United States to obtain perpetuity for consent rights such as reprocessing and alteration in form or content. The only legal requirement is for perpetuity of safeguards, which the proposed Agreement does provide for. Further, we believe there is only a very remote chance that this provision would ever be implemented -- at least not during the 30 years stipulated as the minimum duration of the proposed Agreement. And even if the worst case happened, e.g., the agreement is suspended or terminated by Euratom, the decision of the Arbitral Tribunal goes against the United States, and the United States is not in a position to require the return of irradiated fuel -- Euratom would then be free to reprocess certain spent fuel without U.S. consent, which is the situation under the existing U.S.-Euratom agreement. However, the nuclear material in question would remain subject to safeguards, peaceful use assurances, physical security measures, and retransfer consent rights -- provisions that would allow the United States more than adequate assurance that the continued operation of the agreement is not inimical to the common defense and security.

G. Reliability of Supply Issues

The United States believes the proposed Agreement establishes an excellent framework for a long-term, stable nuclear supply relationship with Euratom. Absent any significant change in circumstances, we would not anticipate the need for any changes that would adversely affect cooperation under the proposed Agreement. However, given the difficulties in U.S.-Euratom cooperation mentioned earlier in the NPAS, Euratom wanted the text of the proposed Agreement to emphasize the importance of reliability of supply and the need to avoid subsequent changes that would disrupt that supply or otherwise hamper the civil nuclear program of either party. Such provisions appear several places in the text of the proposed Agreement and in accompanying documents. The substance of these provisions is not unique to the proposed Agreement; they have appeared in all U.S. agreements for cooperation concluded since NNPA enactment. There are, however, two features of this type in the proposed Agreement that are unique and worth a brief mention.

First, the proposed Agreement does not contain the standard provision that all cooperation thereunder is subject to applicable treaties, laws, regulations, and license requirements in force in the respective parties. This provision was strongly opposed by Euratom as it highlighted the fact that the United States could unilaterally alter the terms of cooperation established in the proposed Agreement. Euratom understood that such changes could in fact be made, but questioned why it was necessary to include this provision in the agreement in view of the still-lingering resentment in some Euratom member-states over the impact of the 1978 NNPA on US-Euratom nuclear cooperation.

Second, in Article 13 there is a provision which accords either party the right to cease further cooperation under the agreement or to suspend or terminate the agreement, in whole or in part, if the other party materially violates the agreement "including prevention of nuclear trade envisaged under the Agreement." Euratom wanted to make explicit its right to terminate the agreement in the event the United States had taken unilateral action to impose new conditions (i.e., not contained in the proposed Agreement) which Euratom was unwilling to accept, thus "preventing" nuclear trade.

The United States and Euratom ultimately reached agreement on both issues in the context of compromises made in the final stages of negotiations. This outcome in no way alters the rights and obligations which either party already has under the proposed Agreement. The language of the agreement does not legally obligate either party to provide nuclear services or supply; the proposed Agreement sets forth a legal framework under which such cooperation may take place pursuant to regulatory and licensing requirements established by each party. Moreover, the new language in Article 13 does not add to the right which either party already has to charge the other party with a breach of the agreement. Such disputes occur occasionally among parties to international agreements and they are adjudicated according to the terms of the agreement and generally accepted international practice. Given the long history of cooperation between the United States and Euratom, we find it difficult to conceive of a scenario where a dispute would lead to termination or suspension of the agreement.

H. U.S.-Japan Agreement

In connection with the conclusion of the U.S.-Japan agreement in 1987, the United States stated in writing that it would make "best efforts" to provide Japan "similar treatment" should any future agreement accord another U.S. nuclear partner certain advantages which Japan did not get. In the first instance, Euratom obtained no advantages since the proposed Agreement is identical to the 1987 agreement with Japan in terms of meeting all the requirements of Section 123 of the Atomic Energy Act.

The second question is whether the United States agreed to implement the provisions of Section 123 in the proposed Agreement in a manner that accords "significantly greater, practical advantages" to Euratom. The primary differences in implementation of the proposed Agreement relate to the provisions on retroactivity, the storage consent right, the perpetuity of certain consent rights, and the procedures for ensuring that the IAEA will apply effective safeguards on facilities added to the delineated program. However, the practical consequences of their implementation, as described earlier in Part III, would not appear to offer any significant advantages to Euratom in terms of the day-to-day operation of the agreement.

I. New Members of Euratom

It is a fair question to ask how we can assess the risks of this 30 year agreement while not knowing the possible future composition of Euratom. New members of Euratom would be eligible to cooperate with the United States under this agreement, including the long-term consent arrangement. Countries mentioned as most likely new members in future years include Hungary, Poland, Czech Republic, and Slovakia. These countries have good nonproliferation commitments, bilateral agreements for cooperation with the United States, and we note there is little chance that they would acquire in the foreseeable future a reprocessing, conversion, or fabrication facility subject to the advance consent arrangement. Nonetheless, there is no way to be certain with regard to such factors and we must have confidence that the provisions of the agreement are sufficient to protect U.S. interests regardless of what countries may join Euratom.

Our judgement that the agreement would provide reasonable assurance against diversion and meet other U.S. legal requirements is based, in part, on an expectation that the European Union would ensure that any new members to Euratom possess an unquestioned commitment to nonproliferation. Moreover, we believe that the additional standards and controls that would be applied by Euratom would further contribute to a minimal diversion risk in new members. The United States, of course, retains the right to withdraw its consent under the terms of the proposed Agreement if it determines that continuation of the consent arrangements at the facilities noted above would result in a significant increase of the risk of proliferation or otherwise jeopardize U.S. security.

J. General Considerations

When assessing nonproliferation factors in connection with a civil nuclear cooperation agreement, it is appropriate to consider the overall nonproliferation credentials of the U.S. cooperating partner. These were reviewed in Part I of this NPAS. The members of Euratom are all parties to the NPT, to the Physical Protection Convention, and are members of the IAEA, the Nuclear Suppliers Group and the Zangger (NPT Exporters) Committee.

All the non-nuclear-weapon states of Euratom accept full-scope IAEA safeguards pursuant to the NPT, and the United Kingdom and France have each voluntarily concluded agreements with Euratom and the IAEA that permit the application of IAEA safeguards on selected facilities. In addition, Euratom safeguards apply another important level of protection against the diversion of nuclear material from civil to military purposes.

Most of the 13 non-nuclear-weapon states in Euratom could develop the technical and industrial capability for nuclear weapons if they so chose. And some of these states have sufficient quantities of plutonium or highly enriched uranium that could be diverted for that purpose. However, this group of states decided many years ago that their security was better protected through adherence to the NPT as non-nuclear-weapon states. Moreover, 9 of these 13 states are members of NATO and thus have an additional basis for concluding their security

concerns can be met without recourse to nuclear weapons. The other four are neutral states (Ireland, Sweden, Austria, and Finland) firmly committed to the NPT.

With the dissolution of the Soviet Union and the democratization of Eastern Europe, the principal security threat to the members of Euratom has disappeared. While there continues to be substantial instability in the Balkans, it is difficult to envisage a likely scenario that could lead any Euratom member-states to reassess their commitment to the NPT. Given the continued strength of NATO and the long and principled stand of these countries in support of nuclear nonproliferation norms, ACDA believes there is no foreseeable risk that the non-nuclear-weapon states of Euratom would acquire nuclear weapons.

IV. CONCLUSION

ACDA believes that the proposed Agreement promotes U.S. nuclear nonproliferation interests and cites the following reasons:.

First, the proposed Agreement (30 years duration) establishes a predictable and long-term framework for a continuation of civil nuclear commerce between the United States and Euratom. We expect the success of the negotiations and entry-into-force of the proposed Agreement will contribute to a continuation of the close and mutually beneficial cooperation with these countries on critical nuclear nonproliferation goals.

Second, the proposed Agreement meets all the requirements of the Atomic Energy Act, as amended, and thus includes the best possible safeguards and controls to ensure against any possible misuse of U.S. supply under the agreement.

Third, while granting long-term consent in the proposed Agreement to certain fuel cycle operations, notably the reprocessing of spent fuel, U.S. nuclear nonproliferation and other national security interests are protected through the provision for suspension of the consent rights for reprocessing and for alteration in form or content of highly enriched uranium and plutonium.

Fourth, the proposed Agreement will expand U.S. controls significantly over nuclear material in Euratom subject to the existing agreement, and in particular will help to maintain the highest possible standards for the safety and security of highly enriched uranium and plutonium.

Fifth, the nuclear nonproliferation commitments of Euratom member-states, the long-term stability of their political systems, their long association with the United States including 11 of the 15 in the NATO alliance, and the added guarantee of the Euratom safeguards system, all combine to offer a very high degree of confidence in the reliability of the peaceful use assurances offered by Euratom in the proposed Agreement. Moreover, we have confidence that existing Euratom members will ensure that any new members share the same degree of commitment to nuclear nonproliferation norms and practices.

Sixth, the proposed Agreement is compatible with the U.S. obligation under Article IV of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) to engage in civil nuclear cooperation with other NPT parties in a manner that furthers the objectives of the Treaty. It

should be noted that all Euratom member-states are NPT parties and strongly supported the indefinite and unconditional extension of the NPT, which was realized on May 11, 1995.

Seventh, in the context of successfully concluding negotiations the United States exercised maximum flexibility within its statutory requirements which led to compromises on a few issues that are not found in any other agreements for cooperation concluded after enactment of the 1978 Nuclear Non-Proliferation Act. We view this result as wholly justifiable under the circumstances, but believe that the manner in which these issues were resolved should not be considered a precedent for negotiating any other new agreements for cooperation.

The proposed Agreement should serve to strengthen cooperation with key European states on ensuring maximum transparency and security of civil plutonium stockpiles. Recognizing the proliferation and security risks associated with stockpiles of separated plutonium, it is important that the United States and relevant Euratom member-states continue to pursue and invigorate consultations aimed at establishing voluntary guidelines to inter alia limit and ultimately reduce these stockpiles.

Thus, on the basis of the analysis in this assessment statement and all pertinent information of which the Agency is aware, the United States Arms Control and Disarmament Agency has arrived at the following assessment, conclusions, views, and recommendations:

1. The safeguards and other control mechanisms and the peaceful use assurances contained in the proposed Agreement are adequate to ensure that any assistance furnished thereunder will not be used to further any military or nuclear explosive purpose.

2. The proposed Agreement meets all the legal requirements of the Atomic Energy Act and the NNPA.

3. Execution of the proposed Agreement would be compatible with the nonproliferation program, policy, and objectives of the United States.

4. It is recommended that the President determine that the performance of the proposed Agreement will promote, and will not constitute an unreasonable risk to, the common defense and security; and that the President approve and authorize the execution of the proposed Agreement.

S/S # 9517809 7117

THE SECRETARY OF STATE

WASHINGTON

September 22, 1995

MEMORANDUM FOR: THE PRESIDENT

FROM: Warren Christopher
Hazel R. O'Leary

SUBJECT: Proposed Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between the United States of America and the European Atomic Energy Community (EURATOM)

This memorandum recommends that you make certain statutory determinations regarding a proposed new agreement for peaceful nuclear cooperation between the United States and the European Atomic Energy Community (EURATOM), that you approve the proposed agreement, and that you authorize its signature and transmittal to the Congress. Section 123 of the Atomic Energy Act of 1954, as amended, specifically authorizes entry into an agreement for peaceful nuclear cooperation with a "group of nations." A key feature of the proposed agreement is a long-term framework for EURATOM fuel cycle activities, including reprocessing and plutonium use under stringent conditions and controls.

The text of the proposed agreement is at Attachment 3. A summary of its basic provisions is at Attachment 4.

Upon entry into force the agreement will replace an agreement with EURATOM dating from 1958 and an additional agreement with EURATOM that entered into force in 1960 and will expire on December 31, 1995. It will also replace existing U.S. bilateral agreements with Austria, Finland, Portugal, Spain and Sweden. The European Commission approved the agreement on May 10 and the Council approved it on August 3, thereby completing the approval process within the European Union.

In accordance with the provisions of section 123 of the Atomic Energy Act, the proposed agreement was negotiated by the Department of State, with the technical assistance and concurrence of the Department of Energy and in consultation

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All portions of this attachment are UNCLASSIFIED

with the Arms Control and Disarmament Agency (ACDA), whose views and recommendations are at Attachment 5. A Nuclear Proliferation Assessment Statement concerning the agreement is being submitted to you separately by the Director of ACDA. The views and recommendations of the members of the Nuclear Regulatory Commission are at Attachment 6.

Under the Atomic Energy Act the agreement may not be transmitted for Congressional review until you have determined that it will promote, and not constitute an unreasonable risk to, the common defense and security, and until you have approved it and authorized its execution. If you approve our recommendation that you take these actions, the agreement will be submitted for review to both houses of Congress, in accordance with sections 123(b) and (d) of the Act, where it must lie for 90 days of continuous session before it may be brought into force.

The new agreement will not reach Congress in time to complete the 90 continuous session days of review during 1995. During the interval between expiration of the present agreement December 31 and entry into force of the new agreement, it will not be legally possible to issue U.S. licenses for the export of nuclear material and equipment to EURATOM member states except those covered by bilateral agreements remaining in force. Nevertheless, accumulated days of continuous session may be carried over into 1996, and we expect the gap in agreement coverage to be short and manageable.

The Nuclear Non-Proliferation Act (NNPA) of 1978 contains specific requirements for new agreements for peaceful nuclear cooperation. In our judgment, the proposed agreement meets all the requirements set forth in the NNPA.

The purpose of the agreement is to provide an updated comprehensive framework for peaceful nuclear cooperation between the United States and EURATOM, to facilitate such cooperation, and to provide for strengthened controls reflecting our shared strong commitment to nuclear non-proliferation. The new agreement provides for the transfer of non-nuclear material, nuclear material, and equipment for both nuclear research and nuclear power purposes. It does not provide for transfers under the agreement of any sensitive nuclear technology (SNT). (The absence of a provision for transfers of SNT does not preclude them, however, as U.S. law permits SNT to be transferred outside the coverage of an agreement for cooperation provided that certain other conditions are satisfied.)

The proposed agreement has an initial term of 30 years, and will continue in force indefinitely thereafter in increments of five years each until terminated in accordance with its

provisions. In the event of termination, key non-proliferation conditions and controls, including guarantees of safeguards, peaceful use and adequate physical protection, and the right to approve retransfers to third parties, will remain effective with respect to transferred non-nuclear material, nuclear material, and equipment, as well as nuclear material produced through their use. Procedures are also established for determining the continuation of additional controls.

Article 8 of the agreement and relevant portions of the agreed minute (which constitutes an integral part of the agreement) provide to EURATOM advance, long-term approval for specified enrichment, retransfers, reprocessing, alteration in form or content, and storage of specified nuclear material, and for retransfers of non-nuclear material and equipment. The approval for reprocessing and alteration in form or content may be suspended if either activity ceases to meet the criteria set out in U.S. law, including criteria relating to safeguards and physical protection.

Advance, long-term approval is a central feature of the 1988 U.S.-Japan agreement, and is also found in U.S. bilateral agreements with Finland, Norway and Sweden. In the case of these earlier agreements, the Executive Branch argued successfully that advance, long-term approvals are legally permissible and may be given as part of the agreement itself. In each case, Congress permitted the agreement to be brought into force following a careful review.

The advance, long-term approvals have been given pursuant to your policy directive PDD/NSC-13. They reflect Administration policies aimed at improving the climate of cooperation with, and providing greater certainty for the civil nuclear programs of, countries and groups of countries with unquestioned nuclear non-proliferation credentials. All member states of EURATOM are party to the Non-Proliferation Treaty (NPT). The EURATOM member states and the European Union (EU) itself have long been among the strongest supporters of nuclear non-proliferation efforts worldwide. The proposed exchange of side letters on nuclear non-proliferation policies included with the text of the agreement at Attachment 3 sets forth in detail our shared non-proliferation views. The ACDA Nuclear Proliferation Assessment Statement also addresses this issue in greater detail.

The provisions of Article 8 of the agreement and the related provisions of the agreed minute do not constitute a subsequent arrangement under the Atomic Energy Act. In view, however, of the important commitments they entail, and in view of the fact that they would constitute a subsequent arrangement

under the Act if agreed separately from the agreement for cooperation, we have ensured that these provisions meet all requirements for subsequent arrangements under the Act. (An analysis of the approvals contained in Article 8 of the agreement and the related provisions of the agreed minute is at Attachment 7.)

Specifically, we have considered whether the reprocessing and related activities to which consent has been given on an advance, long-term basis will result in a significant increase of the risk of proliferation beyond that which exists at the time the approval is requested. We have concluded that this approval will not result in a significant increase of such risk. In making this judgment we have, in accordance with the standards embodied in section 131 (b) of the Act, given "foremost consideration to whether or not the reprocessing will take place under conditions that will ensure timely warning to the United States of any diversion well in advance of the time at which [a] non-nuclear weapon state could transform the diverted material into a nuclear explosive device."

In our opinion the proposed agreement meets all statutory requirements and will also serve United States non-proliferation, commercial and other foreign policy interests. Therefore, we recommend that you determine, pursuant to section 123 (b) of the Atomic Energy Act of 1954, as amended, that performance of the agreement will promote, and will not constitute an unreasonable risk to, the common defense and security, and that you approve the agreement and authorize its execution.

RECOMMENDATION

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

ATTACHMENTS

1. Draft Determination, Approval and Authorization
2. Draft Transmittal to the Congress
3. Proposed Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between the United States of America and the European Atomic Energy Community (EURATOM)
4. Summary of Basic Provisions of the Agreement
5. Views and Recommendations of the Director of the Arms Control and Disarmament Agency
6. Views of the Nuclear Regulatory Commission
7. Analysis of Consents and Approvals, and Determination by the Secretary of Energy

**SUMMARY OF BASIC PROVISIONS
OF THE
AGREEMENT FOR COOPERATION
IN THE PEACEFUL USES OF NUCLEAR ENERGY
BETWEEN THE UNITED STATES AND EURATOM**

Article 1 defines the scope of the intended cooperation, including supply between the Parties of non-nuclear material, nuclear material and equipment. Other areas of cooperation may include, but are not limited to, nuclear fission research and development; nuclear safety; industrial and commercial exchanges; nuclear safeguards and non-proliferation; and controlled thermonuclear fusion.

Article 2 provides an illustrative, but not exclusive, list of specific types of nuclear research and development activities, which may involve training, exchanges of personnel, meetings, exchanges of samples, materials and instruments for experiments, and participation in joint studies and projects. It permits information arising from such cooperation to be made publicly available if the Parties judge this to be appropriate, subject to guidelines for dissemination set forth in Annex B of the Agreement. This Article makes specific provision for cooperation in nuclear waste management and disposal and in areas of interaction between nuclear energy and the environment.

