AGREEMENT BETWEEN
THE UNITED STATES DEPARTMENT OF ENERGY
AND
THE POWER REACTOR AND NUCLEAR FUEL DEVELOPMENT CORPORATION OF JAPAN
IN THE FIELD OF LIQUID METAL-COOLED FAST BREEDER REACTORS

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WHEREAS

The United States Atomic Energy Commission (AEC) and the Power Reactor and Nuclear Fuel Development Corporation (PNC) of Japan exchanged reserach and development information in the field of fast breeder reactors under the terms of an Arrangement between them signed on March 4, 1969, as amended by additions made in March 1976.

This agreement is subject to the applicable terms and conditions of the Agreement for Cooperation in the Civil Uses of Atomic Energy between the Governments of Japan and the United States signed February 26, 1968, as amended, and other terms and conditions set forth herein.

PNC had been established by Law 73 of July 20, 1967 enacted by the Government of Japan in order to conduct the development of certain nuclear technology including that related to fast breeder reactors. Pursuant to such legislation, PNC was authorized to enter into a cooperative arrangement related to fast breeder reactors.

The United States and Japan are both parties to the Treaty on the Non-Proliferation of Nuclear Weapons and, therefore, have as a mutual

interest the development of nuclear energy in such a manner as to enhance prospects for restraining the proliferation of nuclear weapons.

Certain responsibilities of the AEC were transferred to the United States Energy Research and Development Administration (ERDA) on January 18, 1975, and the exchanges of fast breeder reactor information continued between ERDA and PNC since that date. These responsibilities included authorization for ERDA to enter into a cooperative arrangement related to fast breeder reactors.

On October 1, 1977, all the functions vested by law in the ERDA were transferred to the Department of Energy (DOE). DOE and PNC have a mutual interest in developing the Liquid Metal-Cooled Fast Breeder Reactor (LMFBR) and in maintaining important roles in such development.

DOE and PNC wish to continue close and long term cooperation in the field of LMFBR technology which, for purposes of this Agreement, includes research, development and demonstration.

IT IS AGREED AS FOLLOWS:

ARTICLE 1

Cooperation between the Parties in the development of the LMFBR shall be directed towards finding solutions to mutually agreed problems associated with the design, development, construction and operation of nuclear power systems utilizing LMFBRs, and to exchanging information developed during the resolution of these problems. This cooperation may include exchange of experience and results of theoretical, experimental, and conceptual design programs; and agreed research and development projects. Cooperation between the two Parties shall be on the basis of mutual benefit, equality and reciprocity.

ARTICLE 2

The areas of cooperation in LMFBR technology covered by this Agreement may include --

1. Reactor neutronics analysis and experimentation, to include reactor and plant shielding and nuclear data.
2. Reactor and plant safety.
3. Fuels and materials compatible with high neutron flux and high temperature coolant, to include structural, component, absorber and circuit materials, and fuels which could tend to reduce or eliminate the production of material directly usable in nuclear explosive devices.
4. Fuel cycle including fabrication, reprocessing, waste processing and storage, shipment and fuel cycles which may be resistant to diversion of material for the production of nuclear explosive devices.
5. Nuclear steam supply systems and their associated components, to include component and system design, instrumentation and control, thermal hydraulics, structural analysis and architectural design.
6. Sodium technology, to include detection of impurities, purification control, component cleaning and decontamination, sodium leaks and sodium fires.
7. Quality assurance and non-destructive practices.
8. Design, construction, test and operation of LMFBRs, with emphasis on plant experience.
9. Economic and environmental considerations.
10. Safeguards technology.
11. Research and development conducted in non-nuclear test facilities that support LMFBR programs.

Other areas of cooperation may be added by mutual agreement.

