

AGREEMENT

IN THE FIELD OF LIQUID METAL-COOLED FAST BREEDER REACTORS

between

THE UNITED STATES ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

Represented by The Honorable Kenneth Rush, Ambassador to France

and the

FRENCH COMMISSARIAT A L'ENERGIE ATOMIQUE

Represented by Mr. Andre Giraud, Administrateur General Delege

Paris, January 18, 1977

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FRENCH COMMISSARIAT A L'ENERGIE ATOMIQUE

IN THE FIELD OF LIQUID METAL-COOLED FAST BREEDER REACTORS

The United States Energy Research and Development Administration (ERDA) and the French Commissariat a l'Energie Atomique (CEA), hereinafter called the Parties,

- having a mutual interest in developing the Liquid Metal-Cooled Fast Breeder Reactor (LMFBR);
- each Party having a significant program of research and development aimed at enhancing its national capabilities in this field;
- recognizing the importance of the worldwide roles of ERDA and the CEA in such research and development;
- wishing to establish close and long-term cooperation in the field of Liquid Metal-Cooled Fast Breeder Reactor research and development;
- believing that meeting energy needs through the wise use of nuclear power reduces environmental problems associated with energy production; and
- recognizing the need to establish procedures governing the protection of privileged information provided in connection with activities under this Agreement;

HAVE AGREED AS FOLLOWS:

ARTICLE 1

- 1.1. The objective of cooperation under this Agreement is to establish, for the mutual benefit of the Parties, a balanced exchange of Liquid Metal-Cooled Fast Breeder Reactor technology. The areas and forms of cooperation are listed under Articles 2 and 4, respectively.
- 1.2. Within the framework of this Agreement, the Parties are willing to develop a wide program of cooperation involving an overall balance amongst the areas mentioned in Article 2 hereunder, as far as such cooperation will not be limited by defense secrecy, protection of information having a commercial value and other restrictions to which the Parties have previously committed themselves.
- 1.3. The Parties agree that the specific activities of cooperation will be developed mutually based on the balance of value to the Parties. In determining this balance, the following factors will be considered:
 - 1.3.1. The potential commercial value of the information utilized in or developed as a result of each cooperative activity.
 - 1.3.2. The value of the cooperative activities to the research and development programs of ERDA and CEA.
- 1.4. It is recognized that there may be certain activities that either Party will not agree to include in the specific activities of cooperation unless there exists a commercial arrangement between that Party and a commercial firm involving that activity.

ARTICLE 2

- 2.1. The areas of cooperation in Liquid Metal-Cooled Fast Breeder Reactor technology covered by this Agreement shall include:

2.1.1. Safety, to include experimental out-of-pile and in-pile research and theoretical analyses.

- Local plugging in a subassembly
- Complete flow failure
- Reactivity insertion
- Sodium boiling
- Core melting
- Core compaction
- State equation of oxide fuel at high temperature
- Radioactive products dissemination
- SCARABEE-CABRI* reactors
- TREAT - ETR/SLSF reactors

2.1.2. Physics

- Nuclear data
- Calculation methods (Calculation methods apply to control element effects, breeding ratio, and heterogeneous design.)
- Integral measurements in critical experiments
(Integral measurements quantify control element and plutonium isotopic change effects, breeding gain, reactivity coefficients, and characteristics of large and/or heterogeneous reactors.)
- Physics data from reactors (Physics data from reactors include plutonium isotopic and fission product effects, breeding information, control worth, reactivity changes, and reactivity coefficients.)
- Shielding
- Doppler, temperature, and sodium void coefficients
- Design approach for heterogeneous fast reactors

2.2. Other areas of cooperation may be added by mutual agreement.

* CABRI being a joint CEA-GfK project which requires German agreement for specific exchanges of information.

ARTICLE 3

- 3.1. To supervise the execution of this Agreement, a Joint ERDA/CEA Coordinating Committee in the field of Liquid Metal-Cooled Fast Breeder Reactors shall be established. This Committee shall meet each year alternately in the United States and in France, 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.
- 3.2. At its meetings, the Joint Coordinating Committee shall evaluate the status of cooperation under this Agreement. This evaluation shall include an assessment of the balances of exchanges in the various areas of cooperation listed in Article 2, and a consideration of measures required to correct any imbalances. In addition, the Joint Coordinating Committee shall consider and act on any new major proposals for cooperation.
- 3.3. For periods between meetings of the Joint Coordinating Committee, each Party shall nominate one person to act on its behalf in all matters concerning cooperation under this Agreement.
- 3.4. Day-to-day management of the cooperation under this Agreement shall be carried out by correspondents designated by the persons nominated under paragraph 3.3.