Article 3 contains an undertaking by the Parties, in conformity with Article IV of the NPT, to facilitate the fullest possible

exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy. It gives an illustrative, but not exhaustive, list of activities to be facilitated, including investments, joint ventures, trade, licensing arrangements, and cooperation on environmental matters.

Article 4 reiterates the undertaking of the Parties to facilitate nuclear trade, including, where appropriate, with third countries. It provides that export licenses, import licenses, and other authorizations shall not be used to restrict trade and shall be acted on expeditiously.

Article 5 provides for a notification and acknowledgement procedure to establish that transferred items are subject to the Agreement. It also provides that items subject to the Agreement will remain subject to it until specific criteria have been satisfied.

Article 6 provides that nuclear material transferred pursuant to the Agreement and special fissionable material used in or produced through the use of any non-nuclear material, nuclear material or equipment so transferred will be subject to specified safeguards agreements between EURATOM, its Member States and the IAEA on the one hand, and between the United States and the IAEA on the other hand, or to revisions or

replacements of these safeguards agreements so long as coverage as required by the NPT is provided for. The Article thus provides not only for safeguards for transferred items and special fissionable material used in or produced through such items, but also for full-scope IAEA safeguards in the non-nuclear weapon state Member States of EURATOM. The Article also provides for the application within EURATOM of EURATOM safeguards. The Article provides for fall-back safeguards in the event that the specified safeguards agreements are not being applied.

Article 7 requires that all cooperation under the Agreement be carried out for peaceful purposes, and that items subject to the Agreement not be used for any nuclear explosive device, for research on or development of any such device, or for any military purpose. (Paragraph 1 of the Agreed Minute confirms that provision of power to a military base from any power network and production of radioisotopes for use for medical purposes in a military hospital are "peaceful purposes.")

Article 8 deals with nuclear fuel cycle activities under the Agreement. Together with the relevant paragraphs of the Agreed Minute, it establishes certain consent rights on a reciprocal basis and gives approval for specified fuel cycle activities, including advance, long-term approval for certain activities

subject to specified conditions continuing to be met. This Article and, where relevant, associated portions of the Agreed Minute permit the following activities:

- Enrichment, up to twenty percent in the isotope 235, of uranium subject to the Agreement. (Enrichment above twenty percent, including further enrichment of high enriched uranium, would require further written agreement by the Parties on conditions.)

- Irradiation of plutonium, uranium-233, high enriched uranium (HEU) and irradiated nuclear material subject to the Agreement.

- Retransfer, except for the production of HEU, of non-sensitive items (low enriched uranium, non-nuclear material, equipment and source material) subject to the Agreement to third countries acceptable to the non-transferring Party. Also, retransfer of irradiated nuclear material and other nuclear material subject to the Agreement for specified purposes to third countries, acceptable to the non-transferring Party, that meet criteria more stringent than those required for the retransfer of non-sensitive items. (Paragraphs 2, 3 and 4 of the Agreed Minute establish criteria for preparing the

initial lists of eligible recipients and making additions and deletions. In addition, paragraph 5 of the Agreed Minute reaffirms, as a separate matter, the provisions of the U.S.-EU exchange of notes of 18 July 1988 approving retransfers of plutonium to Japan on an advance, long-term basis.)

- Post-irradiation examination of irradiated nuclear material subject to the Agreement.

- Conditioning, storage and final disposal of irradiated materials subject to the Agreement.

- Storage of plutonium, uranium-233 and high enriched uranium subject to the Agreement at designated facilities, notified by the storing Party to the non-storing Party by inclusion on a list, that meet, and continue to meet, specified criteria for physical protection.

This Article also permits, on an advance, long-term basis

- Reprocessing of nuclear material subject to the Agreement, and

- Alteration in form or content of plutonium, uranium-233 and high enriched uranium subject to the Agreement

in facilities forming part of the delineated peaceful nuclear programs of the respective Parties as described in Annex A of the Agreement subject to conditions set forth in the Agreed Minute. Paragraphs 6 and 7 of the Agreed Minute establish a notification and acknowledgement procedure for the addition by a Party of a facility to its delineated peaceful nuclear program, and specifies certain information that must accompany the notification, including certain confirmations regarding the safeguards arrangements and physical protection measures for the new facility. Paragraphs 8 through 13 of the Agreed Minute set forth conditions under which a Party may suspend its advance, long-term approval. Any suspension must be based on objective evidence that continuation of the activities in question would entail a serious threat to the security of a Party or EURATOM Member State or a significant increase in the risk of proliferation resulting from a situation at least as serious as would result from circumstances set forth on an illustrative list. Any decision on suspension must be made by the President of the United States or the Council of the European Union, respectively. Any suspension must be applied to the entirety of the affected Party's delineated peaceful nuclear program. The affected Party has the option of

requiring that a quantity of nuclear material equal to the amount that had previously been subject to predecessor agreements "revert" to the provisions of those earlier agreements during the period of suspension.

Article 9 calls for the Parties to establish procedures, including provisions for international exchanges of obligations, for bringing nuclear material under the coverage of the Agreement and removing it from coverage. The procedures are to be set out in the Administrative Arrangement provided for in Article 16.

Article 10 calls for the Agreement to be implemented in good faith, with due regard for legitimate commercial interests, and in a manner designed to avoid delaying or interfering with the other Party's nuclear activities. It provides further that the provisions of the Agreement will not be used to secure unfair commercial advantage, restrict trade, interfere with the nuclear policy or program of the other Party, or impede the free movement of nuclear items within the territory of EURATOM.

Article 11 provides that nuclear material subject to the Agreement shall be subject to adequate measures of physical protection satisfying criteria set forth in Annex C of IAEA document INFCIRC/254 (the Nuclear Supplier Guidelines), with additional reference to the IAEA recommendations on the

Physical Protection of Nuclear Material (INFCIRC/225). International transport of nuclear material subject to the Agreement will be subject to the provisions of the International Convention on the Physical Protection of Nuclear Material (INFCIRC/274).

Article 12 provides for consultations between the Parties at the request of either Party on any question arising out of the interpretation or application of the Agreement. It calls for establishment of a Joint Committee for this and other purposes. It also makes a general provision for non-compulsory arbitration of any dispute arising from the interpretation or application of the Agreement (see Article 14 for a sole instance where compulsory arbitration is provided for).

Article 13 permits either Party to cease further cooperation under the Agreement or suspend or terminate it, in whole or in part, in the event that the other Party materially violates its obligations under the Agreement. (Section E of the Agreed Minute contains provisions for determining if a material violation has occurred.) This Article further permits either Party to require the return, in whole or in part, of items subject to the Agreement if the other Party engages in certain proscribed activities. These activities include termination or abrogation of a safeguards agreement with the IAEA, detonation by a non-nuclear weapon state EURATOM Member State of a nuclear

explosive device, and detonation by the United States or a nuclear-weapon state EURATOM Member State of a nuclear explosive device using an item subject to the Agreement. This Article also sets forth requirements that must be satisfied before either Party invokes the remedies just described, including a requirement for compensating the Party against whom the right of return is invoked for the fair market value of the items to be removed and the costs of removal.

Article 14 provides that the Agreement will have an initial term of thirty years and will continue in force for additional periods of five years each unless a Party gives six months notice to terminate it at the end of the initial period or a subsequent five-year period. It provides that, notwithstanding the termination or suspension of the Agreement, rights and obligations relating to the Agreement's guarantees concerning safeguards, peaceful use and adequate physical protection, and the controls on retransfers beyond the boundaries of the Parties, will continue in effect. It requires consultations between the Parties to decide whether other rights and obligations, including those relating to enrichment, reprocessing, alteration in form or content and storage of sensitive nuclear materials should continue in effect. It further provides that, if the Parties are unable to reach a joint decision: (1) all rights and obligations that had arisen with respect to these activities as a result of cooperation

under predecessor agreements for cooperation, including the previous U.S.-EURATOM Agreement, will continue in effect, and (2) that the question of continuation of the remaining rights and obligations will be decided through compulsory arbitration. It provides, finally, that if the arbitral tribunal decides that the rights and obligations subject to arbitration do not continue in effect, either Party will have the right to require the return of the affected non-nuclear material, nuclear material, and equipment.

Article 15 commits the Parties to endeavor to avoid difficulties arising from overlapping obligations resulting from the Agreement's implementation in conjunction with similar agreements between a Party and third countries.

Article 16 provides that the principles of fungibility, equivalence and proportionality will apply to nuclear material subject to the Agreement. (Sections C and D of the Agreed Minute set forth provisions for the application of the principle of proportionality and for tracking the resulting obligations.) This Article also requires the Parties to establish an Administrative Arrangement to provide for effective implementation of the Agreement.

Article 17 contains provisions for the treatment of intellectual property created or transferred, and technology transferred, pursuant to the Agreement.

Article 18 makes explicit that the Annexes to the Agreement form an integral part of the Agreement. It is not meant to imply, and does not imply, that various lists of facilities or countries that the Parties have prepared for the purpose of implementing the Agreement are not an integral part of the Agreement.

Article 19 provides for the termination of the previous U.S.-EURATOM agreements for cooperation and of U.S. bilateral agreements for cooperation with Austria, Finland, Portugal, Spain and Sweden. It also provides that the rights and obligations arising out of a U.S. agreement for peaceful nuclear cooperation with a third state that may accede to the Community will be replaced by the rights and obligations of this Agreement.

Article 20 establishes that the provisions of the Agreement apply to the closing inventories of nuclear material formerly subject to each of the terminated agreements referred to in Article 19. It further establishes that the provisions of the Agreement apply to equipment and non-nuclear material transferred pursuant to each of the terminated agreements, but only to the extent covered by those agreements. The closing inventories must be acceptable to both Parties.

Article 21 contains definitions of terms for purposes of the Agreement.

UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY
Washington, D.C. 20451

THE DIRECTOR

SEP 8 1995

MEMORANDUM FOR THE PRESIDENT

SUBJECT: Views and Recommendations on the Proposed Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between the European Atomic Energy Community and the United States of America

As required by Section 123a. of the Atomic Energy Act, as amended, I am submitting to you my views and recommendation on the proposed Agreement for Cooperation in the Peaceful Uses of Nuclear Energy Between the European Atomic Energy Community (Euratom) and the United States of America. The Arms Control and Disarmament Agency participated in the development and negotiation of this agreement. The Nuclear Proliferation Assessment Statement required by the Act is being transmitted to you separately. I believe the proposed Agreement promotes the nonproliferation interests of the United States and cite the following reasons:

First, the proposed Agreement of thirty-years' duration establishes a predictable and long-term framework for a continuation of civil nuclear commerce between the United States and Euratom. We expect the success of the negotiations and entry-into-force of the proposed Agreement will contribute to a continuation of the close and beneficial cooperation with the Euratom member-states on critical nuclear nonproliferation goals.

Second, the proposed Agreement meets all the statutory requirements including, most particularly, the requirements of the Atomic Energy Act, as amended by the Nuclear Non-Proliferation Act of 1978, and thus includes the best possible safeguards and controls to ensure against any possible misuse of U.S. supply under the agreement. The Administration opposed consistent and high-level requests from European Union officials for a Presidential waiver that would have exempted the agreement from certain requirements of U.S. law, including U.S. consent over reprocessing.

Third, while granting long-term consent in the proposed Agreement to certain fuel cycle operations, notably the reprocessing of spent fuel, U.S. nuclear nonproliferation and other national security interests are protected through the provisions allowing suspension of the consent rights for reprocessing and other activities.

Fourth, the proposed Agreement will expand U.S. controls significantly over nuclear material in Euratom subject to the existing agreement, and in particular will help to maintain the highest possible standards for the safety and security of highly enriched uranium and plutonium.

Fifth, the nuclear nonproliferation commitments of Euratom member-states, the long-term stability of their political systems, their long association with the United States including 11 of the 15 in the NATO alliance, and the added guarantee of the Euratom safeguards system, all combine to offer a very high degree of confidence in the reliability of the peaceful use assurances offered by Euratom in the proposed Agreement. Moreover, we have confidence that existing Euratom members will ensure that any new members share the same degree of commitment to nuclear nonproliferation norms and practices.

Sixth, the proposed Agreement is compatible with the U.S. obligation under Article IV of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) to engage in civil nuclear cooperation with other NPT parties in a manner that furthers the objectives of that Treaty. All Euratom member-states are NPT parties and strongly supported the indefinite and unconditional extension of the NPT which was realized on May 11, 1995.

Seventh, in the context of successfully concluding the negotiations, the United States exercised maximum flexibility within its statutory requirements which led to compromises on a few issues that are not found in any other agreements for cooperation concluded after enactment of the 1978 Nuclear Non-Proliferation Act. We view this result as wholly justifiable under the circumstances, but believe that the manner in which these issues were resolved should not be considered a precedent for negotiating any other new agreements for cooperation.

The proposed Agreement should serve to further strengthen cooperation with key European states on ensuring maximum transparency and security of civil plutonium stockpiles. Recognizing the proliferation and security risks associated with stockpiles of separated plutonium, it is important that the United States and relevant Euratom member-states continue to pursue and invigorate consultations aimed at establishing voluntary guidelines to inter alia limit and ultimately reduce these stockpiles.

In conclusion, the entry into force of the proposed Agreement will serve important foreign policy and national security interests of the United States with particular emphasis on civil nuclear cooperation and nonproliferation matters. I recommend that you approve the proposed Agreement; that you determine that the performance of the proposed Agreement will promote, and will not constitute an unreasonable risk to, the common defense and security; and that you authorize the signature of the proposed Agreement.

John D. Holum

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

CHAIRMAN

August 18, 1995

The President
The White House
Washington, D.C. 20500

Dear Mr. President:

In accordance with the provisions of Section 123 of the Atomic Energy Act, as amended, the Nuclear Regulatory Commission has reviewed the proposed Agreement for Cooperation with the European Atomic Energy Community (EURATOM). It is the view of the Commission that the proposed Agreement includes all of the provisions required by law and, given the strong nonproliferation credentials of EURATOM and its member states as well as the advanced status of its commercial nuclear program, provides a sufficient framework for continued cooperation. The Commission therefore recommends that you make the requisite statutory determination, approve the Agreement, and authorize its execution.

Respectfully,

Shirley Ann Jackson

Shirley Ann Jackson

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The Secretary of Energy
Washington, DC 20585

September 8, 1995

DETERMINATION AND JUDGMENT UNDER SECTION 131 OF THE ATOMIC ENERGY ACT REGARDING THE ADVANCE CONSENT ARRANGEMENT IN THE AGREEMENT FOR COOPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY BETWEEN THE EUROPEAN ATOMIC ENERGY COMMUNITY AND THE UNITED STATES OF AMERICA

The advance consent arrangement contained in the agreement for cooperation would constitute a subsequent arrangement under section 131 of the Atomic Energy Act of 1954, as amended, if agreed to separately from the Agreement for Cooperation. It is the policy of the Executive Branch to evaluate an advance consent arrangement contained in an Agreement for Cooperation to ensure that it meets the substantive requirements of section 131. Based on my review of the Agreement for Cooperation and the "Analysis of Consents and Approvals Agreed Upon in the Proposed New Aggreement for Cooperation Between the European Atomic Energy Community and the Government of the United States of America Concerning the Peaceful Uses of Nuclear Energy" prepared by my staff, I make the determination and judgment set forth below.

As required by section 131(a), I hereby determine that approval of the advance consent arrangement will not be inimical to the common defense and security of the United States.

As required by section 131 (b), I hereby make thejudgment that 1) the advance consent regarding reprocessing and 2) reconfirmation of the consent to retransfer to Japan of plutonium recovered from the reprocessing of its nuclear material will not result in a significant increase in the risk of proliferation beyond that which now exists.

In reaching this judgment, I have given foremost consideration to whether or not these activities will take place under conditions that will ensure timely warning to the United States of any diversion well in advance of the time at which a non-nuclear weapon state could transform the diverted material into a nuclear explosive device.

I believe the determination and judgment are supported by many factors, including those demonstrating the commitment of the European Atomic Energy Community to the application of effective, comprehensive safeguards in the European Union not only by the International Atomic Energy Agency under the treaty on the Non-Proliferation of Nuclear Weapons, but also by the regional safeguards system

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established by the European Atomic Energy Community. The determination and judgment are also supported by the strong nonproliferation credentials of the European Atomic Energy Community and its member states, their adherence to the Treaty on the Non-Proliferation of Nuclear Weapons, their lack of incentives to acquire nuclear explosive devices, by the close technical and economic ties between member states, and by the intimate and important relationships that the United States has with the European Atomic Energy Community and each of its member states.

These factors indicate that approval of the advance consents regarding (1) reprocessing and (2) retransfers to Japan of plutonium recovered from the reprocessing of its spent fuel will not result in a significant increase in the risk of proliferation as contemplated in the Atomic Energy Act.

Hazel R. O'Leary

Hazel R. O'Leary

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ANALYSIS OF CONSENTS AND APPROVALS AGREED UPON IN THE PROPOSED NEW AGREEMENT FOR COOPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY BETWEEN THE EUROPEAN ATOMIC ENERGY COMMUNITY AND THE GOVERNMENT OF THE UNITED STATES OF AMERICA

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ANALYSIS OF CONSENTS AND APPROVALS AGREED UPON IN THE PROPOSED NEW AGREEMENT FOR COOPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY BETWEEN THE EUROPEAN ATOMIC ENERGY COMMUNITY AND THE GOVERNMENT OF THE UNITED STATES OF AMERICA

I. OVERVIEW

A. Background and Framework of Analysis

The Atomic Energy Act of 1954 (hereinafter "AEA"), as amended by the Nuclear Non-Proliferation Act of 1978 (hereinafter "NNPA"), requires that agreements for peaceful nuclear cooperation provide for U.S. "consent" before the other party engages in certain activities (e.g., retransfer of nuclear material subject to the agreement) and for U.S. "approval" before the other party engages in certain other activities (e.g., enrichment, reprocessing, or other alteration in form or content of nuclear material subject to the agreement). In the proposed Agreement for Cooperation with the European Atomic Energy Community (hereinafter "EURATOM") several of these consents and approvals are granted by the United States in advance on a long-term basis. This analysis reviews these consents and approvals in light of the applicable provisions of the AEA.

The primary focus of this analysis is on the following statutory requirements:

- Whether the Agreement as a whole will "promote, and not constitute an unreasonable risk to" the common defense and security of the United States (the criterion in AEA section 123.b.);
- Whether the inclusion in the Agreement of advance consents and approvals for certain activities can be determined to be "not inimical to the common defense and security" of the United States (the criterion of AEA section 131.a.); and
- Whether advance consent by the United States for (1) the reprocessing of spent fuel in designated plants in the two nuclear weapon Member States of EURATOM, and (2)

retransfers to Japan of plutonium recovered from the reprocessing of its nuclear material would result in a significant increase of the risk of proliferation (the criterion in AEA section 131.b.).