ARTICLE 3

Cooperation in accordance with this Agreement may include but is not limited to the following forms --

1. Exchange of scientists, engineers, and other specialists for participation in agreed research, development and demonstration, analysis, design, and experimental joint activities conducted in scientific centers, laboratories, engineering offices and facilities of each of the Parties of its contractors for agreed periods.
2. Exchange or loan of samples, materials, instruments, and components for testing.
3. Exchange of scientific and technical information including results and methods of research and development.
4. Organization and conduct of working groups as defined in Article 4(3), seminars and other meetings on specific agreed topics covering basic problems of research and development concerning LMFBR technology in areas listed in Article 2, in a manner agreed by the Joint Coordinating Committee (Article 4).
5. Short visits by specialist teams or individuals to the LMFBR facilities and non-nuclear test facilities in support of the LMFBR programs of the other Party.
6. The use by one Party of the facilities owned or operated by the other Party. Such use of facilities shall be the subject of separate agreements between the Parties, and may be subject to commercial terms and conditions.
7. Joint projects in which the Parties agree to share the work and/or costs. Each such joint project shall be the subject of a separate agreement between the Parties.

Other specific forms of cooperation may be agreed by the Parties and approved by the Joint Coordinating Committee (Articles 4 and 5).

ARTICLE 4

1. To supervise the execution of this Agreement, a DOE/PNC Joint Coordinating Committee on Cooperation in Liquid Metal-Cooled Fast Breeder Reactor Development shall be established. The Joint Coordinating Committee shall consist of up to ten members, half of whom shall be appointed by each Party. This Committee shall meet each year alternately in the United States and in Japan, or at other agreed times and places. The Head of the Delegation of the Receiving Party shall act as Chairman during meetings of the Committee. In addition, each Party shall have the right to invite advisors to such meetings, as necessary.
2. At its meetings the Joint Coordinating Committee shall evaluate the status of cooperation under this Agreement. This evaluation shall include an assessment of the balance of exchange in the various areas of cooperation listed in Article 2 and, if necessary, a consideration of measures required to correct any imbalances.
3. For the detailed management of the cooperation, joint working groups shall be appointed by the Joint Coordinating Committee to cover each of the areas listed in Article 2. Each joint working group shall agree on specific plans for cooperation in its respective area, within guidelines and policy set by the Joint Coordinating Committee. Each joint working group shall be responsible for the working contacts between the Parties in their respective areas of cooperation.
4. At least once a year each joint working group shall report on

their cooperative activities since the previous meeting of the Joint Coordinating Committee, and shall propose for acceptance a program of cooperation for the next twelve months.

ARTICLE 5

1. Major new proposals for cooperation proposed by either of the Parties shall be reviewed, if deemed sufficiently important, by the Joint Coordinating Committee.
2. Where it is decided that a joint project under this Agreement shall be subject to a formalized specific Memorandum of Agreement executed by both Parties, the specific agreement shall cover all detailed provisions including patents, exchange of equipment, and information disclosure.

ARTICLE 6

1. The Parties shall exchange, as agreed on a mutually beneficial basis, scientific and technical information documents and results of research and development of related work carried out under this Agreement. Such information shall be limited to that which they have the right to disclose, either in their possession or available to them, from the technical areas described in Article 2.
2. PNC shall provide DOE with abstracts in English of reports or other information from Japan's LMFBR program to be exchanged in accordance with the provisions of this Agreement. PNC shall provide the full text in English of mutually agreed upon numbers of reports. Payments for translation will be decided by the Parties on a case-by-case basis.
3. Seminar proceedings and reports of joint activities carried out under this Agreement shall be published as joint publications, as

mutually agreed by both Parties.

4. Both Parties agree that information developed and exchanged under this Agreement should be given wide distribution. Such information, except as noted in paragraphs 5 and 6 of this Article, may be made available to the public by either Party through customary channels and in accordance with normal procedures of the Parties.

5. It is recognized by both Parties that in the process of exchanging information, or in the process of other cooperation, the Parties may provide to each other "industrial property of a proprietary nature." Such property, including trade secrets, inventions, patent information and know-how, made available hereunder which is acquired by either Party prior to, or outside, the course of these activities, and which bears a restrictive designation, shall be respected by the receiving Party and shall not be used for commercial purposes or made public without the written consent of the transmitting Party. Such property is defined as --

   a) of a type customarily held in confidence by commercial firms;

   b) not generally known or publicly available from other sources;

   c) not having been made available previously by the transmitting Party to others without an agreement concerning its confidentiality; and

   d) not already in the possession of the receiving Party or its contractors.

