

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

WHEREAS

The United States Atomic Energy Commission (AEC) and the Power Reactor and Nuclear Fuel Development Corporation (PNC) of Japan exchanged research and development information in the field of fast breeder reactors under the terms of an agreement between them signed on March 4, 1969, as amended in 1976, and renewed in 1979, and amended in 1989 and 1990.

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

DOE, as the successor to the AEC, and PNC (hereinafter "the Parties") have a mutual interest in continuing to develop the Liquid Metal-Cooled Fast Breeder Reactor (LMFBR) and in maintaining important roles in such development.

This agreement is the successor to the Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation of Japan on Liquid Metal-Cooled Fast Breeder Reactors executed on January 31, 1979, as amended and extended.

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 and development.

IT IS AGREED AS FOLLOWS:

ARTICLE 1

Cooperation between the Parties in the conduct of research and development on 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.

2. Cooperation under this agreement shall be carried out subject to the Agreement for Cooperation Between the Government of the United States of America and the Government of Japan Concerning Peaceful Uses of Nuclear Energy, signed November 4, 1987 (hereinafter the Agreement for Cooperation) and to the laws and regulations of the respective countries.

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, 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. 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 or its contractors for agreed period.
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 implementing arrangement 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

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 cooperation undertaken in 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/and exchanges 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 12 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, 6, and 7 of this Article and paragraph 2.(iv) of Article 9, 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 "business-confidential information." "Business-confidential" information means any know-how, technical data, or technical, commercial, or financial information that is developed outside this Agreement and that meets all of the following conditions:
 - (i.) It is a type customarily held in confidence for commercial reasons;
 - (ii.) It is not generally known or publicly available from other sources;
 - (iii.) It has not been previously made available by the owner to others without an obligation concerning its confidentiality; and
 - (iv.) It is not already in the possession of the recipient without an obligation concerning its confidentiality.

6. Any business-confidential information will be furnished or transferred only by mutual written agreement of the Parties to the cooperative activity concerned and will be given full protection in accordance with the laws and regulations of their respective countries.

Any business-confidential information will be appropriately identified before it is furnished in the course of the cooperative activities under this Agreement. Responsibility for identifying such information will fall on the Party which furnishes it. Unidentified information will be assumed not to be information to be protected, except that a Party to the cooperative activity may notify the other Party in writing, within a reasonable period of time after furnishing or transferring such information, that such information is business-confidential information under the laws and regulations of its country. Such information will thereafter be protected in accordance with sub-paragraph 6 above.

ARTICLE 6A

Between each Party and nationals of its country the ownership of intellectual property rights will be determined in accordance with its national laws, regulations, and practices.

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 materials.

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. For the purpose of this Agreement, "Invention" means any invention made in the course of the cooperative activities under this Agreement which is or may be patentable or otherwise protectable under the laws of the United States of America, Japan, or any third country.
2. As to an Invention, the Parties to the cooperative activity concerned will take appropriate steps, in accordance with the national laws and regulations of the respective countries, with a view to realizing the following:
 - (i.) If an Invention is made as a result of a cooperative activity under this Agreement that involves only the transfer or exchange of information between the Parties, such as seminars, or the exchange of technical reports or papers, unless otherwise provided in an applicable implementing arrangement:

- (a) the Party whose personnel make the Invention (hereinafter referred to as "the Inventing Party") or the personnel who make the Invention (hereinafter referred to as "the Inventor") have the right to obtain all rights and interests in the Invention in all countries, and
 - (b) in any country where the Inventing Party or the Inventor decides not to obtain such rights and interests, the other Party has the right to do so.
- (ii.) If the Invention is made by an Inventor of a Party ("the Assigning Party") while assigned to another Party (the "Receiving Party") in the course of programs of a cooperative activity that involve only the visit or exchange of scientists and engineers, and:
 - (a) in the case where the Receiving Party is expected to make a major and substantial contribution to the programs of the cooperative activity:
 - i. the Receiving Party has the right to obtain all rights and interests in the Invention in all countries, and
 - ii. in any country where the Receiving Party decides not to obtain such rights and interests, the Assigning Party or the Inventor has the right to do so;
 - (b) in the case where the provision in sub-paragraph (a) above is not satisfied:
 - i. the Receiving Party has the right to obtain all rights and interests in the Invention in its own country and in third countries,
 - ii. the Assigning Party or the Inventor has the right to obtain all rights and interests in the Invention in its own country, and
 - iii. in any country where the Receiving Party decides not to obtain such rights and interests, the Assigning Party or the Inventor has the right to do so.
- (iii.) Specific arrangements involving other forms of the cooperative activities, such as joint research projects with an agreed research work scope, will provide for the mutually agreed upon disposition, on an equitable basis, of rights to the Invention made as a result of such activities.
- (iv.) The Inventing Party will disclose promptly the Invention to the other Party and furnish any documentation or information necessary to enable the other Party to establish rights to which it may be entitled. The Inventing Party may ask the other Party in writing to delay publication or public disclosure of such documentation or information for the purpose of protecting its rights or the rights of the Inventor related to the Invention. Unless otherwise agreed in writing, such restrictions will not exceed a period of six months from the date of communication of such documentation or information.

ARTICLE 9A

Disposition of rights to copyright-protected works created in the course of the cooperative activities under this Agreement will be determined in the relevant implementing arrangements. The Parties to the cooperative activities concerned shall take appropriate steps to secure copy right to works created in the course of the cooperative activities under this Agreement in accordance with the national laws and regulations of the respective countries.

ARTICLE 9B

Details and procedures for the protection and distribution of intellectual property rights and other rights of a "business confidential" nature are set forth in Article 6 and Articles 9, 9A, and 9C. These Articles are applicable to any cooperative activities under this Agreement, except as otherwise specifically agreed by the parties to the cooperative activities concerned, in individual implementing arrangements or otherwise. Implementing arrangements may also elaborate the provisions of these Articles.

ARTICLE 9C

For those other forms of intellectual property created in the course of the cooperative activities under this Agreement which are protected under the laws of either country, disposition of rights will be determined on an equitable basis, in accordance with the laws and regulations of the respective countries.

ARTICLE 9D

Each Party to the cooperative activity concerned will take all necessary and appropriate steps, in accordance with the laws and regulations of its country, to provide for the cooperation of its authors and inventors which are required to carry out the provisions of this Agreement. Each Party to the cooperative activity concerned assumes the sole responsibility for any award or compensation that may be due its personnel in accordance with the laws and regulations of its country, provided, however, that this Agreement creates no entitlement to any such award or compensation.

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.

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.

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

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.

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

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

Liability and compensation with respect to damages arising out of cooperation under this agreement shall be determined by agreement of the Parties, subject to their relevant laws and regulations.

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 subject to 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 of mutual benefits from such exchanges for both countries.

ARTICLE 14

1. All questions related to the Agreement arising during its term shall be settled by the Parties by mutual agreement.
2. No Sensitive Nuclear Technology, as defined by Article I, paragraph j, of the Agreement for Cooperation shall be transferred under this Agreement.

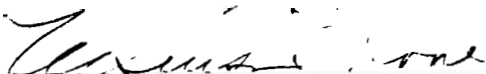
ARTICLE 15

Each Party shall bear the costs of its participation in the activities under this Agreement. It is agreed 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, with effect from July 31, 1990, shall expire on July 31, 2000, and may be extended or amended 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 advanced 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 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.

Done at Washington, D.C., in duplicate in the English language, this 11th day of January, 1991.



W. Henson Moore
DEPUTY SECRETARY
UNITED STATES DEPARTMENT OF ENERGY



Takao Ishiwatari
PRESIDENT
POWER REACTOR AND NUCLEAR
DEVELOPMENT CORPORATION OF JAPAN