B. Major Features of the Agreement for Cooperation

The proposed Agreement for Cooperation with EURATOM accomplishes objectives important to both parties. From the U.S. point of view, it incorporates all of the nonproliferation conditions required by the AEA and provides a stable, predictable, and assured basis for nuclear commerce and cooperation with EURATOM. In particular, the new Agreement complies with the requirements in AEA section 123.a. for certain guarantees to be provided by the cooperating party.

From EURATOM's standpoint, the new Agreement allows its Member States to have continued access to U.S. equipment and material, as well as U.S.-obligated material[1] outside the United States, but subject to U.S. consent rights, while providing reasonable certainty that important civil nuclear activities of its Member States utilizing such equipment and material will be allowed to proceed on a stable and predictable basis. This predictability is achieved through the granting in the Agreement of long-term United States consents and approvals for certain activities, as reflected in Article 8. The major activities subject to these consents and approvals include:

- reprocessing of spent fuel subject to the Agreement at the French and British reprocessing plants listed by EURATOM in Annex A to the Agreement: COGEMA plants at La Hague and Marcoule, France, and the THORP plant at Sellafield and the AEA Technology plant at Dounreay, United Kingdom;
- enrichment up to 20% U-235 of uranium subject to the Agreement;

[1]U.S.-obligated material is material which has been transferred from the United States to another country pursuant to an agreement for cooperation in the peaceful uses of atomic energy or which has been used in or produced through the use of any material, equipment or facility so transferred.

- conversion of plutonium subject the Agreement and its use to fabricate mixed oxide (MOX) fuel at facilities designed by EURATOM in France, the United Kingdom, Belgium, and possibly Germany (in the event an operating license is issued for the Siemens plant at Hanau);
- irradiation of plutonium, U-233 and high enriched uranium, and irradiated nuclear material;
- storage of recovered plutonium, U-233 and HEU subject to the Agreement in facilities designated by EURATOM as meeting specified physical protection standards; and
- transfer outside EURATOM of low enriched uranium, spent reactor fuel and other materials subject to the Agreement for specified purposes, to countries designated by the United States.

The basic text of the Agreement is supplemented by an Agreed Minute, which constitutes an integral part of the Agreement. The Agreed Minute details and explicates the obligations and rights of the Parties to the Agreement under the various Articles. For example, EURATOM makes changes to the lists of facilities it has designated in Annex A, the Agreed Minute sets forth the procedures for notifying the United States along with the information required in the notification.

In certain specified circumstances, the United States may suspend its consent for reprocessing, conversion and fuel fabrication of plutonium, uranium 233 and high enriched uranium in those facilities listed by EURATOM in Annex A. The United States may suspend those consents and approvals "on the basis of objective evidence that their continuation would entail a serious threat" to the security of either EURATOM, any of its Member States or the United States or would result in "a significant increase in the risk of nuclear proliferation." The Agreed Minute lists the following circumstances as examples of situations sufficiently serious to justify suspension:

(i) a non-nuclear weapon Member State of EURATOM detonates a nuclear weapon or any other nuclear explosive device;

(ii) a nuclear weapon Member State of EURATOM detonates a nuclear weapon or any other nuclear explosive device using any item subject to this Agreement;

(iii) EURATOM or one of its Member States materially violates, terminates, or declares itself not bound by the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the relevant safeguards agreement with the IAEA, or the Nuclear Suppliers Guidelines (INFCIRC 254/Rev.1/Part 1.);

(iv) a Member State of EURATOM retransfers an item subject to the Agreement to a non-nuclear weapon state which has not concluded a full-scope safeguards agreement with the IAEA;

(v) a Member State of EURATOM is subjected to measures taken by the Board of Governors of the IAEA, pursuant to Article 19 of the relevant safeguards Agreement referred to in Article 6.1 (a), (b), or (c) of the subject Agreement;

(vi) acts of war or serious internal disturbances preventing the maintenance of law and order, or serious international tension constituting a threat of war, that threaten severely and directly the safeguarding or physical protection of the reprocessing and conversion or fuel fabrication activities.

C. Conclusions

This analysis concludes that granting the consents and approvals in Article 8 of the Agreement will further the interests of the United States in nonproliferation, international energy cooperation, and international trade, and will strengthen relations with allied and other friendly states in Europe. Specifically, it concludes that implementation of the Agreement on the basis of the advance consents and approvals set forth therein will not be inimical to the common defense and security, and will not result in a significant increase of the risk of proliferation beyond that now existing.

II. DESCRIPTION AND ANALYSIS OF PERTINENT FACTS AND PROVISIONS IN THE AGREEMENT

A. Background

Formal negotiations of a new U.S.-EURATOM Agreement for Cooperation began in 1992.[2] For the United States, the negotiations had two goals:

- to replace the existing Agreement for Cooperation (which was last amended in 1972 and expires on 31 December, 1995) with a new Agreement for Cooperation that would meet the nonproliferation criteria for such Agreements specified by AEA section 123; and
- to provide a stable, predictable and assured basis for nuclear cooperation with EURATOM.

Section 123.a. of the AEA requires that new agreements for cooperation in the peaceful uses of atomic energy provide for prior consent and approval by the United States before certain activities can be carried out involving material and equipment subject to the Agreement. U.S. consent or approval may be granted by a "subsequent arrangement", as provided for in section 131 of the AEA, in response to the request by the cooperating state or group of states for a proposed activity; or in an agreement for cooperation (as was the case in the U.S. Agreements for Cooperation with Japan, Finland, Sweden and Norway). In the Agreement with EURATOM, certain consents and approvals are provided in advance on a long-term basis. The implications of that feature of the Agreement are addressed in Section C below.

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[2]Although the current U.S.-EURATOM Agreement for Cooperation does not satisfy all of its conditions, the NNPA contains provisions that have permitted continued cooperation from its enactment in 1978 until the present. Section 126.a.(2) of the Atomic Energy Act as amended by the NNPA permitted cooperation for two years on the basis that EURATOM had entered into discussions on a revised Agreement. After that, the President under section 126.a.(2) has had to request an annual waiver of NNPA conditions. Consequently, in each year since 1980 continuation of the U.S.-EURATOM Agreement has depended on renewal of the presidential waiver, most recently signed by President Clinton in March 1994. Although use of the waiver has allowed cooperation to continue on the basis of the existing Agreement pending its renegotiation, this would no longer be possible once the current Agreement expires in December 1995.

France and the United Kingdom plan to reprocess spent nuclear fuel, to convert the separated plutonium and use it to fabricate reactor fuel. Belgium and possibly Germany also may convert plutonium and use it in fuel fabrication. The United States, for its part, does not engage in reprocessing for any purpose nor does it use separated plutonium in reactor fuel. Although the United States does not encourage the use of plutonium, it has made clear that it will maintain its existing commitments regarding the use of plutonium in civil nuclear programs in Western Europe and Japan. This includes good faith proposals for consent to reprocess and use plutonium that the United States had long had on the negotiating table with EURATOM at the time current policy was established. The United States is committed to being a reliable nuclear trading partner. The details of the advance consents and approvals in the Agreement represent a careful balancing of the respective policy objectives and legal requirements of the United States and EURATOM.

B. Overview of EURATOM

EURATOM is one of the component organizations of the European Union (hereinafter "EU") that is comprised of fifteen West European Member States.[3] EURATOM was established in 1958 by the Treaty of Rome. Its goals are to promote research and cooperation on the peaceful uses of nuclear energy, to create a nuclear common market among its members, and to establish regional safeguards against the diversion of nuclear materials from their declared purposes.

[3]EURATOM Member States include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

1. Nuclear Power and Other Fuel Cycle Activities[4]

A summary of the major nuclear program elements in EU Member States underscores the highly-developed and integrated civil nuclear infrastructure of the EU. Indeed, nuclear power accounts for about 35 percent of electrical production in the EU countries, making it the largest primary energy source for electricity.[5]

However, of the fifteen current EU Member States, six have not taken up the nuclear power option in practice. These six are Austria, Denmark, Greece, Ireland, Luxembourg and Portugal. In addition, Italy's power reactors have been shut down.

Belgium's seven pressurized water reactor (PWR) nuclear power plants have an installed capacity of 5834 Megawatts electric (MWe) gross, representing 58.9% of total electricity in 1993. In December 1993, the Belgian parliament passed a resolution approving continued performance of the current contract, signed in 1978, for foreign (i.e., French or British) reprocessing services and the use of plutonium arising from this contract in the form of mixed oxide (MOX) fuel in all of the country's seven PWRs. The MOX fuel fabrication plant at Dessel operated by Belgonucleaire has a capacity of 35 tonnes of heavy metal per year (tHM/y).[6]

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[4]Specific country program figures are quoted from World Nuclear Industry Handbook 1995, published by Nuclear Engineering International.

[5]Statistic from "Energy in the European Community" 1991.

[6]See *Nuclear Energy Data 1994*, Nuclear Energy Agency, Organization of Economic Cooperation and Development, p. 28.

Finland's four operable reactors, 2 PWRs and 2 boiling water reactors (BWRs), have an installed capacity of 2400 MWe gross, representing 29% of total electricity in 1993.

France's 56 operable units, including 52 PWRs, 2 fast breeder reactors (FBRs) and 2 gas-cooled reactors, have an installed capacity of 61,024 MWe gross, representing 78% of total electricity capacity in 1993. Six of the PWRs were operating with MOX fuel at the end of 1993. The fuel fabrication facility operated by COGEMA has a capacity of 15 tHM/y for light water reactor (LWR) MOX fuel.[7] The Melox fuel fabrication plant, currently under construction at Marcoule, has a planned capacity of 120 tHM/y for LWR MOX fuel. France has a reprocessing capacity of 2400 tHM/y. The capacity of the Eurodif gaseous diffusion enrichment plant is 10.8 million separative work units per year (SWU/y).

Germany's 21 operable reactors (14 PWRs, 7 BWRs) have an installed capacity of 22,470 MWe gross, representing 34% of total electricity capacity in 1993. The capacity of the Siemens fuel fabrication plant currently operating at Hanau is 25 tHM/y for LWR MOX fuel. Another Siemens MOX fuel fabrication plant constructed at Hanau, with a capacity of 120 tHM/y, has not yet been granted an operating license by the government of Hesse, and its future is uncertain. The capacity of the uranium enrichment facility at Gronau operated by URENCO, the British-Dutch-German gas centrifuge enrichment consortium, is 530 thousand SWU/y.

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[7] *Nuclear Energy Data 1994*, p. 28.

Italy has no nuclear power generation, having shut down its three operating nuclear power plants and cancelled its nine planned plants in 1987.

The Netherlands' two nuclear power plants (1 BWR, 1 PWR) have an installed capacity of 539 MWe gross, representing 5.3% of total electricity capacity in 1993. The Almelo gas centrifuge enrichment plant, operated by URENCO, has a capacity of 1.2 million SWU/y.

Spain's nine nuclear power plants (7 PWRs, 2 BWRs) have an installed capacity of 7400 MWe gross, representing 35.6% of total electricity capacity in 1993.

Sweden's 12 nuclear power plants (3 PWRs, 9 BWRs) have an installed capacity of 10,318 MWe gross, representing 42% of total electricity capacity in 1993.

The United Kingdom's 34 nuclear power plants (including 20 Magnox gas-cooled reactors and 14 Advanced Gas-cooled reactors or AGRs) have an installed capacity of 12,910 MWe gross, representing 24% of total electricity capacity in 1993. The UK Atomic Energy Authority (AEA), in association with British Nuclear Fuels, Ltd. (BNFL), commissioned a MOX Demonstration Facility for the manufacture of MOX fuel for LWRs, which began operating in 1992 at a capacity of 8 tHM/y. In December 1993, the government authorized operation at BNFL's Sellafield site of the Thermal Oxide Reprocessing Plant (THORP). The plant is scheduled to begin operation in 1995, with a capacity of 100 tHM/y for LWR spent fuel. The United Kingdom's gas-cooled reactor fuel reprocessing capacity is 1508 tHM/y, including the capacity (8 tHM/y) of the AEA Technology

facility at Dounreay and the capacity (1500 tHM/y) of BNFL's existing facility at Sellafield. The capacity of the URENCO gas centrifuge enrichment plant at Capenhurst is 850 thousand SWU/y.

2. The Nuclear Policy Roles of EURATOM and Its Member States

To achieve EURATOM's objectives, as stated in the Treaty of Rome, the Member States have transferred to EURATOM necessary powers to conduct and regulate trade in source and special fissionable material.[8] Both the existing Agreement for Cooperation and the proposed Agreement treat EURATOM and its Member States as a single jurisdictional entity for the purposes of peaceful nuclear commerce. In particular, the common market in nuclear materials has facilitated extensive technical cooperation among the EURATOM Member States, resulting in the close integration of their civil nuclear programs.

In assessing the impact of the proposed Agreement on the risk of proliferation and on the common defense and security, the capability of EURATOM to carry out its obligations under the Agreement is a crucial consideration. As a multinational organization, EURATOM does not exercise all of the sovereign governmental powers of a state. Its Member States have, however, granted EURATOM extensive powers and controls over their peaceful nuclear activities, along with the establishment of a common market in nuclear materials, services, and equipment. For example, the European

[8]The Agreement for Cooperation (Article 21) and the IAEA Statute (Article XX) use the term "special fissionable material," while the EURATOM Treaty (Article 197) refers to "special fissile material." The U.S. Atomic Energy Act, sec. 11aa, uses the term "special nuclear material." All these definitions cover plutonium-239, uranium 233, and uranium enriched in the isotopes 233 or 235, though there are other minor differences between them (i.e., the Agreement for Cooperation and the Atomic Energy Act include all isotopes of plutonium, while the IAEA and EURATOM refer only to Pu-239). Some Pu-239 would be present in any quantity of plutonium covered by the Agreement. For the purposes of this analysis, all these terms are treated as interchangeable.

Commission,[9] which has the primary function of supervising the application of treaties and measures adopted within the framework of EURATOM, has the right and the obligation to subject all ores, source materials, and special fissile materials in all of EURATOM's Member States to its own system of safeguards. (See Section III. B. on Major Aspects of Applicable Safeguards Regimes).

In addition, Article 86 of the Treaty of Rome grants EURATOM exclusive ownership of all special fissile material[10] (except that dedicated to defense purposes) in the territory of its Member States, subject to each state's right to use and consume such material.

Under Article 59(b) of the Treaty, all exports of special fissile material from its Member States must occur through EURATOM's Supply Agency.[11] The Supply Agency also has the "exclusive right" to conclude supply contracts for the import of ores, source materials and special fissile materials.[12] The Supply Agency has a right of option which allows it to acquire ownership of all ores and source materials produced in the territories of the EURATOM Member States. In the case of special fissile materials already owned by EURATOM, the option gives the Supply Agency the power to acquire the rights reserved to the Member States of use and consumption.

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[9]Prior to 1967 the three European Communities, i.e., European Coal and Steel Community (ECSC), European Economic Community (EEC), and EURATOM, were governed by separate organs, while sharing a common European Parliament and Court of Justice. In 1967, the institutions of the communities were merged. As a result, a single European Commission replaced the High Authority of the ECSC, the Commission of the EEC, and the EURATOM Commission. In addition, the three separate Councils of Ministers were merged into a single Council. The European Commission, therefore, supervises application of the EURATOM Treaty.

[10]For the definition of "special fissile material" see footnote 8, supra.

[11]The EURATOM Supply Agency, as provided for in the March 1957 Treaty of Rome, came into operation on June 1, 1960. This agency is a commercially-operated independent department attached to the European Commission.

[12]EURATOM Treaty of Rome, Articles 52 and 57.

Article 78 of the Treaty of Rome requires operators of nuclear facilities to declare their basic technical characteristics to the EURATOM (now European) Commission, as well as to obtain the approval by the Commission of the techniques to be used for reprocessing of spent fuel.

Along with the other components of the European Union, EURATOM exercises many of its powers and functions by dealing directly with persons and firms in the member states. The regulations and directives of the EU constitute a body of "European law," enforced by the European Court of Justice. Individual citizens and firms of the EU Member States have regularly and successfully claimed rights under this law in suits against their own governments and the governments of other Member States.

The EU has also served as a forum for the adoption of common nuclear nonproliferation measures and policies. The first such common policy statement was adopted on November 20, 1984 by a meeting of the foreign ministers of the European Community (as the EU was then named). This declaration emphasized their support for the objective of non-proliferation, stated that the principles contained in the Nuclear Suppliers Group (NSG) guidelines[13] were "a common, fundamental set of rules for all the Member States in relation to their nuclear exports," and stated that the Member States would apply the Guidelines as a minimum standard for the physical protection of nuclear materials under their jurisdictions.

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[13]The Nuclear Suppliers Group is a group of major supplier states, including the United States and Western European countries, which first met in the 1970s with the purpose of expanding and harmonizing their nuclear export controls. In 1978, the NSG issued guidelines, published by the IAEA as INFCIRC/254, which set out requirements for export of certain controlled items, including, *inter alia*, application of safeguards on all fissionable materials in its current and peaceful activities (so-called full-scope safeguards) of a recipient state.

In June 1990, a policy statement on nonproliferation was adopted by the European Council, made up of the heads of state or government of all the EU Members States. While the Council, in 1990, had no legal standing under the Treaties of Rome, it was, in practice, the forum in which major Community policy decisions were adopted. The Maastricht Treaty on European Union, signed in February 1992, formally recognizes the role of the European Council in defining "the general political guidelines" of EU policy, and, in so doing, affirmed the nonproliferation goals of the Council.[14]

The 1990 statement reaffirmed the European Community's acceptance of the Nuclear Suppliers Group guidelines, expressed support for the NPT, and included the following statement on safeguards:

> The European Council recognizes the indispensable role played by the IAEA and its safeguards in the development of the peaceful uses of nuclear energy. It recognizes that these safeguards are the cornerstone of an effective non-proliferation regime. The European Council reaffirms the need for peaceful application of nuclear energy to take place under credible, effective and efficient safeguards. In this connection it recalls the important contribution of EURATOM safeguards.

As discussed more fully in Section III. B. on Major Aspects of Applicable Safeguards Regimes, EURATOM will be able to use its safeguards, nuclear materials ownership option,[15] export authority, and other powers under the Treaty of Rome to ensure implementation of most provisions of the proposed Agreement for Cooperation. In a few areas, however, the organization will rely on assistance from its member states. For example, because EURATOM does not have its own police

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[14]The ongoing movement towards a more closely integrated EU, including enhanced Member States cooperation in several commercial and foreign policy areas, has led to positive spinoffs in the nonproliferation arena, such as heightened transparency in critical intra-EU activities. These are discussed in detail in Section IV., Evaluation of Approvals for Which the Criteria in AEA Section 131.b. Are Relevant under "timely warning."

[15]See Section III.E, p. 42, which discusses the EURATOM Supply Agency's right of option to acquire ownership of ores, source materials and special fissile materials in greater detail.

force or criminal courts, it must rely on member states to carry out the extradition and penal obligations in the Convention on the Physical Protection of Nuclear Material. In general, however, the nonproliferation commitments and sovereign powers of the Member States reinforce parallel commitments and complementary powers of EURATOM.