6. Recognizing that "industrial property of a proprietary nature" as defined above, may be necessary for the conduct of specific joint activities or may be included in an exchange of information, such property shall be used only in the furtherance of LMFBR programs in the receiving country. Its dissemination shall, unless

otherwise mutually agreed, be limited as follows --

a) to persons within or employed by the receiving Party, and to other concerned agencies of the Government of the receiving Party; and

b) to prime or subcontractors of the receiving Party for use only within the territory of the receiving Party and within the framework of its contract(s) with the respective Party engaged in work relating to the subject matter of the information so disseminated,

provided that the information disseminated to any person under subparagraphs a) or b) above shall bear a marking restricting dissemination outside the recipient's organization.

Each party shall use its best efforts to ensure that the dissemination of proprietary data received under this Agreement is controlled as prescribed herein.

ARTICLE 7

Copyrights of either Party or of cooperating organizations and persons shall be accorded treatment consistent with internationally recognized standards of protection. As to copyrights of material within the scope of paragraphs 1, 3 and 4 of Article 6 owned or controlled by a Party, each Party shall make efforts to grant to the other a license to reproduce copyrighted material.

ARTICLE 8

The application or use of any information exchanged or transferred between the Parties under this Agreement shall be the responsibility of the Party receiving it, and the transmitting Party does not warrant the

suitability of such information for any particular use or application.

ARTICLE 9

1. With respect to any invention or discovery made or conceived in the course of or under this Agreement --

   a) If made or conceived by personnel of one Party (the Assigning Party) or its contractors while assigned to the other Party (Receiving Party) or its contractors, in connection with exchanges of scientists, engineers and other specialists:

      1) The Receiving Party shall acquire all right, title and interest in and to any such invention or discovery in its own country and in third countries, subject to a non-exclusive, irrevocable, royalty-free license in countries to the Assigning Party, with the right to grant sublicenses, under any such invention or discovery and any patent application, patent or other protection relating thereto, for use in fast breeder reactor programs and facilities.

      2) The Assigning Party shall acquire all right, title and interest in and to any such invention or discovery in its own country, subject to a non-exclusive, irrevocable, royalty-free license to the Receiving Party, with the right to grant sublicenses, under any such invention or discovery and any patent or other protection relating thereto, for use in fast breeder reactor programs and facilities.

   b) If made or conceived by a Party or its contractors as a direct result of employing information which has been communicated to it under this Agreement by the other Party or its contractors

or communicated during seminars or other joint meetings, the Party making the invention shall acquire all right, title and interest in and to such invention or discovery in all countries, subject to a grant to the other Party of a royalty-free, non-exclusive, irrevocable license with the right to grant sublicenses in and to any such invention or discovery and any patent application, patent or other protection relating thereto, in all countries for use in fast breeder reactor programs and facilities.

c) With regard to other specific forms of cooperation, including loans or exchanges of materials, instruments, and equipment for special joint projects, the Parties shall provide for appropriate distribution of rights to inventions or discoveries resulting from such cooperation. In general, however, each Party should normally own the rights to such inventions or discoveries in its own country with a non-exclusive, irrevocable, royalty-free license to the other Party with the right to grant sublicenses in and to such invention or discovery for use in fast breeder reactor programs and facilities, and their rights to such inventions or discoveries in other countries should be agreed by the Parties on an equitable basis.

2. The preceding paragraph 1 of this Article shall apply mutatis mutandis to design protection.

3. Neither Party shall discriminate against citizens of the country of the other Party with respect to granting any licenses or sublicenses under any invention or discovery pursuant to paragraph 1 above. It is understood that the licensing policies and practices of each Party may be affected because of the rights of both Parties to grant licenses within a single country. Accordingly, either Party may request, in regard to a single invention or discovery or class of

inventions or discoveries, that the Parties consult in an effort to lessen or eliminate any detrimental effect that the parallel licensing authorities may have on the policies and practices of the Parties.