ARTICLE 4

Cooperation in accordance with this Agreement may take the following forms and shall, as may be agreed by the Parties, occur in the facilities and other locations at which the information which is the subject of cooperation is generated, or other locations:

- (1) Seminars and other meetings on agreed topics,
- (2) Visits and assignments of scientists, engineers and other specialists for participation in research, development, design, testing and operational activities for agreed periods,

- (3) Exchange or provision of samples, materials, instruments and components for testing,
- (4) Exchange of scientific and technical information, and results and methods of research and development,
- (5) The conduct of joint projects involving research, development, design, testing or operational activities, and
- (6) Such other activities as agreed by the Parties.

ARTICLE 5

- 5.1. The Parties will exchange, on a mutually beneficial basis, scientific and technical information and results of research and development work carried out under this Agreement, including related descriptions and specifications of experimental test facilities. Documents shall be provided in either English or French.
- 5.2. Seminar proceedings and reports of joint projects carried out under this Agreement will be joint publications as agreed by the Parties.
- 5.3. In general, information exchanged or developed under this Agreement may be disseminated freely by each of the two Parties. Such information, except as noted in Article 6, may be made available to the public by either Party through customary channels and in accordance with normal procedures of the participating agencies.

ARTICLE 6

- 6.1. It is recognized that the present Agreement does not commit any of the Parties to transmit to the other Party information that it considers of a privileged nature and which has been acquired or developed prior or outside the course of cooperative activities under this Agreement.

- 6.2. If, however, the Parties agree to transmit such privileged information, the Parties shall first agree, in a specific memorandum, and prior to the transmission, upon the privileged nature of such information and upon the conditions of transmission. If the Parties are unable to agree upon the privileged nature of the information or the conditions of transmission, said information shall not be transmitted under this Agreement.
- 6.3. Such privileged information transmitted by one Party to the other Party shall be respected by the Receiving Party in accordance with the appropriate memorandum, and shall not, without the consent of the originating Party, be used for commercial purposes or made available to the public or be disclosed to any persons except on a need-to-know basis to:
- 6.3.1. employees of the Receiving Party,
 - 6.3.2. other concerned governmental agencies of the Receiving Party,
 - 6.3.3. unless otherwise agreed in the specific memorandum concerning the said information, persons employed by the Receiving Party and prime and subcontractors of the Receiving Party for use only within the framework of its contract(s) with the respective Party engaged in work relating to the subject matter of the privileged information so disseminated.
- 6.4. All documents containing privileged information will bear a marking restricting dissemination as agreed by the Parties.

ARTICLE 7

It is expected that the present Agreement should facilitate industrial and commercial exchanges in the field of the Peaceful Uses of Nuclear Energy between the firms of the countries of the Parties with a view to a mutual benefit from such exchanges for both countries.

ARTICLE 8

8.1. With respect to any invention or discovery conceived or first actually reduced to practice in the course of the cooperative activities undertaken by the Parties in implementing this Agreement:

8.1.1. If conceived or first actually reduced to practice by personnel of a Party (the Assigning Party) or its contractors while assigned to the other Party (the Recipient Party) or its contractors in connection with an exchange of scientists, engineers and other specialists:

8.1.1.1. The Recipient Party shall acquire all right, title and interest in and to such invention or discovery, and any patent application or patent that may result, in its own country and in third countries; and

8.1.1.2. The Assigning Party shall acquire all right, title and interest in and to such invention, discovery, patent application or patent in its own country.

8.1.2. If conceived by or first actually reduced to practice 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, but not otherwise agreed to under a cooperative effort covered by paragraph 8.1.3.:

8.1.2.1. The Party so conceiving or first actually reducing to practice such invention or discovery shall acquire all right, title and interest in and to such invention or discovery, and any patent application or patent that may result, in its own country and in third countries; and

8.1.2.2. The other Party shall acquire all right, title and interest in and to such invention, discovery, patent application or patent in its own country.

8.1.3. For other specific forms of cooperation, including exchanges of samples, materials, instruments and components for special joint research projects, the Parties shall provide for appropriate distribution of rights to inventions. In general, however, each Party should normally determine the rights to such inventions in its own country, and the rights to such inventions in other countries should be agreed by the Parties on an equitable basis.

8.1.4. Notwithstanding paragraphs 8.1.1. and 8.1.2., in any case where one Party first actually reduces to practice after the execution of this Agreement an invention, either conceived by the other Party prior to the execution of this Agreement, or made or conceived not in the course of or under a cooperative activity implementing this Agreement, then the Parties shall provide for an appropriate distribution of rights, taking into account existing commitments with third parties; provided, however, that each Party shall determine the rights to such invention in its own country.

8.1.5. It is understood that after the European Patent Conventions have come into force, either Party may request a modification of this paragraph 8.1. for the purpose of according equivalent rights as provided in paragraphs 8.1.1. through 8.1.4. under the European Patent Conventions.