C. Legal Basis for the Evaluation of the Consents and Approvals Covered by this Report

The legal framework for this analysis is found in the AEA. The proposed Agreement will be assessed under the AEA criteria governing agreements for cooperation in the peaceful uses of atomic energy and subsequent arrangements implementing such Agreements.

1. **Criterion for agreements for cooperation.** Section 123.b. requires the President to determine that performance of any proposed agreement for cooperation "will promote, and will not constitute an unreasonable risk to, the common defense and security."

2. **Criteria for subsequent arrangements.** Section 131 of the AEA authorizes the Secretary of Energy to enter into "subsequent arrangements" permitting, *inter alia*, various specified activities by the other party to an agreement for cooperation, involving materials or equipment transferred from the United States pursuant to the Agreement or nuclear material produced through the use of material or equipment so transferred (i.e., U.S.-obligated). Sections 131.a. and 131.b. contain the legal criteria that must be met before the Secretary of Energy may enter into subsequent arrangements permitting various activities to be carried out by the cooperating party.

a. **"Common defense and security" criterion.** Section 131.a.(1), which applies to all subsequent arrangements, requires the Secretary of Energy to determine in writing that each subsequent arrangement permitting a particular activity to be carried out by the cooperating party "involving U.S.-obligated material is not inimical to the common defense and security" of the United States.

b. **"Significant risk of proliferation" criterion.** Section 131.b. precludes the Secretary of Energy, from entering into a subsequent arrangement for

- reprocessing of U.S.-obligated spent fuel, or
- subsequent retransfer to a non-nuclear-weapon state of plutonium (in quantities greater than 500 grams) resulting from such reprocessing, unless:

> "... in [his] judgment, and that of the Secretary of State, such reprocessing or retransfer will not result in a significant increase of the risk of proliferation beyond that which exists at the time that approval is requested."

Section 131.b.(3) does not require these findings for entry into a subsequent arrangement permitting reprocessing in facilities which had processed power reactor fuel assemblies or been subject of a subsequent arrangement therefore before March 1978, although it strongly encourages application of the same standards to those facilities.

This paper analyzes the proposed Agreement under the criterion of section 123.b. that performance of any proposed agreement for cooperation in the peaceful uses of nuclear energy "will promote, and will not constitute an unreasonable risk to, the common defense and security." This part of the analysis also applies to the similar provision in section 131.a. that the consent or approval permitting

a specific activity in any subsequent arrangement "will not be inimical to the common defense and security" of the United States. Additionally, the advance consents or approvals for the reprocessing of U.S.-obligated spent fuel and for the subsequent retransfer of separated plutonium in non-nuclear weapon states are analyzed with respect to the "significant increase of the risk of proliferation" criterion of AEA section 131.b.

It should be noted that the proposed Agreement is an agreement for cooperation, and not a subsequent arrangement. The AEA does not, therefore, explicitly require that the advance consents and approvals provided for in the Agreement meet the criteria in section 131. However, these consents and approvals for those activities would constitute subsequent arrangements if processed separately from the Agreement. These consents and approvals are therefore evaluated herein with respect to all the substantive and procedural requirements of section 131 for subsequent arrangements. This approach ensures that the appropriate executive agencies will have an opportunity to participate in the decision-making process leading to those findings. This approach has been followed for the EURATOM Agreement by:

(1) The requirement in section 131.a. that the Secretary of Energy determine that a subsequent arrangement "not be inimical to the common defense and security" will be fulfilled by the Secretary's written determination and her recommendation to the President that he determine, pursuant to section 123.b., that the Agreement for Cooperation "will promote, and will not constitute an unreasonable risk to, the common defense and security."

(2) The requirement in section 131.b. that any subsequent arrangement for reprocessing of U.S.-obligated nuclear material not take effect until the Secretary of Energy has provided the House Foreign Affairs and Senate Foreign Relations Committees "a report containing his reasons for entering into such arrangement and a period of 15 days of continuous session ... has elapsed" will be satisfied by following the procedures of section 123, which include the submission by the President of the proposed Agreement (together with associated documents, including a copy of this analysis) to those committees, for an aggregate waiting period before Congress of 90 continuous session days.

(3) The requirement in section 131.a. for public notice of each proposed subsequent arrangement (together with the Secretary of Energy's finding that it "will not be inimical to the common defense and security") through publication in the *Federal Register* will be satisfied by publication of the proposed Agreement and this analysis in the *Congressional Record* and by their publication as a House document.

(4) The requirement in AEA section 123.a. that the Director of the Arms Control and Disarmament Agency (ACDA) provide the President with a Nuclear Proliferation Assessment Statement will be fulfilled accordingly. This also satisfies the Director's prerogative, under section 131.a., to submit such an assessment on any subsequent arrangement that he determines might significantly contribute to proliferation.

(5) The requirement in AEA section 123.a. that the proposed Agreement for Cooperation be submitted to the President jointly by the Secretary of State and the Secretary of Energy, after consultation with the Nuclear Regulatory Commission and the Director of ACDA has been fulfilled accordingly. Section 131.a. and implementing procedures thereunder require similar coordination for subsequent arrangements, and also require consultation with the Secretaries of Defense and Commerce. The proposed Agreement and supporting documents have therefore been reviewed by the Secretaries of Defense and Commerce.

(6) The requirement in Section 131.b. that both the Secretary of State and the Secretary of Energy determine whether a subsequent arrangement authorizing reprocessing of U.S.-obligated nuclear material or subsequent retransfers of recovered plutonium would result in a significant increase of the risk of proliferation beyond that which exists at the time that approval is requested has been satisfied. The Secretaries of State and Energy have applied this criterion to the pertinent parts of the proposed Agreement with EURATOM and have determined that no significant increase of the risk of proliferation will result from the advance approval for reprocessing or subsequent retransfers of recovered plutonium included in the Agreement.

(7) Finally, whereas subsequent arrangements are not subject to a formal procedure for Congressional review, Section 123a specifically provides for hearings and for expedited Congressional procedures for consideration of pertinent joint resolutions.

Taken together, with the other points, this indicates that incorporating the advance consent approval arrangements into the agreement for cooperation will provide Congress a far more complete opportunity for review than would be provided if these arrangements were processed under Section 131 as "subsequent arrangements".

In summary, the consents and approvals contained in the proposed Agreement have been assessed and processed to meet all applicable procedural and substantive requirements in AEA sections 123, 131, and 133.

D. Advance Consents and Approvals by the United States for Various Fuel Cycle Activities

Section 123 of the AEA requires consent or approval to be obtained from the United States before the other party to any new agreement for cooperation may carry out various nuclear fuel cycle activities involving certain material or equipment transferred from the United States pursuant to the Agreement, or certain material used in or produced through the use of certain material or equipment so transferred. In Article 8 of the Agreement, the United States provides authorization, in advance, for certain nuclear fuel cycle activities to be carried out by EURATOM and its Member States. The advance consents and approvals for the different categories of activities are set forth in three paragraphs of Article 8.

1. Advance consents and approvals addressed in Paragraph 1 of Article 8

a. Enrichment of uranium up to 20% U-235

Section 123.a. (7) of the AEA provides that no material transferred from the United States pursuant to an agreement for cooperation on the peaceful uses of atomic energy and no material used in or produced in a facility so transferred may be enriched by the cooperating party without prior U.S. approval. Paragraph 1 (A) of Article 8 of the Agreement provides advance approval for the enrichment of uranium transferred from the United States pursuant to the Agreement, or used in or produced through the use of equipment so transferred, up to 20% in the isotope U-235, within the territorial jurisdiction of EURATOM. Included in the paragraph is a statement that enrichment of such uranium to more than 20% U-235 or reenrichment, if it is already enriched to more than 20% U-235, may be carried out only according to conditions to be agreed upon with the United States

b. Irradiation of plutonium, uranium-233, high enriched uranium and irradiated nuclear material

Section 123.a.(7) of the AEA also requires that new agreements for cooperation provide for prior U.S. approval for the "alteration in form or content" of plutonium, uranium-233, high enriched uranium, or irradiated nuclear material subject to the Agreement. Irradiation of any of those materials would result in alteration of its form or content. Paragraph 1(B) of Article 8 of the Agreement provides advance approval for the irradiation, within the territorial jurisdiction of EURATOM, of plutonium, U-233, high enriched uranium (HEU, defined in the Agreement as uranium enriched to more than 20% U-235), and irradiated nuclear material transferred from the United States pursuant

to the Agreement or used or produced through the use of non-nuclear material, nuclear material or equipment so transferred.

c. Retransfers to Third Countries

AEA section 123.a.(5) requires new agreements for cooperation in peaceful uses of atomic energy to provide for U.S. consent prior to the transfer outside the jurisdiction or control of the cooperating party of any material or facility transferred from the United States or of any special nuclear material produced through the use of such material or facility.

Paragraph 1 (C) of Article 8 of the Agreement provides advance consent for retransfers to third countries, according to procedures set out in the Agreed Minute, for three different purposes:

Subparagraph (i) permits retransfers to specific third countries of low enriched uranium (LEU, defined in the Agreement as enriched to 20% or less in U-235), non-nuclear material, equipment and source material transferred from the United States pursuant to the Agreement or of LEU produced through the use of nuclear material or equipment so transferred, for nuclear fuel cycle activities other than the production of HEU. The Agreed Minute calls for the United States to provide the list, as attached to the Agreement, of third countries to which such transfers may be made. The Agreed Minute also includes minimum criteria for the continued inclusion of a country on the list or the addition of a country to the list (which would constitute a subsequent arrangement). Deletion of a country by the United States requires prior consultation with EURATOM and may not be done for

commercial advantage or to interfere with EURATOM's peaceful programs. The United States nevertheless retains the unilateral right to delete a country from the list.

Subparagraph (ii) permits retransfers to specific third countries of irradiated nuclear material transferred from the United States pursuant to the Agreement or of irradiated nuclear material used in or produced through the use of non-nuclear material, nuclear material or equipment so transferred, for storage or disposal not involving reprocessing. If and when such retransfers are requested by EURATOM, the United States is to provide a list of third countries to which such retransfers may be made. The Agreed Minute specifies that criteria additional to those applicable to the list for retransfers addressed in sub-paragraph (i) are to be taken into account in drawing up and maintaining the list, including the potential proliferation and security implications of transfers to each country considered for inclusion on the list. Otherwise, the same procedures for adding to or deleting countries from the list, as specified in the Agreed Minute for retransfers addressed in sub-paragraph (i), are to be followed. An addition will be handled as a subsequent arrangement and the United States retains the unilateral right to delete countries from the list.

Subparagraph (iii) permits retransfers, to specific countries, of other nuclear material transferred from the United States pursuant to the Agreement and of other special fissionable material produced through the use of non-nuclear material, nuclear material, or equipment so transferred, for other fuel cycle activities, including reprocessing and alteration in form and content of plutonium, U-233, and HEU. A list of third countries to which such retransfers may be made for those purposes is to be provided by the United States, taking into account the additional criteria referred to above and with

the same procedures applicable for adding a country to the list, or deleting one, as for the preceding subparagraphs, including the unilateral U.S. right to decide the countries on the list and the treatment of retransfers as a subsequent arrangement.

d. Post-irradiation examination of irradiated nuclear material

Post-irradiation examination of irradiated nuclear material will likely result in its alteration in form or content. In compliance with the requirement in section 123.a.(7) of the AEA for prior approval of such alteration of such material, paragraph 1 (D) of Article 8 permits post-irradiation examination, involving chemical dissolution or separation of irradiated nuclear material transferred from the United States pursuant to the agreement or irradiated nuclear material used in or produced through the use of non-nuclear material, nuclear material or equipment so transferred. This post-irradiation examination may take place anywhere within EURATOM.

2. Advance Consents and Approvals Addressed in Paragraph 2 of Article 8

a. Reprocessing

Section 123.a. (7) of the AEA, as noted above, requires any new agreement for cooperation in the peaceful uses of atomic energy to provide for approval by the United States before any material transferred from the United States pursuant to the Agreement or any material used in or produced through the use of any material or facility so transferred may be reprocessed by the cooperating party.

Paragraph 2 (A) of Article 8 of the Agreement permits EURATOM within its territorial jurisdiction to reprocess, in facilities forming part of its "delineated peaceful nuclear programs", nuclear material

transferred from the United States pursuant to the Agreement and nuclear material used in or produced through the use of non-nuclear material, nuclear material or equipment so transferred. The facilities in which reprocessing may be carried out are listed in Annex A to the Agreement as: COGEMA plants in La Hague and Marcoule, France, the British Nuclear Fuel plant in Sellafield, United Kingdom, and the AEA Technology plant in Dounreay, United Kingdom.

Procedures by which EURATOM may make changes in its delineated program are set forth in the Agreed Minute to the Agreement. Written notice is to be given to the United States by EURATOM of any facility intended to be added to its delineated program. The notice is to include:

(i) identification of the facility, its location and capacity;

(ii) confirmation that EURATOM's basic safeguards regulation, as amended, is fully applied to the facility;

(iii) in the case of a facility to be under IAEA safeguards inspection pursuant to one of the three safeguards agreements with the IAEA to which EURATOM is party, confirmation that relevant arrangements have been agreed with the IAEA and that those arrangements will permit the IAEA to exercise fully its rights under the relevant safeguards agreement over the life of the Agreement, so as to enable the IAEA to meet its objectives and inspection goal for the facility;

(iv) non-confidential information on the safeguards approach and on EURATOM safeguards relevant to the facility; and

(v) confirmation that physical protection measures as required by the Agreement will be applied to the facility.

Notices by EURATOM of intended additions to its delineated program are to be simply acknowledged by the United States within 30 days after receipt. Each such intended addition is to receive "fullest possible consideration" during consultations between the United States and EURATOM, which may include discussions on safeguards. EURATOM may delete a facility from

its delineated program by written notice to the United States identifying the facility and including other relevant information.

b. Alteration in form or content of plutonium, U-233, and HEU

Section 123.a.(7) of the AEA also requires any new agreement for cooperation in the peaceful uses of atomic energy to provide for approval by the United States before the alteration in form or content (in addition to their reprocessing or enrichment) of plutonium, U-233, HEU transferred from the United States pursuant to the Agreement or used in or produced through the use of any material or facility so transferred.

Paragraph 2 (B) of Article 8 of the Agreement permits within the territorial jurisdiction of EURATOM the alteration in form or content, in facilities which form part of EURATOM's delineated peaceful nuclear program, of plutonium, U-233, and HEU transferred from the United States pursuant to the Agreement or used in or produced through the use of non-nuclear material, nuclear material or equipment so transferred. The facilities in which such alteration in form or content (defined, for purposes of the Agreement as fabrication involving Pu, HEU and U-233) is permitted are listed in Annex A to the Agreement. The list is comprised of four facilities in France, two each in the United Kingdom and Belgium, and one facility in Germany.

The procedures by which a facility may be added to or deleted from its list by EURATOM are the same as those described above for the list of reprocessing facilities, including the specification of the content of each notice of an intended addition to the list.

c. Suspension of U.S. Approval for Reprocessing and Conversion and Fuel Fabrication of Plutonium, U-233, and HEU

The Agreed Minute provides that reprocessing of material subject to the Agreement and alteration in form or content (i.e., conversion and fuel fabrication) of plutonium, U-233 and HEU subject to the Agreement in the facilities listed in Annex A, may continue unless the United States considers, in accordance with the prescribed procedures, that such activities should be suspended, on the basis of objective evidence that their continuation would entail a serious threat to the security of either EURATOM, any of its Member States or the United States, or a significant increase in the risk of nuclear proliferation, resulting from a situation of the same or greater degree of seriousness as the following:

(i) a non-nuclear weapon Member State of EURATOM detonates a nuclear weapon or any other nuclear explosive device;

(ii) a nuclear-weapon Member State of EURATOM detonates a nuclear weapon or any other nuclear explosive device using any item subject to the Agreement;

(iii) EURATOM or one of its Member States materially violates, terminates or declares itself not to be bound by the NPT, the relevant safeguards agreement with the IAEA or the NSG guidelines;

(iv) a Member State of EURATOM retransfers an item subject to the Agreement to a non-nuclear weapon state which has not concluded a full-scope safeguards agreement with the IAEA;

(v) the Board of Governors finds that the IAEA is not able to verify that nuclear material required to be safeguarded under the relevant safeguards agreement has not been diverted to nuclear weapons or other nuclear explosive devices, and subjects a Member State of EURATOM to measures pursuant to Article 19 of the relevant safeguards agreement;

(vi) acts of war or serious internal disturbances preventing the maintenance of law and order, or serious international tension constituting a threat of war, that threaten

severely and directly the safeguarding or physical protection of the reprocessing and conversion or fuel fabrication.

Paragraph 8 of the Agreed Minute further calls for the United States, in its considering that such objective evidence may exist, to consult "at European Commission level for the Community" before reaching any decision. Paragraph 8 further states that: "[A]ny decision that such objective evidence does exist, and that activities referred to in paragraphs 2 of Article 8 should therefore be suspended, shall be taken only by the President of the United States" in the case of a U.S. decision to suspend, with written notice thereof to EURATOM; and that any such decision on the part of the United States "shall apply to the activities of the other Party referred to in Article 8, paragraph 2 of this Agreement, taken as a whole."

The Agreed Minute specifies that actions of governments of third countries, or events beyond the territorial jurisdictions of EURATOM and the United States shall not be used as the basis for a decision by the United States to suspend reprocessing and alteration in form or content for which advance consent is given in Paragraph 2 of Article 8, unless such actions or events would clearly result in a significant increase in the risk of nuclear proliferation or in a serious threat to the security of the United States A decision by the United States to invoke the suspension provision is to be taken only in the most extreme circumstances of exceptional concern from a non-proliferation or security point of view and is to be applied for the minimum duration. The United States is called upon to keep the development of the situation which led to its decision under review and to withdraw the suspension as soon as warranted.

3. Storage of plutonium, U-233, and HEU

Section 123.a. (8) of the AEA requires any new agreement for cooperation in the peaceful uses of atomic energy to provide for the approval by the United States, in advance, of any facility in which the cooperating party intends to store any plutonium, U-233, or HEU transferred from the United States pursuant to the Agreement, or recovered from any source or special nuclear material so transferred or from any source or special nuclear material used in any facility so transferred.

Paragraph 3 of Article 8 of the Agreement permits EURATOM to store, in facilities which meet specified standards for physical protection, the following nuclear materials: (1) plutonium, U-233, or HEU not contained in irradiated fuel, which has been transferred from the United States pursuant to the Agreement; (2) plutonium, U-233 or HEU recovered from nuclear material transferred from the United States pursuant to the Agreement; or (3) plutonium, U-233 or HEU recovered from nuclear material used in equipment so transferred.