4. Each Party shall assume the responsibility to pay awards or compensation required to be paid to its own nationals according to its own laws. In view of the provisions of Article 35 of the Japanese Patents Act of April 13, 1959, PNC shall, prior to the assignment of any Japanese personnel to a United States facility, secure from the Japanese employer of such personnel, a commitment that the employer agrees to hold the Government of the United States of America and its contractors harmless with respect to any claim of the employee for compensation under Article 35 of the Japanese Patent Act with respect to any inventions within the scope of paragraph 1 hereof, and PNC will pay any remuneration to the inventor under said Article 35.

ARTICLE 10

Both Parties agree that in the event equipment is to be exchanged or supplied by one Party to the other for use in joint projects, or projects as mutually agreed upon, the following provisions shall apply covering the shipment and use of agreed equipment.

1. The sending Party shall supply as soon as possible a detailed list of the equipment to be provided together with the relevant specifications and technical and informational documentation.
2. The equipment and necessary spare parts supplied by the sending Party for use in joint projects shall remain its property and shall be returned to the sending Party upon completion of the joint project unless otherwise agreed.

3. The above-mentioned equipment shall be brought into operation at the host establishment only by mutual agreement between the Parties or between their senior representatives at the host establishment.

4. The host establishment shall provide the necessary premises for the equipment, and will provide for electric power, water, gas, etc., in accordance with technical requirements which shall be as mutually agreed.

5. Responsibility and expenses for the transport of equipment and materials from the United States by plane or ship to an authorized port of entry in Japan convenient to the ultimate destination, and return, and also responsibility for their safekeeping and insurance en route, shall rest with DOE.

6. Responsibility and expenses for the transport of equipment and materials from Japan by plane or ship to an authorized port of entry in the United States convenient to the ultimate destination, and return, and also responsibility for their safekeeping and insurance en route, shall rest with PNC.

7. The equipment provided by the sending Party for carrying out joint projects shall be considered to be scientific, not having a commercial character.

8. The receiving Party shall be responsible for safekeeping and insurance en route from authorized port of entry to the ultimate destination and return.

ARTICLE 11

The following provisions shall apply concerning exchanges of staff.

1. Whenever an exchange of staff is contemplated under this Agreement, each Party shall ensure the selection of adequate staff with skills

and competence necessary to conduct the agreed upon cooperation. Each such attachment of staff shall be the subject of a separate attachment agreement between the Parties.

2. Each Party shall be responsible for the salaries, insurance and allowances to be paid to its staff.

3. Each Party shall pay for the travel and living expenses of its staff when staying at the establishment of the host Party unless otherwise agreed.

4. The host establishment shall arrange for comparable accommodations for the other Party's staff and their families on a mutually agreeable reciprocal basis.

5. Each Party shall provide all necessary assistance to the staff of the other Party as regards administrative formalities.

6. The staff of each Party shall conform to the general rules of work and safety regulations in force at the host establishment, or as agreed in separate attachment-of-staff agreements.

ARTICLE 12

Both Parties agree that the following provisions shall apply concerning compensation for damages incurred under this Agreement. It is understood that such compensation shall be in accordance with the laws of the country on whose territory damages will have been incurred, except as otherwise provided.

1. Definitions

   a) "Staff" of a Party means the employees of the Party, its contractors and subcontractors performing services under this Agreement, and employees of these contractors and subcontractors performing services under this Agreement.

   b) "Equipment" or "Property" of a Party means the equipment or

property owned by that Party, or by the contractor and subcontractors of that Party who perform services in connection with joint activities under this Agreement.

2. First and Second Party Damages

a) Each Party shall alone be responsible for payment of compensation for damages suffered by its staff regardless of where the damages have been incurred, and shall not bring suit or lodge any other claims against the other Party for damages to its property, except as noted in paragraphs 2.b and 2.c.

b) If the damage suffered by the staff of one of the Parties is due to the gross negligence or intentional misconduct of the staff of the other Party, the latter shall reimburse the former an agreed sum of monies which the former would be obliged to pay to the person or persons suffering the damages.

c) If damages to the property of one Party are due to the gross negligence or intentional misconduct of the staff of the other Party, the latter shall compensate the former for the damages suffered.