The facilities in which the transferred or recovered plutonium, U-233 or HEU may be stored must, at all times, as a minimum, be subject to the levels of physical protection set out in Annex C to the NSG guidelines, as it may be revised and accepted by EURATOM, its Member States, and the United States. The facilities to be used for such storage by EURATOM or its Member States are to be identified on a list provided to the United States. If so requested by EURATOM, the United States is required to keep the list confidential. EURATOM may make changes to its list by notifying the United States in writing and receiving a written acknowledgement from the United States to be made

within 30 days after receipt of the notice, consisting only of a statement that the notice has been received.

If the United States has grounds to believe that the physical protection being provided to any facility on EURATOM's list is not at the level called for in Annex C to the NSG guidelines, immediate consultation with EURATOM is to be requested. The purpose of such consultation is to ensure that sufficient corrective measures are taken immediately to restore the specified levels of physical protection to the facility in question. If that is not feasible, the nuclear material in question is to be transferred for storage to another facility on EURATOM's list.

III. SOME BASIC ELEMENTS OF THE EVALUATION

A. Major Aspects of the Applicable Safeguards Regimes

Section 123.a. of the Atomic Energy Act requires any new agreement for cooperation to include the following provisions on safeguards:

> (1) a guarantee by the cooperating party that safeguards as set forth in the Agreement for Cooperation will be maintained with respect to all nuclear material and equipment transferred pursuant thereto, and with respect to all special nuclear material used in or produced through the use of such material or equipment, so long as the material or equipment remains under the jurisdiction or control of the cooperating party ....
>
> (2) in the case of non-nuclear-weapon states, a requirement, as a condition of continued United States-nuclear supply under the Agreement for Cooperation that IAEA safeguards be maintained with respect to all nuclear materials in all peaceful nuclear activities within the territory of such state, under its jurisdiction, or carried out under its control anywhere.

The extent to which these requirements are fulfilled is key to a determination by the Secretary of Energy that the activities for which consents and approvals are provided in the Agreement "will not inimical to the common defense and security" of the United States, as well as the determination by the President that the performance of the Agreement "will promote, and will not constitute and unreasonable risk to, the common defense and security."

Because EURATOM is a multinational regional organization with its own safeguards system, and composed of both nuclear weapon State and non-nuclear weapon State Members, the safeguards provisions of the Agreement are more complex than those typically found in an agreement with a single state. Article 6 of the Agreement specifies that the "safeguards required under this Agreement" include both IAEA and EURATOM safeguards, with IAEA safeguards to be applied under one of three agreements to which EURATOM and either France, the United Kingdom, or all of its non-nuclear weapon Member States are parties.

1. IAEA safeguards in EURATOM's NNWS

All fifteen EURATOM Member States are party to the Nuclear Non-Proliferation Treaty (NPT), which came into force in 1970 and was extended indefinitely in May 1995. Of these, thirteen are non-nuclear weapon states: Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain and Sweden. Under paragraph 1 of Article III of the NPT, a non-nuclear weapon state party is obligated to accept IAEA safeguards "on all source and special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere."

Under paragraph 4 of Article III of the NPT, agreements with the IAEA for application of NPT safeguards may be negotiated by NNWS "either individually or together with other States." The NNWS of EURATOM exercised the latter option, and in 1973 concluded a multilateral safeguards agreement to which they, the IAEA, and EURATOM are all parties. The IAEA is given "the right and the obligation" to ensure that safeguards are applied "on all source or special fissionable material in all peaceful nuclear activities" within, or under the jurisdiction or control of, the NNWS of EURATOM (Article 2), while those NNWS agree to accept such safeguards (Article 1).

The IAEA-EURATOM Agreement for non-nuclear weapon states follows the standard IAEA model for safeguards agreements in accordance with paragraph 1 of Article III of the NPT, as set out in IAEA document INFCIRC/153, "The Structure and Content of Agreements Between the Agency and States Required in Connection With the Treaty on the Non-Proliferation of Nuclear Weapons." The Agreement also takes into account the unique role of EURATOM in regulating nuclear activities in its Member States. The EURATOM safeguards system, for example, fulfills the functions of a state system of accounting and control in bilateral safeguards agreements.[16] As a general rule, reports to and communications from the IAEA go through EURATOM rather than directly to and from the NNWS. This includes design information on new or modified facilities subject to safeguards.[17]

Cooperation between the IAEA and EURATOM safeguards systems is a central concept of the IAEA-EURATOM non-nuclear weapon state safeguards agreement. In administering its safeguards,

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[16]IAEA-EURATOM Safeguards Agreement, Articles 31-32.

[17]IAEA-EURATOM Safeguards Agreement, Articles 42-45.

EURATOM undertakes to cooperate with the IAEA "with a view to ascertaining that . . . source and special fissionable material is not diverted to nuclear weapons or other nuclear explosive devices" in non-nuclear weapon Member States of EURATOM.[18] The IAEA, in turn, applies its safeguards "to verify . . . findings of [EURATOM's] system of safeguards" on the nondiversion of source and special fissionable material.[19]

The IAEA-EURATOM non-nuclear weapon state safeguards agreement entered into force in 1977. A protocol to the Agreement established a Liaison Committee to facilitate cooperation in implementing it, and IAEA and EURATOM have developed an increasingly harmonious relationship over the years.

The Liaison Committee developed an approach to avoid redundant inspections by utilizing joint IAEA-EURATOM inspection teams and allowing inspectors from one agency to observe procedures carried out by the other. In 1992, EURATOM and the IAEA decided to go beyond those measures. On April 28 of that year IAEA Director General Blix and EU Commissioner Cardozo e Cunha signed an Agreement (INFCIRC/193) to initiate a "new partnership approach" to safeguards collaboration. As stated, "[s]ubject to the ability of both organizations to satisfy the requirements of their criteria and guidelines respectively," the new approach will be based on four elements, paraphrased as follows:

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[18] IAEA-EURATOM Safeguards Agreement, Article 3(a).

[19] IAEA-EURATOM Safeguards Agreement, Article 3(b).

(I) The use of commonly agreed safeguards approaches, inspection planning and procedures, inspection activities and inspection instruments, methods and techniques.

(II) Inspection activities to be performed on the basis of the principle of one-job-one-man, supplemented by quality control measures to enable both organizations to satisfy their respective obligations to reach their own independent conclusions and required assurances. The IAEA, therefore, retains the right to independent verification. These arrangements to be designed and performed in such a manner that they do not result in unnecessary duplication of effort.

(III) Commonly shared analysis capabilities to be used to reduce the number of samples to be taken, transported and analyzed. Cooperation in research and development and in inspector training for the purpose of achieving cost reductions and commonly agreed products and procedures.

(IV) Increasing common use of technologies to replace the physical presence of inspectors with appropriate equipment.

The partnership approach allows both the IAEA and EURATOM to meet their respective responsibilities under the Agreement. The Liaison Committee is responsible for making practical arrangements to implement the new partnership approach.

2. IAEA safeguards in EURATOM's Nuclear Weapon States

Under the NPT, a nuclear weapon state is defined as one that had manufactured and exploded a nuclear device before January 1, 1967. Nuclear weapon states are not required to accept IAEA safeguards on any of their facilities. However, the United Kingdom and France, the two nuclear weapon Member States of EURATOM, have each voluntarily made peaceful nuclear facilities eligible for IAEA safeguards through trilateral agreements among each of them, the IAEA and EURATOM. In the case of the United Kingdom, all of its civil facilities are eligible for selection by the IAEA for the application of safeguards. In the agreement with France, it designates the nuclear material to which the IAEA safeguards may be applied. In either case, when IAEA safeguards are applied to a

facility, the procedures employed are the same as those in similar facilities in non-nuclear weapon states Party to the NPT. For budgetary reasons, the IAEA usually applies safeguards to only a minimum number of facilities in nuclear weapon states.

The agreement of the United Kingdom with EURATOM and the IAEA (published by the IAEA as INFCIRC/263), which entered into force on 14 August 1978, permits the IAEA to apply safeguards "on all source and special fissionable material in facilities or parts thereof within the United Kingdom, subject to exclusions for national security reasons only." (Article 1(a)). The purpose of those safeguards is to verify that such material is not "withdrawn from civil purposes," except as authorized by the agreement. If the United Kingdom withdraws material from safeguards eligibility, presumably for national security reasons, it is required to notify both EURATOM and the IAEA.

The French voluntary offer agreement (published by the IAEA as INFCIRC/290), which entered into force on 12 September 1981, is more restrictive than the British voluntary offer, since safeguards may be applied only to source and special nuclear materials designated by the French government. France has also retained the right to withdraw material from safeguards eligibility by giving notice to that effect to the IAEA and EURATOM.

3. EURATOM safeguards

The EURATOM safeguards system was established pursuant to Chapter VII of the Treaty of Rome, which created the European Atomic Energy Community. It predates the IAEA safeguards system, and differs from it in certain respects. For example, EURATOM safeguards apply to ores, in addition

to source material and special fissionable material, while IAEA safeguards do not cover ores. Most importantly, EURATOM safeguards are applied to all non-defense activities in France and the United Kingdom, as well as to all peaceful nuclear activities in the other Member States. Overall, the two safeguards systems operate in a complementary fashion ensuring an efficient division of labor.

Article 77 of the Treaty of Rome is the fundamental authority for EURATOM safeguards. It requires the Commission of the European Union to satisfy itself that, in the territories of all EURATOM Member States:

> (a) ores, source materials and special fissile materials are not diverted from their intended uses as declared by the users;
>
> (b) the provisions relating to supply and any particular safeguarding obligations assumed by [EURATOM] under an agreement concluded with a third State or an international organization are complied with.

Subparagraph (b) specifically grants the Commission of the European Union responsibility and power to enforce conditions on the use of nuclear material imposed by cooperation agreements with supplier states. The provisions limiting the use and transfer of nuclear material in Articles 6 and 7 of the proposed Agreement would come within the Commission's powers under Article 77(b) of the Treaty of Rome.

Article 77(a) of the Treaty of Rome is also important for implementation of the proposed Agreement. EURATOM does not prohibit its parties from developing nuclear weapons or other nuclear explosives and, as noted, two nuclear weapon states are members of EURATOM. However, when the NNWS Members of EURATOM ratified the NPT, each Member State undertook that all source

and special fissionable material in its peaceful nuclear activities would be subject to IAEA safeguards and not be diverted to explosive purposes. As a declared limitation on the "intended uses" of nuclear material in EURATOM member states, the Treaty of Rome requires the Commission to ensure that the NNWS members of the European Union comply with their NPT commitments in their use of nuclear material.

To facilitate execution of these tasks, Article 78 of the Treaty requires operators or potential operators of installations "for the production, separation or other use of source materials or special fissile materials or for the processing of irradiated nuclear fuels" to declare "basic technical characteristics" of their installations to the Commission. Article 79 requires operators to keep and produce operating records, as prescribed by the Commission, to account for ores, source materials and special fissile materials.

Specific provisions to implement these Articles of the Treaty of Rome are found in Commission Regulation (EURATOM) number 3227/76, of October 19, 1976. This regulation applies directly to any person operating or setting up an installation for the production, separation, use or storage of source or special fissile materials in EU territory, or for the processing of irradiated nuclear fuel in that territory. The Regulation specifies the basic technical characteristics that must be declared to the Commission. In addition, an "outline program of activities" for the installation must be submitted to the Commission annually (Regulation, Article 6). Based on this information, the Commission specifies the "particular safeguard provisions" for each installation, after consultation with the person

or undertaking and the Member State concerned (Regulation, Articles 7 and 8). The safeguard procedures specified might include:

(a) Designation of material balance areas and selection of strategic points for determining the flow and stocks of nuclear material;

(b) Procedures for keeping records and submitting reports;

(c) Frequency of, and procedures for, physical inventories;

(d) Containment and surveillance measures; and

(e) Sample-taking by the operator.

(Regulation, Article 7)

The EURATOM safeguards inspectorate assists the Commission in carrying out its responsibilities under the Regulation and the Treaty of Rome. This organization is administered by international civil servants who deal directly with the operators of nuclear facilities. EURATOM inspectors "at all times have access to all places and data and to all persons who, by reason of their occupation, deal with equipment, materials or installations subject to . . . safeguards" (Treaty of Rome, Article 81). If access is refused, the European Court of Justice may, on application of the Commission, issue an order to compel compliance.

Administrative sanctions may be imposed by the Commission on any operator violating EURATOM safeguards, e.g., by unauthorized export of nuclear material. These EURATOM sanctions are in addition to any criminal or civil liability that might exist under the laws of a member state. The sanctions, listed in Article 83 of the Treaty of Rome, include the following:

(a) a warning;

(b) withdrawal of special benefits such as financial or technical assistance;

(c) placing the undertaking [i.e., the firm or organization guilty of a violation] under the administration of a person or board appointed by agreement of the Commission and the state having jurisdiction over the undertaking; and

(d) total or partial withdrawal of source materials or special fissile materials.

The EURATOM safeguards system applies to all ores, source materials and special fissile materials in the territory of the European Union, with the exception of material intended or used for defense purposes. EURATOM therefore applies its safeguards to all civil nuclear facilities in the United Kingdom and France, as well as in the NNWS members of EURATOM.

4. Safeguards on facilities covered by approvals

EURATOM safeguards will be applied to all of the plants listed in Annex A and to all other relevant facilities in both its nuclear weapon states and non-nuclear weapon states. Safeguards arrangements, allowing the IAEA to satisfy its safeguards criteria, have also been agreed upon between EURATOM and the IAEA for facilities in the NNWS, implementing the full-scope safeguards requirement of paragraph 1 of NPT Article III.

a. Reprocessing Plants and Facilities in France and the United Kingdom

EURATOM has responsibility for implementing the requirement in the Agreement for safeguards at these plants. Article 78 of the Treaty of Rome requires plant operators to declare the basic technical characteristics of the installations to the Commission for its approval of reprocessing techniques.

Based on the safeguards measures applicable to these installations and the high level of inspection effort required, the EURATOM safeguards approach usually results in continuous inspector presence during the operation of every reprocessing plant in its Member States.[20]

The AEA Technology and THORP reprocessing plants may also be listed by the United Kingdom and the COGEMA plants by France as eligible for selection by the IAEA for application of its safeguards under their respective voluntary offer agreements. The IAEA currently applies its safeguards only to the plutonium storage facility for the three COGEMA plants, and to the spent fuel storage pool and plutonium storage facilities at THORP.

In addition, EURATOM, France, the United Kingdom and the United States actively participated in the IAEA-sponsored Large Scale Reprocessing Plant Safeguards (LASCAR) forum, which met from 1988 to 1992. The THORP and COGEMA UP-3 plants were among the four commercial-scale reprocessing facilities studied by the LASCAR forum. The general conclusion of the forum was as follows:

> A wide range of techniques are currently available or being introduced for safeguarding large-scale reprocessing plants. These include design information verification, advanced material accountancy for meeting timeliness requirements, independent and redundant C/S [containment and surveillance] measures, the authentication of operator-provided equipment, and computer data acquisition and transmission. LASCAR participants concluded that appropriate combinations of these techniques selected on a plant-specific basis will enable the successful implementation of effective safeguards at the large reprocessing plants whose designs were considered by LASCAR.[21]

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[20]Based on data in "Report on the Operation of EURATOM Safeguards 1991-1992," Commission of the EC, (COM (94)282 final, Brussels, 06.07.1994.

[21]"Report of the LASCAR Forum: Large Scale Reprocessing Plant Safeguards," p.14 (IAEA, July 1992).

With regard to the timely detection of diversion from reprocessing plants, the forum found as follows:

> The completion of specified IAEA safeguards verification activities within prescribed time intervals is an important safeguards requirement. Advanced material accountancy techniques, such as near real time accountancy, in combination with C/S [containment and surveillance] measures, enable the attainment of these timeliness requirements.

Based on the LASCAR forum's conclusions, it is the U.S. view that, with the cooperation of the operator of a given reprocessing plant and the government of the country where the plant is located (the United Kingdom or France), the facility can be effectively safeguarded and will not pose a proliferation threat.

b: Mixed Oxide Fuel (MOX) Fabrication Facilities

The British commercial MOX fabrication facility, scheduled to begin operation in 1995, is located at Sellafield. In France, COGEMA's MOX fuel fabrication plant at Marcoule is also scheduled to begin operation in 1995. Again, safeguards will be applied by EURATOM, although these facilities are expected to be listed as eligible for the application of IAEA safeguards under either the French or British voluntary offer agreement.

MOX fabrication plants are also operated at Dessel, Belgium (operated by FBFC International) and at Mol, Belgium (operated by Belgonucleaire). In Germany, the Siemens AG fuel fabrication plant at Hanau has not yet been granted an operating license by the state of Hesse. These plants are located in non-nuclear weapon states, and either are (in the case of the Belgian plants) or will be (in the German case) subject to both EURATOM and IAEA safeguards, implemented in accordance with

the NPT safeguards agreement (INFCIRC/193). In accordance with NPT Article III, the IAEA safeguards will verify that source or special fissionable material at the MOX plants is not diverted to nuclear weapons or other nuclear explosive devices. For material subject to the Agreement, EURATOM safeguards will also contribute to verifying compliance with the Agreement.

c. LWRs That Could Use Mixed Oxide Fuel Subject to the Agreement

There are thirty-four power reactors currently operable in the United Kingdom and fifty-six in France. In addition, there are sixty-two total units operable in the six other EURATOM Member States that have civil nuclear power programs.[22] Safeguards procedures are now in force for the implementation of EURATOM safeguards at all of these facilities. The IAEA also applies safeguards to all of the LWRs in EURATOM Member States, other than those in France and the United Kingdom, under the NPT safeguards agreement (INFCIRC/193). When MOX fuel elements containing more than 8 kilograms of plutonium are located at any such reactor, IAEA procedures call for monthly inspection of those inventories. Under the April 28, 1992 Agreement for Partnership in administering safeguards in EURATOM, the IAEA looks to EURATOM for assistance in carrying out these inspections. In all other respects, the safeguards approach will be the same as that applicable to a light water reactor that does not utilize MOX fuel.

d. Enrichment Facilities

The Eurodif gaseous diffusion enrichment plant in France and the URENCO gas centrifuge enrichment plant at Capenhurst, United Kingdom, may be eligible for selection by the IAEA for the

[22]These figures are referenced in the World Nuclear Industry Handbook 1995.

application of its safeguards under the respective voluntary offer agreement. In any event, primary reliance will be placed on the application of EURATOM safeguards in those facilities to verify compliance with the safeguards requirements in the Agreement. The URENCO facility at Gronau, Germany, will continue to be subject to EURATOM safeguards, as well as IAEA safeguards under INFCIRC/193.

B. Physical Security

Section 123.a.(6) of the AEA requires a guarantee that "adequate physical security" will be maintained by the other party on any nuclear material transferred from the United States pursuant to an agreement for cooperation or any special nuclear material used in or produced through the use of any material or facility so transferred.

Article 11 of the proposed Agreement addresses physical security generally. It requires physical protection measures to be applied to all nuclear material subject to the Agreement in accordance with the criteria in Annex C to the Nuclear Suppliers guidelines (INFCIRC/254). International transport of nuclear material subject to the Agreement will be governed by the 1980 Convention on Physical Protection of Nuclear Material (INFCIRC/274/Rev.1).

In addition, Section 123.a.(8) requires that any plutonium, uranium 233 or high enriched uranium transferred from the United states pursuant to an agreement for cooperation in the peaceful uses of atomic energy, or recovered from any nuclear material so transferred or used in any facility so transferred, not be stored in any facility "that has not been approved in advance by the United States."

The AEA does not specify the procedures to be used in approving storage facilities. In the proposed Agreement, the parties have agreed to minimum criteria for facilities in EURATOM in which plutonium, U-233 and HEU transferred from the United States pursuant to the Agreement (other than that contained in irradiated fuel) or recovered from nuclear material so transferred or from nuclear material used in equipment so transferred, may be stored.

Under Paragraph 3 of Article 8, facilities used to store such plutonium, uranium-233 or high enriched uranium must, as a minimum, at all times be subject to the physical protection levels set out in Annex C to the Nuclear Suppliers guidelines (INFCIRC/254). Each such facility must be identified on a list provided to the United States. Immediate consultations are to be held whenever the United States considers that there are grounds to believe that the physical protection of any listed facility does not meet the required standards. If it is not feasible to bring the facility in question up to these standards, then the material must be moved to a listed facility that does meet the standards in Annex C to the Nuclear Suppliers guidelines.

1. EURATOM Role in Physical Protection

EURATOM is a party to the Convention on Physical Protection of Nuclear Material (INFCIRC/274/Rev.1), having confirmed its intent to join the Convention on September 6, 1991. Both EURATOM and its Member States participated in the negotiation of the Convention, and the provision allowing international organizations, in addition to states, to become parties to it was inserted in large part as a result of their urging. The EURATOM Supply Agency is authorized to refuse to conclude contracts for legal reasons, including failure of proposed transport arrangements

to meet Convention standards. In addition, the European Court of Justice has interpreted the Treaty of Rome to authorize the use of the EURATOM safeguards system to ensure that physical protection standards are met.

2. EURATOM Member State Commitments

On November 20, 1984, the foreign ministers of the EURATOM Member States (meeting in the context of the European Political Cooperation, as the political arm of the EU was then known) adopted a Declaration of Common Policy stating that they "will apply to the nuclear materials under their jurisdiction measures of physical protection at least equal to the levels established" in the NSG guidelines for nuclear transfers. All Member States of EURATOM ratified the Physical Protection Convention on September 6, 1991.

3. Consultation with the Department of Defense Concerning Certain Exports and Subsequent Arrangements

Section 133.a. of the AEA requires the Nuclear Regulatory Commission (NRC) and the Secretary of Energy to consult with the Secretary of Defense to ensure that the physical protection of special nuclear material[23] exported or transferred under a subsequent arrangement will be adequate "to deter theft, sabotage, and other acts of international terrorism which would result in the diversion of that material." If, in the view of the Secretary of Defense based on all available intelligence information, the export or transfer might be subject to a genuine terrorist threat, the Secretary shall provide to the

[23]Subsection a. applies to the export or transfer of more than 2 kilograms of plutonium or more than 20 kilograms of uranium enriched to more than 20 percent in the isotope 233 or the isotope 235.

NRC or the Secretary of Energy, as appropriate, a written assessment of the risk and a description of the actions the Secretary of Defense considers necessary to upgrade physical protection measures.

Under the proposed Agreement, any export from EURATOM of special nuclear material referred to in Section 133 of the AEA would require United States agreement through a subsequent arrangement. The proposed Agreement, therefore, preserves the prerogatives of the Secretary of Defense in assessing the export or international transfer of more than 2 kilograms of plutonium or more than 20 kilograms of high-enriched uranium.

C. EURATOM Controls on Retransfer of Nuclear Material

Under Article 52, paragraph 2(b) of the Treaty of Rome, the EURATOM Supply Agency has

> a right of option on ores, source materials and special fissile materials produced in the territories of Member States and an exclusive right to conclude contracts relating to the supply of ores, source materials and special fissile materials coming from inside the Community or from outside.

Article 52 further authorizes the Supply Agency to refuse ores, source materials and special fissile materials for uses "contrary to the conditions imposed by suppliers outside the Community on the consignment in question." Together, these clauses of Article 52 give EURATOM, acting through its Supply Agency, necessary authority to enforce the retransfer provisions of the proposed agreement for cooperation.

In practice, contracts for ores and source materials are often directly negotiated between individual buyers and sellers. The Supply Agency nevertheless participates in all supply contracts as the *pro*

forma seller, as a means of ensuring that the sale is consistent with EURATOM policy and to enforce retransfer restrictions on foreign-origin source and special nuclear material. The Supply Agency also applies for retransfer consent of the supplier state whenever required by the applicable cooperation agreement.

As a backup to the Supply Agency export procedures, Article 24 of the EURATOM safeguards regulation requires at least eight working days notice to the Commission before export of safeguarded source or special fissile material outside the EU. Under Article 20 of the safeguards regulation, in reports by operators to the Commission:

> Nuclear materials subject to particular safeguard obligations entered into by the Community in an agreement concluded with a non-Member State . . . shall, unless otherwise stipulated by such agreement, be identified separately for each obligation . . . .

EURATOM will use these procedures to identify and track nuclear material subject to the Agreement, including all nuclear material transferred from the United States, as well as all nuclear material used in or produced through the use of material or equipment of U.S. origin.

D. Export Controls on Nuclear Material Produced in EURATOM

The Treaty of Rome requires approval from the EU Commission for exports from the EU of ores, source materials and special fissile materials produced in the territories of member states. The second paragraph of Article 59(b) of the Treaty further provides:

> The Commission may not grant such authorization if the recipients of the supplies fail to satisfy it that the general interests of the Community will be safeguarded or if the terms and conditions of such contracts are contrary to the objectives of this Treaty.

It should again be noted that EURATOM owns all non-defense special fissile materials produced in or imported into EURATOM. Only the Supply Agency itself may, after Commission approval, export special fissile material outside the jurisdiction of EURATOM.

The Commission is composed of 17 Commissioners representing all the member states, and is subject to the supervision of the European Parliament. The EU Commission's administrative structure is composed of some 30 Directorate-Generals overseeing areas such as external relations, budgets, science research and development, and energy. The EURATOM Supply Agency and safeguards inspectorate fall under the purview of the Commissioner in charge of the Energy Directorate.

In 1981, in response to an official question from a member of the European Parliament, the Commission outlined as follows its policy on approval of nuclear material exports:

> . . . the Commission does not grant authorizations for exports to a given country in general, but considers each application on a case-by-case basis, taking into account, in particular, the intended use of the exported materials and the guarantees provided by the recipient country to ensure the fulfillment of its commitments.
>
> In addition, the Commission, in authorizing exports . . . , takes also into account the fact that the Governments of the Member States exporting nuclear material have communicated to the International Atomic Energy Agency that they have decided to act in accordance with the principles contained in the Guidelines for the Export of Nuclear Material, Equipment or Technology (the so-called London's (sic) Guidelines, doc. INFCIRC/254). These Guidelines provide, inter alia, that suppliers should authorize transfer of identified nuclear material only upon formal governmental assurances from the recipient country that any uses of the supplied material which could result in any nuclear explosive device are excluded.[24]

[24]Answer given to the European Community Parliament on 15 September 1981 by Mr. Haferkamp on behalf of the Commission to Written Question No 370/81.

E. Export Controls of the Member States

1. **Nuclear material.** The export controls of the Member States of EURATOM provide additional backup for the control of nuclear material retransfers. As noted above, when EURATOM institutions authorize export of nuclear material, a primary consideration is whether the exporting member state has authorized the transfer and under what conditions.

2. **Non-nuclear material and equipment.** EURATOM relies upon the export control systems of its Member States to regulate retransfer of such commodities. All Member States are parties to the NPT. In addition, all the Member States have adopted the NSG guidelines (INFCIRC/254) as "a common, fundamental set of rules" for nuclear-related exports. Export of controlled items -- those found on the so-called "trigger list" because their export triggers safeguards -- including nuclear and other materials, equipment and facilities which if misused could contribute to a nuclear weapons program requires that certain conditions be met. These include: (1) an agreement between the IAEA and the recipient state requiring the application of safeguards on all fissionable materials in its current and peaceful activities ("full-scope safeguards"); (2) physical protection against unauthorized use of transferred materials and facilities; and (3) restraint in the transfer of sensitive facilities, technology, and weapons-usable materials, i.e., exports that could contribute to the acquisition of Pu or HEU by a state of proliferation concern.

F. Approach to Evaluation in Light of Statutory Criteria

In Sections IV and V below, the Agreement and its advance consents and approvals are reviewed from two overall perspectives.

- First, with reference to approvals for which the criteria in AEA section 131.b. are relevant (involving reprocessing or retransfers of plutonium in excess of 500 grams), this analysis assesses whether the granting of advance approval would result in an increase of the risk of proliferation beyond that which exists at the present time.

- Second, this analysis assesses the impact of the Agreement on the common defense and security, in light of the criterion in AEA section 123.b. that the Agreement promote, and not constitute an unreasonable risk to, the common defense and security, and the criterion in AEA Section 131.a. that the activities permitted by the consents and approvals not be inimical to the common defense and security.

IV. EVALUATION OF APPROVALS FOR WHICH THE CRITERIA IN AEA SECTION 131.b. ARE RELEVANT

Section 131.b. of the AEA stipulates criteria for any subsequent arrangement allowing reprocessing of special nuclear material exported by the United States or produced through the use of any nuclear materials and equipment exported by the United States, or for retransfer of resulting separated plutonium in quantities greater than 500 grams to a non-nuclear weapon state. Although the consents and approvals related to reprocessing are an integral part of the proposed Agreement and are thus not, strictly speaking, subsequent arrangements under the AEA, the standards set forth in section 131.b. will be applied for purposes of this analysis.

A. The Standard Applied to Reprocessing at Facilities Active Before 1978

Subsections 131.b.(2) and 131.b.(3) draw a distinction between facilities that have reprocessed power reactor fuel assemblies prior to March 10, 1978, and those that have not, and applies a stricter

standard to U.S. approval of reprocessing in plants that began operation after that date. Based on existing plans within EURATOM, it is anticipated that some U.S.-obligated spent fuel will be reprocessed in the THORP facility which began operation in 1994 at the Windscale site in the United Kingdom. In the case of spent fuel sent to the COGEMA plant, it is possible that the fuel will be reprocessed in the UP-3 and the UP-2 plants which also began operation after 1978. Marcoule and Dounreay are also in this category. This analysis therefore focuses on the stricter standards for post-1978 plants in Section 131b.(2).

Even if some reprocessing in EURATOM would occur in a plant began operation before 1978, Subsection (3) of Section b. makes it clear that, in enacting these provisions in the NNPA, Congress intended that the Secretary of Energy would endeavor to apply the standards in Subsection (2) to all such reprocessing facilities, as well. In response to that intent, this analysis will apply Subsection (2) criteria to the reprocessing approval in the Agreement, without regard to the date at which a facility began operation.

B. Activities Subject to Analysis: Reprocessing and Retransfers

The criteria in section 131.b.(2) applies to two types of activities:

- reprocessing; and
- retransfers to a non-nuclear weapon state of plutonium extracted from reprocessing in quantities greater than 500 grams.

1. "Risk of proliferation"

The fundamental question under section 131.b. is whether the reprocessing or retransfer might give rise to "a significant increase of the risk of proliferation." Subsection (2) specifically refers to "all the factors in making this judgment," a phrase suggesting that the Secretaries of Energy and State is to engage in a broad-ranging inquiry, considering all relevant aspects of the specific situation. Among these are the technical capabilities of the states concerned, their possible motives for seeking nuclear weapons, their national security situations, their domestic institutions, their historic commitments to nonproliferation, and the presence of international safeguards. Finally, the subsection directs that

> foremost consideration will be given to whether or not the reprocessing or retransfer will take place under conditions that will ensure timely warning to the United States of any diversion well in advance of the time at which the non-nuclear-weapon state could transform the diverted material into a nuclear explosive device.

2. Reprocessing

The COGEMA sites at La Hague and Marcoule, France, and THORP and Dounreay reprocessing facilities in the United Kingdom, which are listed in Annex A, are located in the two nuclear weapon Member States of EURATOM. Even in the extremely unlikely event that either government would attempt to divert nuclear material subject to the Agreement to its weapons program, this would not involve a "risk of proliferation", i.e., the acquisition of a nuclear explosive device by a non-nuclear weapon state. Diversion by a NWS is therefore not relevant to section 131.b. risk analysis. (It may be noted that both governments now have separate, unsafeguarded fuel cycle facilities to support their military applications of nuclear energy, and neither would have any technical reasons to illegally divert plutonium subject to the Agreement for its own use).

That all reprocessing of U.S.-obligated material will occur in nuclear weapon states does not, however, completely eliminate all risk of proliferation. Free movement of nuclear materials among its Member States is one of the fundamental principles of EURATOM. Moreover, the members of EURATOM intend to use plutonium extracted by reprocessing in France and the United Kingdom in MOX reactor fuel for power reactors in non-nuclear weapon Member States of EURATOM. Use of U.S.-obligated plutonium throughout the Member States of EURATOM will therefore follow as a natural and foreseeable result from the advance approval of reprocessing in British and French facilities, as provided for in the Agreement. In the EURATOM context, consent to reprocessing in nuclear weapon states could raise a proliferation risk in non-nuclear weapon states. This concern is discussed more fully below.

3. Plutonium Retransfers

Under the EURATOM Treaty, EURATOM and its Member States are treated as a single entity for purposes of nuclear trade. Thus, movement of plutonium recovered from reprocessing within the jurisdiction of EURATOM would not be a retransfer subject to United States consent and approval under AEA sections 123.a. and 127(4). The proposed Agreement does not authorize the retransfer of U.S.-obligated plutonium to states outside EURATOM. Any such retransfer would be authorized under a subsequent arrangement in accordance with AEA section 131. The Agreed Minute to the proposed Agreement does reaffirm existing arrangements concerning reprocessing of spent fuel from Japan, and the return of plutonium to that country.

In 1988, the United States and the Commission of the European Communities exchanged diplomatic notes concerning the retransfer to Japan, under the current U.S.-EURATOM Agreement for Cooperation, of irradiated nuclear material transferred from Japan to EURATOM for reprocessing. In its note, the United States gave advance consent to the retransfer to Japan of irradiated nuclear material, including the plutonium recovered in the reprocessing of irradiated material received by EURATOM from Japan. The advance consent provided by the United States was to remain in effect "until terminated or suspended in whole or in part by a written notice to that effect by either party."

The Agreed Minute to the Agreement provides for the 1988 exchange of notes to remain in effect as long as the (new) Agreement remains in force and confirms that the advance consent by the United States shall apply, *inter alia*, to the return to Japan of recovered plutonium contained in mixed oxide fuel. The Agreed Minute also provides for the suspension of the advance consents provided in the 1988 exchange of notes, but "only if an event of the same or greater degree of seriousness as those referred to in paragraph 8 [of the Agreed Minute] arises which directly threatens either the retransfer or the activities involving the retransferred plutonium in Japan."

The 1988 exchange of notes provides that the United States may suspend its consent without stating a reason. Although more restrictive on its face, the new suspension provision does not for all practical purposes limit the conditions under which the United States may suspend its consent. It is unlikely that the United States contemplated in 1988 that it would suspend its consent to the retransfer of plutonium from EURATOM to Japan because of an event less serious than those listed in paragraph 8 which threatened the retransfer or the use of the retransferred plutonium in Japan.

While the United States will forego, under the new formulation, the freedom to suspend its consent for irrelevant or capricious reasons - or for no reason at all - there is likely to be no practical difference in the application of U.S. suspension rights under the new formulation. Accordingly, the limitation in paragraph 5 of the Agreed Minute will not be inimical to the common defense and security nor will it result in a significant increase in the risk of proliferation beyond that which exists under the relevant provision of the 1988 exchange of notes. Moreover, under the U.S.-Japan Agreement, the United States has the opportunity to prevent such shipments if it is not satisfied with the transportation plan or believes the retransfer would significantly increase the risk of proliferation beyond that which exists under the relevant provision of the 1988 exchange of notes.

C. Implications of Recovered Plutonium Use in Non-Nuclear Weapon States of EURATOM

Under the Agreement, plutonium extracted in France or the United Kingdom from spent reactor fuel subject to the Agreement may be fabricated into MOX fuel elements in those countries or in Belgium or Germany, in facilities listed in Annex A to the Agreement. The fabricated fuel elements may then be used in reactors in the United Kingdom, France and the non-nuclear weapon Member States of EURATOM. This section of the analysis assesses the proliferation risks raised by such fabrication of MOX fuel and its use in LWRs in the non-nuclear weapon Member States.

1. Timely warning

a. The meaning of "timely warning." AEA Section 131.b.(2) refers to "the time at which the non-nuclear-weapon state could transform the diverted material into a nuclear explosive device." This period may vary from case to case. The law is silent as to what information

and factors should be taken into account in considering and determining whether the "timely warning" standard is met. A broad range of technical, political, and other factors, including safeguards and physical protection, are relevant in anticipating or detecting diversion, may be considered in making such an assessment.

There are a number of direct indicators of possible diversion that are relevant to whether there would be timely warning in the case of consents of the type addressed by section 131.b.(2). These indicators include:

b. **Safeguards.** If a non-nuclear weapon Member State of EURATOM intended to divert plutonium, it would have to evade detection by both EURATOM and IAEA safeguards systems. The IAEA safeguards timeliness standards call for detecting diversion of fresh MOX fuel or fuel containing HEU or plutonium, within one month from the time of diversion.[25]

At the operational level, EURATOM has placed no undue restrictions or demands upon the IAEA in the conclusion of facility attachments or in the implementation of safeguards and, as noted, the safeguards cooperation of the two organizations has reached an advanced state. Consequently, a significant adverse shift in compliance by the operator of a reprocessing, conversion, or fuel fabrication plant, or storage facility with the IAEA's safeguards requirements, such as interference with surveillance equipment or in its accounting for nuclear material would come to the attention of both the IAEA and EURATOM. If the situation was not resolved promptly, it would provide a

[25]IAEA Safeguards Glossary (1987), para. 123, "Timeliness goal."

significant indication of possible activities at variance with the nonproliferation obligations of the State in which the facility concerned was located.

c. **Visibility of A Nuclear Weapons Program.** In the 1970s, South Africa, not then a party to the NPT, secretly manufactured nuclear weapons. In the 1980s, Iraq, although an NPT party, made a substantial clandestine effort toward the same goal. Neither of those countries, however, were in the same situation as the non-nuclear weapon Member States of EURATOM. Neither was a truly open society, and both had immediate and long-standing security concerns to spur their nuclear weapons efforts. Neither was involved in a transparency-building regional network of economic and nuclear cooperation and arms control measures among countries firmly dedicated to nonproliferation. A EURATOM non-nuclear weapon Member State would have to evade all such involvements if it attempted to undertake a clandestine nuclear weapons program.