3. Third Party Damages

a) By Defective Equipment

Damages caused to the staff or property of a Third Party by defective equipment of a Party shall be compensated for by the Party to which the equipment belongs, except as noted in paragraph 3.c.

b) By Staff

Damages caused to the staff or property of a Third Party by the staff of a Party shall be compensated for by the Party in whose territory the damages occurred, except as noted in paragraph 3.c.

c) Gross Negligence or Intentional Misconduct

If damages referred to in paragraphs 3.a and 3.b were due to the gross negligence or intentional misconduct of the staff of a Party, that Party shall bear the financial responsibility in regard to the Third Party.

d) Damage by Third Party

In the event of damage of any kind caused by a Third Party to the staff or property of one or both of the Parties, each of these, upon the request of the other Party, shall render it aid in the corroboration of claims on the Third Party.

e) Resolution of Questions

The Party on whose territory the damage was incurred shall, in consultation with the other Party, take upon itself the resolution, with the Third Party, of all questions connected with the determination of the causes, extent and necessity for compensation for damages incurred. Any such resolution shall have the concurrence of the other Party. After determining the extent of the damages, both Parties shall decide, between themselves, the questions relating to compensation for damages incurred.

4. In the event of any dispute between the two Parties, a Committee shall be appointed by the Parties, with equal representation. The conclusions of the Committee shall be presented to DOE and PNC who will review the conclusions and arrive at a mutual agreement concerning final disposition.

5. The foregoing provisions of this Article shall have no applicability to damages caused by a nuclear incident, as defined by the laws of the countries to which the Parties belong. Compensation for damages caused by such nuclear incident shall be in

accordance with the laws of the countries of the Parties.

ARTICLE 13

The provisions of this Agreement shall not affect the rights or duties of the Parties hereto under other agreements or arrangements. This Agreement also in no way precludes commercial firms or other legally constituted enterprises in each of the two countries from engaging in commercial dealings in accordance with the applicable laws of each country; nor does it preclude the Parties from engaging in activities with other Governments or persons, except that industrial property of a proprietary nature shall have limited dissemination as set forth in Article 6, paragraphs 5 and 6, of the Agreement. Moreover, it is expected that the present Agreement should facilitate industrial and commercial exchanges in the field of the LMFBR between the firms of the countries of the Parties with a view to mutual benefits from such exchanges for both countries.

ARTICLE 14

Cooperation under this Agreement shall be in accordance with laws and regulations of the respective countries. All questions related to the Agreement arising during its term shall be settled by the Parties by mutual agreement.

ARTICLE 15

Each Party shall bear the costs of its participation in the activities under this Agreement. It is understood that the ability of the Parties to carry out their obligations is subject to the availability of appropriated funds.

ARTICLE 16

1. This Agreement shall enter into force upon signature, shall continue for a ten-year period, and may be extended by mutual agreement of the Parties. The implementation and progress under this Agreement may be subject to annual review by the Parties. This Agreement may be terminated at any time at the discretion of either Party, upon one year's advance notification in writing by the Party seeking to terminate the Agreement. Such termination shall be without prejudice to the rights which may have accrued under this Agreement to either Party up to the date of such termination.
2. In the event that, during the period of this Agreement, the nature of either Party's LMFBR program should change substantially, whether this be by substantial expansion, reduction, transformation or amalgamation of major elements with the LMFBR program of a Third Party, either Party shall have the right to request revisions in the scope and/or terms of this Agreement.
3. All joint activities not completed at the termination of this Agreement shall be continued until their completion under the terms of this Agreement.
4. This Agreement shall, as of the date of signature, supersede the Arrangement between the United States Atomic Energy Commission and the Power Reactor and Nuclear Fuel Development Corporation of Japan on Fast Breeder Reactors executed on March 4, 1969, as amended.

Done at Tokyo in duplicate in the English and Japanese languages, each equally authentic, this 31ST day of January, 1979.

FOR THE UNITED STATES DEPARTMENT OF ENERGY

NAME: Michael Mansfield

TITLE: Ambassador

FOR THE POWER REACTOR AND NUCLEAR FUEL DEVELOPMENT CORPORATION OF JAPAN

NAME: Masao Fujioka

TITLE: President, PNC