Although EURATOM non-nuclear weapon Member States possess advanced technical capabilities and scientific resources, a nuclear weapons program would require the mobilization of dedicated resources and their organization to meet specific weapons design, development, and manufacturing requirements.

A plutonium-based nuclear explosive design, fabrication, and testing effort would involve activities that are highly complex and susceptible to detection. Classified technologies necessary for the purpose of producing both a first operational nuclear explosive device and a modest nuclear weapons stockpile would require acquisition of unique equipment and production facilities (e.g., gas krytron

tubes, certain types of flash x-ray generators, and specialized instrumentation for hydrodynamic testing). These items, some of which have few, if any, known peaceful uses, would either have to be obtained abroad or developed through dedicated efforts. Indication that such procurement activity was underway by a EURATOM non-nuclear weapon Member State would likely provide timely warning. In addition, reassignments of scientists and engineers to weapons-related activities, or the establishment of dedicated working groups, could provide indicators that a nuclear weapons program had begun or was being organized.

d. **Political Indicators.** A decision by a non-nuclear weapon Member State of EURATOM to seek to acquire nuclear weapons, and to pursue their manufacture through diversion of safeguarded material, would require major reversals of policy and would be preceded by far-reaching changes in the security situation, international relations and/or domestic politics of the State concerned.

Each of EURATOM's Member States has a stable, democratic government, where effective and open debate among the political parties and the many active interest groups opposing nuclear weapons are relevant factors in considering the timely warning standard. Open democratic governments and membership in the European Union increase the visibility of the substantial intragovernmental activity that would be necessary to initiate and support a nuclear weapon program.

Similarly, an open form of government reduces the likelihood of arbitrary decisions and a diversion of resources to a nuclear weapon program. Any decision to seek to acquire nuclear weapons would

almost certainly be preceded by a public perception of a growing external threat, and a lessening of confidence in NATO or other security arrangements. These perceptions would inevitably be reflected in public and parliamentary debate, which would likely include discussion of whether the state should denounce both the NPT and the Treaty of Rome.

All of these developments would contribute to providing timely warning to the United States of a basic change in the nonproliferation policy of a non-nuclear weapon Member State of EURATOM, which could lead to a decision by a state to seek to acquire nuclear weapons. In accordance with the Agreed Minute, such developments might also constitute objective evidence of a significant increase in the risk of proliferation, sufficiently serious to result in suspension of the U.S. consent to reprocessing in Article 8 of the Agreement.

e. **Transparency Role of European Union Institutions.** The history of the European Union has reflected constant progress in regional economic and political integration. EU institutions directly interact with the people and industries of Western Europe. This growing interdependence will make it increasingly difficult for any single non-nuclear weapon Member State of EURATOM, or a group of such Member States, to set up and maintain a secret nuclear weapons program.

As of January 1995, the European Union was comprised of 15 Member States. It began with the Coal and Steel Community (Treaty of Paris, 1951), followed by the Economic Community and the Atomic Energy Community (Treaties of Rome, 1957). These three Treaties, together with the

instruments amending and supplementing them -- the Single European Act and the Maastricht Treaty -- contain the basic provisions for the EU's objectives, organization and mode of operation. Under the Single European Act (1986), the Community undertook to abolish internal borders, and to formalize political cooperation among the member governments. The 1992 Maastricht Treaty on European Union combined a Community moving towards economic and monetary union with intergovernmental cooperation in certain noneconomic areas. Specifically, Articles J-1 through J-10 of the Maastricht Treaty define and provide for the further integration of a common foreign and security policy and for the eventual framing of a common defense policy.

The EU is managed by common institutions: a democratically-elected Parliament; a European Council, consisting of heads of State or government; a Council of Ministers representing member states and composed of government foreign ministers; a Commission which acts as guardian of the Treaties and has the power to initiate and implement legislation; a Court of Justice which ensures that Community law is observed; and a Court of Auditors which monitors the financial management of the Community. The Maastricht Treaty recently created an EU Ombudsman, to receive and investigate complaints and "whistle-blowing" from inhabitants of the EU, and report to the Parliament.

The Commission of the European Union is the EU's operating arm. It is composed of fifteen Commissioners, representing each of the Member States, and is subject to the supervision of the European Parliament, primarily through approval of the Commission's budget, questions directed to the Commission by individual members, and parliamentary investigations. (Parliamentary questions

have often concerned nuclear proliferation and nuclear cooperation policies of the Commission). Parliament members are elected by popular vote in their respective countries.

In summary, the EU has created an increasingly integrated Western Europe, in which the member states have lost most of their power to control the movement, trade, investment or other economic activities of their citizens and corporations. The development of the EU has also seen a increasingly intrusive regulatory role for the EU bureaucracy in pursuing common economic and environmental policies. The integration of Europe under the EU, and the pervasive, overarching presence of EU institutions, make it unlikely that a clandestine nuclear weapons program in an EU Member State would not be detected in a timely fashion by other EU Member States.

f. Transparency Role of International Cooperation within and with EURATOM. Of major importance in considering the likelihood of timely warning, is the transparency of the peaceful nuclear programs of the individual Member States of EURATOM and the numerous opportunities this transparency provides to detect weapons-related activities or suspicious actions that would prompt immediate investigation.

EURATOM and its Member States have well-developed internal and external nuclear trade. They also conduct a number of joint research activities among its Member States and with others, including the United States. This multinational cooperation will likely increase as EURATOM and its Member States continue to expand their internal and external nuclear trade. The multinational nuclear research and development agreements and joint programs in which EURATOM and its Member States

participate provide a "window" into their nuclear programs, particularly with respect to advanced reactors and fuel cycle technologies. Any significant change of the existing policy of open cooperation (for example, through withdrawal of key personnel or facilities) could provide an early indication of an intention by a non-nuclear weapon Member State to acquire nuclear weapons.

EURATOM-sponsored nuclear research draws from a common scientific pool of Member State expertise. Decisions on funding and content of these joint research activities, which are managed by the European Commission under supervision of the Council and the European Parliament, are taken by the Council of Ministers of the Member States and financed from the EU's budget.

EURATOM nuclear research is carried out in five-year framework programs (FPs) subdivided into (topical) specific programs. The major part of the framework program is implemented as "shared cost action," i.e., multinational research programs carried out by public and private institutions in Member States under cost-sharing contracts, with approximately 50% financial participation of the EU. The other part of EURATOM's FPs, the "direct actions", consists of R&D in the EU's own research establishment, the Joint Research Centre (JRC), which operates laboratories in Ispra, Italy, Karlsruhe, Germany, Geel, Belgium and Petten, Netherlands, and in the Joint European Torus (JET), a fusion research facility in Culham, UK in which the EU has a major share. Results of projects financed under EURATOM cost-shared and direct action programs are available to all Member States under the provisions of the EURATOM Treaty.

In parallel to the common EURATOM program, many Member States operate national R&D programs. Complementarity and coordination between national and EURATOM programs is assured at the highest level by the Council of (national) ministers, assisted by the Scientific and Technical Committee (STC) and, at the operational end, by advisory and management committees of national executives and experts attached to the EURATOM research programs.

EURATOM also engages in international cooperation on the peaceful uses of nuclear energy with countries outside the EU. It cooperates extensively with the United States on such topics as environmental matters, research and development in energy, and controlled thermonuclear fusion research. In 1982, EURATOM and the U.S. Department of Energy (DOE) signed two cooperation agreements -- one for exchange of information on management of radioactive wastes; and the other on safeguards research and development. DOE and EURATOM completed agreements subsequently on cooperation in nuclear safety research.

g. **Dual Role of Arms Control Measures.** European regional agreements and organizations, notably the Open Skies Treaty, the Conventional Forces in Europe (CFE) Treaty, and the Organization on Security and Cooperation in Europe (OSCE) would provide additional political indicators of potential diversion. Implementation of the extensive transparency and verification provisions in these Open Skies and CFE arms control agreements would contribute to the likelihood that a clandestine nuclear weapons program would be discovered at an early stage. The fundamental changes in European security that would be sufficient to provoke a EURATOM non-nuclear weapon

Member State to seek to acquire nuclear weapons would almost certainly be reflected in the breakdown or termination of such regional arrangements.

The Open Skies Treaty establishes a regime for the conduct of observation flights by States Parties over the territories of other Treaty members. That regime is not tied to the verification of any particular arms control commitments. Under Article IV of the Treaty, the observation flights may use a variety of sensors, including optical cameras, video cameras, infra-red line-scanning devices, and sideways-looking synthetic aperture radar. The eleven EURATOM Member States that are also members of NATO are Parties to the Open Skies regime. Under the Treaty, they are obligated to accept annual quotas of observation flights ranging from 2 for Portugal to 12 each for France, Germany and Italy.

The Conventional Forces in Europe Treaty authorizes East European and former Soviet republics to request challenge inspections, by land or helicopter, in the NATO Member States of Western Europe. While such requests can be refused, exercise of this right would focus attention on the state concerned and efforts could be made to discover what it was attempting to hide in the area selected for challenge inspection.

The Organization of Security and Cooperation in Europe (OSCE), to which fifty-three European countries belong, underpins the security arrangements established by regional arms control accords. For example, the OSCE has established a politically-binding procedure for on-site inspections to verify confidence and security building measures (CSBMs). Those procedures require each

participant to accept three inspections per year from other participating governments. The inspections apply to most of the non-nuclear weapon Member States of EURATOM, i.e., Belgium, Denmark, Germany, Greece, Italy, Luxembourg, the Netherlands, Portugal, and Spain. It is difficult to imagine that these CSBMs would continue to operate in a security environment so threatening that a non-nuclear weapon Member State of EURATOM believed it needed nuclear weapons for its national defense.

2. Other Factors Considered in Assessing Proliferation Risk

The factors relevant to the consideration of timely warning -- safeguards, political indicators, and the unique transparency arising from EU institutions, nuclear cooperation, and arms control measures -- should also be considered in assessing the overall proliferation risks raised by the Agreement. In addition, this analysis considers possible motives for a EURATOM non-nuclear weapon Member State to seek to acquire nuclear weapons, and the commitment of EURATOM Member States to nonproliferation.

a. **Motives for Proliferation.** In its 1977 report "Nuclear Proliferation and Safeguards,"[26] the Congressional Office of Technology Assessment (OTA) identified four potential motives for seeking to acquire nuclear weapons: for general deterrence, as a weapon of last resort, for domestic political reasons, and to protect economic interests. Based on that list of motives, no

[26] This OTA report was referred for the same purpose in the Section 131.b. analysis of the 1987 Agreement for Cooperation with Japan.

EURATOM non-nuclear weapon Member State will have a compelling reason to pursue a nuclear weapons capability for the foreseeable future.

Historically, the primary incentive to acquire nuclear weapons has been to deter hostile military attack. Closely related is the potential of nuclear weapons as a means of last resort for a nation to avoid being destroyed by more powerful conventional enemy forces. Traditionally neutral Sweden, for example, considered such a nuclear weapons option in the 1950s and early 1960s, before it became a party to the NPT.

With the end of the Cold War, the breakup of the Soviet Union, and the disintegration of the Warsaw Pact, no EURATOM non-nuclear weapon Member State faces any foreseeable threat to its security. While a residual threat may arise from the former Soviet Union, most EURATOM Member States are also members of the NATO alliance and are therefore under the nuclear umbrella of the United States, the United Kingdom and France. The four neutral Member States of EURATOM -- Austria, Finland, Ireland and Sweden -- face no external security threat. None of these neutral states is likely to see a need for nuclear weapons as a last resort for its defense.

In some situations, the acquisition of nuclear weapons could be justified as a way to bolster a government's political power through increased international status or enhanced domestic political support. Since the conclusion of the NPT in 1968, however, an international norm against the proliferation of nuclear weapons has become widely established, especially in the West, undercutting the prestige that the acquisition of such weapons was thought to bring in the 1950s and early 1960s.

There is also little evidence of a need for increased prestige within EURATOM. The European Union is already one of the most prestigious and powerful international entities in the world, and its member governments are stable and democratic. There are no significant domestic political groups in any of the non-nuclear weapon Member States of EURATOM calling for a nuclear weapons option.

The protection of trade and economic interests could provoke a country to acquire nuclear weapons to protect these interests. None of the EURATOM non-nuclear weapon Member States, however, have any economic interests that are likely to be threatened in a manner that would create an incentive for it to acquire nuclear weapons. On the contrary, trade relations would be seriously disrupted by the discovery that a EURATOM non-nuclear weapon Member State was seeking to acquire nuclear weapons. Such an event could easily lead to a breakdown of the nuclear and other common markets in Europe. Economic considerations are far more likely to discourage, rather than encourage, a EURATOM non-nuclear weapon Member State to seek to acquire nuclear weapons.

There is, therefore, no reason to conclude that there are any incentives for any EURATOM non-nuclear weapon Member State to initiate a nuclear weapons program. In fact, it appears that there are very strong disincentives that discourage EURATOM non-nuclear weapon Member States from initiating such a program.

b. **Commitment to Nonproliferation**. All EURATOM non-nuclear weapon Member States have strong nonproliferation policies and have foresworn the acquisition of nuclear weapons or other nuclear explosive devices through their adherence to the NPT. The Federal

Republic of Germany, in particular, unilaterally declared when it joined NATO that it would not develop nuclear weapons and recently reaffirmed that commitment as part of the process of German reunification. EURATOM non-nuclear weapon Member States supported the European Council's 1984 and 1990 policy statements on nonproliferation. Member States of EURATOM that engage in nuclear exports were early participants in the Nuclear Suppliers Group, and all of these supported the Group's 1991 adoption of dual-use controls and full-scope safeguards as a condition of supply. The policy of each EURATOM's non-nuclear weapon Member States not to acquire nuclear weapons is now firmly established.

D. Conclusions on Relevant Criteria in AEA Section 131.b.

1. Timely Warning

When all the relevant facts and circumstances are taken into account, it is highly probable that the United States would receive timely warning of any diversion of plutonium subject to the Agreement in a non-nuclear weapon Member State of EURATOM. Factors leading to this conclusion include the following:

a. **Safeguards.** Both EURATOM and IAEA safeguards will be applied to all such plutonium in every EURATOM non-nuclear weapon Member State. Those safeguards are applied in ways that are designed to detect diversion of nuclear material before it could be used in a nuclear explosive device.

b. **Transparency.** Any EURATOM non-nuclear weapon Member State tempted to divert such plutonium to nuclear weapons would face substantial difficulties keeping such action secret. The nuclear research programs of the EURATOM Member States are subject to considerable

transparency as a result of joint research projects within EURATOM, the oversight functions of ombudsmen and other democratic institutions in the individual States and the EU, participation in international nuclear trade, and the verification provisions of regional arms control arrangements, including the Open Skies Treaty.

c. **Changes in Nonproliferation Policy.** Both EURATOM and each of its non-nuclear weapon Member States have strong nonproliferation policies and credentials. A public weakening of such support would likely precede any decision to seek to acquire nuclear weapons.

d. **Changes in the European Security Situation.** A decision by any EURATOM non-nuclear weapon Member State to divert plutonium subject to the Agreement would not take place in a political or strategic vacuum. It would be precipitated by a radical alteration of the security situation in the Member State concerned, giving rise to a fundamental change of its policies. Such a change would almost certainly be reflected in the public debate and international relations of the state concerned, including such things as a breakdown of regional arms control and confidence-building measures, anomalies in its safeguards obligations, decreased international nuclear cooperation, and worsening political relations with the United States and the two nuclear weapon Member States of EURATOM.

In summary, there is every reason to believe that the United States would receive timely warning of any attempted diversion of plutonium subject to the Agreement, well in advance of the time at which a non-nuclear weapon Member State of EURATOM could transform it into a nuclear explosive device.

2. Proliferation Risk

U.S. consent to reprocessing and U.S. reaffirmation of its consent for the subsequent retransfer of plutonium to Japan in the Agreement would not increase the risk of proliferation. Factors taken into account in reaching this conclusion, called for in section 131.b.(2) of the AEA, include the following:

(1) **The Likelihood of Timely Warning of an Attempted Diversion.**

(2) **The Strong Nonproliferation and Physical Protection Policies and Credentials of EURATOM and its Member States.** The political, commercial and economic interests of the individual EURATOM Member States would be undercut by any effort to acquire nuclear weapons, so strong nonproliferation policies are in the self-interest of these States.

(3) **The Lack of Any Credible Motivation for any EURATOM Non-Nuclear Weapon Member State to Engage in a Nuclear Weapons Program.** The security situation of every such State is stable. None faces a security threat that would justify the acquisition of nuclear weapons and none has international ambitions that might be advanced by such weapons. All but four of the EURATOM Member States are also members of NATO, and are covered by the nuclear umbrella of the three nuclear weapon Member States of that alliance. The remaining four EURATOM Member States are neutral states whose security is generally recognized to be closely tied to that of NATO. If any EURATOM non-nuclear weapon Member State sought to acquire nuclear weapons, severe tensions with the United States and other EURATOM Member States would result and thus weaken that State's security

situation.

Granting the advance long-term consents and approvals in the Agreement will not, therefore, result in a significant increase of the risk of proliferation beyond that which now exists.

V. BASIS FOR FINDINGS WITH RESPECT TO COMMON DEFENSE AND SECURITY (AEA SECTIONS 123.b. AND 131.a.)

This analysis now turns to the question of whether the Agreement, and the consents and approvals within it, will have a negative impact on U.S. national security. As noted previously, to approve a subsequent arrangement subject to Section 131 of the AEA, the Secretary of Energy must determine that the arrangement will "not be inimical to the common defense and security." To approve and authorize the execution of an agreement for cooperation, the President must determine that its performance will "promote, and not constitute an unreasonable risk to, the common defense and security."

A. General Considerations: Nuclear Cooperation with EURATOM

Many of the factors already discussed in relation to AEA section 131.b. would also lend strong support to the conclusion that, taken as a whole, the Agreement would promote and not be inimical or pose an unreasonable risk to the common defense and security. These factors include the application of EURATOM safeguards in all facilities covered by the Agreement in all Member States, the lack of evident motivation for any non-nuclear weapon Member State of EURATOM to acquire nuclear weapons, the application of IAEA safeguards in all nuclear facilities located in every non-

nuclear weapon Member State of EURATOM, the firm nonproliferation policies of all EURATOM Member States, and the close economic and security ties between all EURATOM Member States and the United States.

All EURATOM Member States are Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, and each has a vigorous nonproliferation policy. Eleven EURATOM Member States are close allies and trading partners of the United States, and the rest are friendly neutral powers, each of whom have demonstrated security interests similar to those of the United States in the past.

In light of these considerations, it can be assumed that each of the Member States of EURATOM will remain stable, secure and closely tied to the United States during the life of the Agreement and for the foreseeable future thereafter. Under that assumption, the most probable danger to the common defense and security would arise as a result of retransfers, licit or illicit, between EURATOM and its Member States and countries of proliferation concern outside their jurisdictions.

It is therefore pertinent to examine next the activities to which the United States gives its consent under the Agreement, and to examine whether those activities could be expected to unreasonably jeopardize U.S. controls on retransfers and the application of physical protection to U.S.-obligated materials and equipment. Remaining U.S. government control over activities of possible proliferation concern are also examined.

B. Advance Consents and Approvals.

Article 8 of the proposed Agreement grants four categories of advance consent for U.S.-obligated material and equipment:

(1) Paragraph 1 permits the use within the jurisdiction of EURATOM of nuclear material subject to the Agreement in activities of relatively minor proliferation significance, such as enrichment of uranium up to 20% U-235, the irradiation of such nuclear material and the post-irradiation examination of irradiated material subject to the Agreement, involving chemical dissolution or separation. Irradiation is a necessary incident of the use of nuclear material in a reactor, and post-irradiation examination will involve only small quantities of material. None of those uses of nuclear material subject to the Agreement raises significant concerns for the security of the United States.

(2) Paragraph 1 also permits retransfer, from EURATOM or its Member States to countries designated by the United States, of certain low enriched uranium, source material, and non-nuclear material and equipment for purposes other than the production of HEU. Irradiated nuclear material subject to the Agreement may also be retransferred to countries designated by the United States for storage or disposal not involving reprocessing. Other nuclear material subject to the Agreement may be retransferred to countries designated by the United States for other activities, including reprocessing, conversion, and fuel fabrication. The United States will

designate those countries listed for each of the foregoing purposes and make additions and deletions, taking into account specified criteria relevant to the risk of proliferation and the security of the United States.

(3) Paragraph 2 approves activities of higher proliferation concern -- reprocessing within EURATOM and the fabrication of reactor fuel using plutonium. In addition, under paragraph 5 of the Agreed Minute, the U.S.-EURATOM exchange of notes dated 18 July 1988 will remain in effect as long as the proposed Agreement remains in force. The exchange of notes grants U.S. consent to the reprocessing in EURATOM of Japanese spent fuel, the fabrication of reactor fuel using the extracted plutonium, and its return to Japan. The implications of these consents have been extensively discussed above, in conjunction with section 131.b., where it was concluded that they would not significantly increase the risk of proliferation.

(4) Paragraph 3 permits the storage within EURATOM Member States of U.S.-obligated plutonium, U-233 and high enriched uranium in facilities which are identified and which are "at all times subject, as a minimum," to stated physical protection standards. The right is provided for the United States to call for corrective measures to be taken if it has grounds to believe that those standards are not being maintained at any of the facilities listed by EURATOM. Thus, such storage will not raise concerns for the security of the United States.

C. U.S. Controls Over Activities of Concern

Under the Agreement, the United States will retain a high level of control over activities involving nuclear materials subject to the Agreement of the greatest proliferation concern, separation of plutonium, the production of high enriched uranium, or their retransfer to third countries. No advance consent is given in the Agreement for EURATOM Member States to produce high enriched uranium using source material or LEU subject to the Agreement. The United States would therefore retain the right to approve any such activity on a case-by-case basis through a subsequent arrangement.

Retransfer of uranium for production of HEU, or retransfer of either HEU or plutonium (including irradiated spent fuel containing plutonium) would also require conclusion of a subsequent arrangement by the United States. Under sections B.2. and B.3. of the Agreed Minute, EURATOM is not permitted to engage in such retransfers except to countries listed by the United to which such transfers may be made. In preparing its lists, the United States may consider the potential proliferation and security implications of the transfer. Furthermore, the United States may, after consulting with EURATOM, delete countries from its lists.

In regard to the retransfer of plutonium, the special case of Japan should be mentioned. Japan currently sends its spent reactor fuel to France and the United Kingdom for reprocessing and takes the separated plutonium back for use in its reactors. The United States gave advance consent to the reprocessing within EURATOM of U.S.-obligated spent fuel and the return of resulting plutonium in its 1988 Nuclear Cooperation Agreement with Japan. Through an exchange of notes on July 18,

1988, the United States gave EURATOM advance consent to retransfer back to Japan plutonium resulting from the reprocessing of U.S.-obligated spent fuel in EURATOM Member States.

The Agreed Minute provides for that 1988 exchange of notes to remain in effect as long as the new Agreement remains in force. This U.S. consent to the retransfer of separated plutonium back to Japan may be suspended only for reasons "of the same or greater degree of seriousness" as would justify suspending reprocessing of U.S.-obligated fuel in EURATOM itself. The nonproliferation risks associated with these plutonium retransfers to Japan were analyzed under section 131 in 1988. There have been no changes in facts or circumstances since that time that would alter the ability of the United States to make the required determinations under that section.

Under the Agreement, advance consent to reprocessing of U.S.-obligated spent fuel, or to conversion and fuel fabrication of plutonium, U-233 or HEU recovered therefrom, in designated plants in EURATOM Member States, is not irrevocable. As noted earlier, U.S. consent to all such activities may be suspended on the basis of objective evidence that continuation of any such activity in any designated plant would entail a serious threat to U.S. security or a significant increase in the risk of nuclear proliferation. Examples of such events, identified in the Agreed Minute, include even the retransfer to any non-nuclear weapon state without full-scope IAEA safeguards, and internal disturbances or threats of war directly threatening the safeguarding or physical security of the activities permitted in the designated plants.

The basis for suspension by the United States of its consent to reprocessing and to conversion and fuel fabrication of recovered plutonium, etc, set forth in the Agreed Minute is similar to that in Article 3 of the Implementing Agreement to the 1987 U.S.-Japan Agreement for Cooperation, allowing the United States to withdraw its consent to reprocessing and other activities in Japan. Applying that same standard to the retransfer of separated plutonium back to Japan, as provided for in the Agreed Minute to the Agreement, should therefore have minimal impact on the common defense and security. In addition, because objective evidence of serious threats to security or risks of proliferation will allow the United States to suspend its consent to reprocessing and to alteration of plutonium, U-233 or HEU, the advance consent given to these activities by the proposed Agreement with EURATOM should also have minimal impact on the common defense and security.

D. Possible Future Addition of Other States to the European Union

Certain states may, at some time in the future, become members of the European Union. Possible candidates include the Czech Republic, Hungary, Poland, and Slovakia. Less likely candidates are Bulgaria and Romania. The United States either has already in effect agreements for cooperation in the peaceful uses of nuclear energy with all these states or is in the process of completing its internal ratification procedures for such agreements (in the case of Bulgaria and Romania).

Turkey has also been mentioned as a possible candidate for European Union membership. The United States does not have an agreement for peaceful nuclear cooperation in force with Turkey at the present time. However, a previous agreement expired on June 9, 1981, and at that time the

United States and Turkey exchanged notes confirming the continuing applicability of the safeguards and guarantee provisions of the expired agreement.

If any of the states with which we have agreements were to become members of EURATOM, its existing agreement with the United States would become superseded by the U.S.-EURATOM agreement for cooperation. In recognition of the longstanding U.S. policy of support for the unity and integrity of EURATOM, Article 19 of the U.S.-EURATOM agreement provides, inter alia, that:

> the rights and obligations with respect to nuclear supply arising out of a nuclear cooperation agreement between the United States and any third states that accedes to the Community after entry into force of this Agreement shall be replaced by those of this Agreement upon accession by that state to the Community.

A state with which we did not have an existing agreement for cooperation would also automatically be covered by the U.S.-EURATOM agreement upon its entry into the European Union. Any new member state of EURATOM would therefore be covered by the advance consent arrangements in the U.S.-EURATOM agreement. This would be consistent with the President's non-proliferation policy statement of September 27, 1993, specifically the section that addresses the use of plutonium "in civil nuclear programs in Western Europe and Japan." In context, "Western Europe" is as much a political as a geographic term. There can be absolutely no doubt that for countries of the former East Bloc to be eligible for membership in the European Union, they will need to completetheir transformation into societies unequivocally committed to "Western" political and economic values. In particular, they will have had to demonstrate their firm commitment to democratic practices and ideals and market economies. These transformations are already under way. When and as they are completed, the countries in question will indeed have become a part of "Western Europe" in the

crucial political sense of the term. As for other prospective member states, there can be no doubt that they too will need to satisfy these same standards.

In any event, it is unlikely that any of the states which are likely candidates for accession to EURATOM in the foreseeable future will be in a position to participate in the arrangements relating to reprocessing and alteration in form and content. First, they do not possess any U.S.-obligated nuclear material or equipment. Second, they have no plans to engage in reprocessing or alteration in form or content. Third, they do not have the resources to construct such reprocessing or MOX fabrication facilities. Were they ever to engage in such activities and were these activities ever to involve U.S.-obligated nuclear material, they could only do so in accordance with the terms and conditions of the U.S.-EURATOM agreement for cooperation. In other words they would have to adhere to the same criteria and procedures for reprocessing and alteration in form or content of U.S.-obligated nuclear materials as states now members of the Community. These are the requirements for the application of EURATOM and IAEA safeguards and the physical protection measures set forth in the U.S.-EURATOM agreement. They would also have to provide the United States with the same information on safeguards as states currently members of the Community.

The likely candidates for membership in EURATOM already possess excellent nonproliferation credentials. They are parties to the NPT and accept IAEA safeguards on all their nuclear activities. They are members of the Nuclear Suppliers Group and the Zangger Committee and adhere to the Convention on the Physical Protection of Nuclear Material. Were they to become members of EURATOM, they would have also to abide by the EURATOM Treaty and accept EURATOM

safeguards on all their nuclear activities. They would also have to accept EURATOM's accession requirements which include NPT and NSG adherences.

None of the most likely candidates for membership in EURATOM would present a significant increase in the risk of proliferation or seriously jeopardize the security of the United States in the unlikely event that they were to engage in reprocessing or alteration in form or content of U.S.-obligated materials. This judgement is based on the following considerations: the nonproliferation requirements of full membership in the Community, the comprehensive nonproliferation commitments of any likely new candidates for membership, the stringent nonproliferation, safeguards and physical protection requirements of the U.S.-EURATOM agreement, and the fact that the United States already has agreements for cooperation with these states.

The United States, of course, retains the right to withdraw its consent under the terms and conditions of the Agreement if it determines that continuation of these consent arrangements would result in a significant increase of proliferation or jeopardize the security of the United States.

D. Conclusion

Based on all these considerations and the other detailed points covered in this analysis, it is the conclusion of this analysis that the proposed Agreement will promote, and will not be inimical to or constitute an unreasonable risk to the common defense and security.

VI. FINAL CONCLUSIONS

Based on the foregoing analysis, the following conclusions should be reached on the proposed U.S.-EURATOM Agreement for Cooperation and on the advance consents and approvals in Article 8 of that Agreement:

(a) Performance of the proposed Agreement will promote, and will not constitute an unreasonable risk to, the common defense and security.

(b) The Agreement, including the advance consents and approvals, will not be inimical to the common defense and security.

(c) In the case of activities to which the standard in section 131.b. of the Atomic Energy Act applies, the consents and approvals will not result in a significant increase of the risk of proliferation.

These conclusions justify a recommendation to the Secretary of Energy that she determine that implementation of the Agreement as a whole will neither be inimical to the common defense and security nor result in an increase of the risk of proliferation, and that she and the Secretary of State jointly recommend that the President authorize execution of the proposed Agreement.

LIST OF FACILITIES FOR STORAGE TO WHICH THE PROVISIONS OF ARTICLE 8.3 OF THE AGREEMENT ARE APPLICABLE

U.S. Facilities

I. Facilities that possess >20% enriched uranium (HEU) (one effective kilogram or more), plutonium except as contained in irradiated fuel (one effective kilogram or more) and/or uranium-233 (one effective kilogram or more):

NAME and LOCATION	TYPE	LICENSED CAPACITY
Nuclear Fuel Services P.O. Box 337, MS123 Erwin, TN 37650	Uranium downblending	7,000 kgs U-235
Radiochemistry Processing Pilot Plant Oak Ridge Nat'l Lab P.O. Box X Oak Ridge, TN 37830	Conversion	Less than 1000 kg of HEU and more than 100 kg of U-233
General Atomics P.O. Box 81608 San Diego, CA 92138	Fuel fabrication for TRIGA research reactors	>20% enr U, 100 kg U-235.
General Electric Co. Vallecitos Nucl. Ctr P.O. Box 460 Pleasanton, CA 94566	NTR	100 KW

NAME AND LOCATION	TYPE	LICENSED CAPACITY
Georgia Inst. of Tech School of Nuclear Eng. Atlanta, GA 30332	Research Reactor	5 MW
High Flux Beam Reactor Brookhaven Nat'l Lab Upton, NY 11973	Research Reactor	35.4 MW
MA Inst. of Tech Dept of Nuclear Eng. 138 Albany St., Cambridge, MA 02139	Heavy Water Reactor	5 MW
National Inst. of Standards & Technology US Dept of Commerce Washington, DC 20234	Test Reactor	20 MW
North Carolina State Dept of Nuclear Eng. Box 7001 Raleigh, NC 27695	PULSTAR	1 MW
Purdue University Dept of Nuclear Eng. W. Lafayette, IN 47907	Lockheed	1 KW
Rhode Island Atomic Energy Commission South Perry Road Narrangansett, RI 02882	Pool Reactor	2 MW
Texas A&M University Engineering Experiment Station, Engineering Research Center College Station, TX 77843	TRIGA Reactor	1 MW

NAME AND LOCATION	TYPE	LICENSED CAPACITY
University of Florida Dept of Nuclear Eng. Gainesville, FL 32611	Argonaut	100 KW
University of Lowell Nuclear Center GE Lowell, MA 01854	Research Reactor	1 MW
University of Missouri Research Reactor Facility Columbia, MO 65211	Tank Reactor	10 MW
University of Virginia Dept. of Nuclear Eng. Charlottesville, VA 22901	Pool Reactor	2 MW
University of Wisconsin Nuclear Eng. Dept. Madison, WI 53706	TRIGA Reactor	1 MW
Washington State Univ. Nuclear Radiation Ctr. Pullman, WA 99164	TRIGA Reactor	1 MW
Worcester Polytech Inst. Nuclear Reactor Facility Worcester, MA 01609	Pool Reactor	10 KW
Renssalaer Polytech Inst. Div. of Nuclear Eng. & Science Troy, NY 12181	General R&D	PU-239 1 kg uranium enriched 20% or more 10 kg U-235

NAME AND LOCATION	TYPE	LICENSED CAPACITY
Penn State University University Park, PA 16802	R&D and training	Pu-239 1 kg, uranium enriched 20% or more, 1 kg U-235, <20% enriched uranium, 1100 kgs U-235 (LEU)
Massachusetts Inst. of Technology Dept of Nuclear Eng. 138 Albany Street Cambridge, MA 02139	Reactor calibration R&D activities	Pu-239 1.3 kgs 350 grams U-235 (HEU), 32 kgs U-235 (LEU), 2,753 kgs Nat./Dep. U
Seattle University Dept. of Physics Seattle, WA 90122	R&D and training	Pu-239 1 kg, 20% or more enriched uranium 20 kg
Stanford University Nuclear Division Palo Alto, CA 94305	R&D and training	Pu-239 1 kg, uranium enriched 20% or more 1 kg
Purdue University Dept of Nuclear Eng. W. Lafayette, IN 47907	R&D and training	81 kgs irradiated fuel, 11,760 kgs Nat. U sealed, 80 grams Pu sealed, 0.4 kgs U-235 in LEU rods
Eastman Kodak Bldg. 320, Kodak Park Rochester, NY 14652-3615	R&D	1.6 kgs U-235 (HEU)
Hot fuels Examination Facility (HFEF/N) Argonne Nat'l Lab West P. O. Box 2528 Idaho Falls, ID 83402	Hot cell	Hot cell examination facility for reactor fuels and experiments with an inventory of more than 100 kg of enriched uranium and greater than 10 kg of plutonium

NAME AND LOCATION	TYPE	LICENSED CAPACITY
R&D Facility Pacific Northwest Lab P.O. Box 999 Richland, WA 99352	Research and Development	Hot cell fuel examination facility. Inventory includes < 50 kg of plutonium and < 50 kg of HEU
R&D Facility Pacific Northwest Lab P.O. Box 999 Richland, WA 99353	Research and Development	Includes lab., storage, scrap recovery R&D, and a sub-critical reactor. Inventory includes < 5 kg of plutonium and < 7 kg of HEU
HEU Storage Vault Y-12 Plant P.O. Box 2009 Oak Ridge, TN 37831	Dedicated Storage	Facility could store up to 30 tons of HEU
Plutonium Storage Vault Plutonium Finishing Plant, Westinghouse Hanford Co. P.O. Box 1970 Richland, WA 99352	Dedicated Storage	Vault with over 1900 monitored locations for storing plutonium including oxides, metal and scrap
Plutonium Storage Vault, Rocky Flats Environmental Tech Site, P.O. Box 928 Golden, CO 80402	Dedicated Storage	Vault to store plutonium. 1000 spaces each capable of storing 4.5 kg of metal or 5.1 kg of oxides

II. Facilities for storage of plutonium, uranium 233 and high enriched uranium in an aggregate quantity not to exceed one (1) effective kilogram need not be specified.

Draft U.S. Note Regarding Third Countries Approved to Receive Retransfers of U.S.-Obligated LEU, Non-Nuclear Material, Equipment and Source Material Pursuant to Article 8.1.(C).(i)

The Mission of the United States of America to the European Union presents its compliments to the European Commission and has the honor to refer to Article 8.1.(C).(i) of the Agreement for Cooperation in the Peaceful Uses of Nuclear Energy between the United States of America and the European Atomic Energy Community, signed at Brussels on November 7, 1995, and to paragraph 2 of the Agreed Minute to that Agreement.

The Mission further has the honor to enclose a list, pursuant to paragraph 2 of the Agreed Minute, of third countries to which retransfers pursuant to Article 8.1.(C).(i) may be made by the Community.

The Mission further has the honor to state that the Government of the United States of America is currently pursuing steps to conclude agreements for peaceful nuclear cooperation with a number of additional third countries, and is prepared in principle to add the following additional third countries to its list pursuant to paragraph 2 of the Agreed Minute upon entry into force of the relevant agreement for cooperation: Argentina, Belarus, Brazil, Bulgaria, Romania, and South Africa.

The Mission of the United States of America avails itself of this opportunity to renew to the Commission the assurances of its highest consideration.

Attachment

Australia

Canada

Czech Republic

Hungary

Japan

Korea, Republic of

Norway

Poland

Slovakia

Switzerland