8.2. The Party owning a patent covering any invention referred to in this Article 8.1. shall license the patents to nationals or

licensees of the other Party, upon request of such other Party, on nondiscriminatory terms and conditions under similar circumstances. At the time of such a request, the other Party will be informed of all licenses already granted under such patent.

- 8.3. Each Party shall take all necessary steps to provide the cooperation from its inventors required to carry out the provisions of this Article. Each Party shall assume the responsibility to pay awards or compensation required to be paid to its employees according to the laws of its country.

ARTICLE 9

- 9.1. By mutual agreement, the sending Party may provide equipment to be utilized in joint projects and experiments. In such cases, the sending Party shall supply, as soon as possible, a detailed list of the equipment to be provided together with the relevant specifications and the technical and informational documentation.
- 9.2. The equipment and necessary spares supplied by the sending Party for use in joint projects and experiments shall remain its property and shall be returned to the sending Party upon completion of the joint project or experiment, unless otherwise agreed.
- 9.3. The above-mentioned equipment shall be brought into operation at the host establishment only by mutual agreement between the Parties.
- 9.4. 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.
- 9.5. 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 France convenient to the ultimate destination and return, and also responsibility for their safe keeping and insurance en route shall rest with ERDA. The responsibility and expenses for the transport of equipment and materials from France 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 safe keeping and insurance en route shall rest with the CEA. Except as otherwise agreed by the Parties, all other costs of transportation will be borne by the Receiving Party.

ARTICLE 10

- 10.1. Each Party shall ensure the selection of adequate staff with the skills and competence necessary to conduct agreed joint projects. In carrying out such joint projects, selected staff of both Parties shall be attached to the host establishment.
- 10.2. Each Party shall be responsible for the salaries, insurance and allowances to be paid to its personnel.
- 10.3. Each Party shall pay for the travel and living expenses of its personnel when staying at the establishment of the host Party unless otherwise agreed.
- 10.4. Personnel of each Party shall be responsible for finding their own accommodation at their expense. Nevertheless, it is understood that every effort shall be made by the host Party in helping to solve nonprofessional problems encountered.
- 10.5. Each Party shall provide all necessary assistance to the specialists (and their families) of the other Party as regards administrative formalities (travel arrangements, etc.).
- 10.6. The personnel of each Party shall conform to the general rules of work and safety regulations in force at the host establishment.

ARTICLE 11

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

11.1. First and Second Party Damages

11.1.1. 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 will not bring suit or lodge any other claims against the other Party for damages to its property, except as noted in paragraphs 11.1.2. and 11.1.3.

11.1.2. 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 suffering damages.

11.1.3. 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.

11.2. Third Party Damages

11.2.1. Damage to Third Party

Each Party shall be responsible for damages of any nature caused to a Third Party by equipment and staff under its supervision and control, except in case such damages are caused by gross negligence or intentional misconduct of the other Party or its staff.

11.2.2. 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 request of the other Party, will render it aid in the corroboration of claims against the Third Party.

11.3. Nuclear Accident

The foregoing provisions of the Article shall have no applicability to damages caused by a nuclear accident as defined by the laws of the Parties. Compensation for damages caused by such a nuclear accident shall be in accordance with the laws of the Parties.

11.4. Definitions

11.4.1. "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.

11.4.2. "Equipment" or "Property" of a Party means the equipment or property owned by that Party or by the contractors and subcontractors of that Party who perform services in connection with joint projects under this Agreement.

ARTICLE 12

Each Party's activities under this Agreement shall be in accordance with its national laws and regulations. All questions related to the Agreement arising during its term shall be settled by the Parties by mutual agreement.

ARTICLE 13

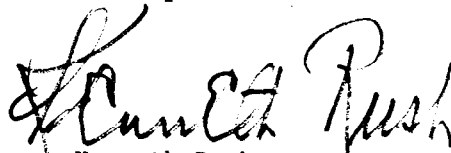
Each Party shall bear the costs of its participation in the activities under this Agreement, and shall control the expenditure of the funds necessary to meet such costs. Cooperation under this Agreement shall be subject to the availability of appropriated funds.

ARTICLE 14

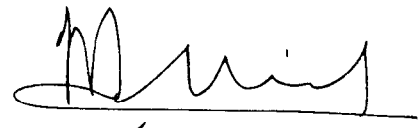
- 14.1. This Agreement, considered by the Parties to be a long-term Agreement, shall enter into force upon signature for a five-year period, and may be extended by mutual consent. The implementation and progress under this Agreement will be subject to annual review by the Parties.
- 14.2. This Agreement 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 of this Agreement shall be without prejudice to the rights and obligations which may have accrued under this Agreement to either Party up to the date of such termination.

Done at Paris, this 18 day of January, 1977,
in duplicate, in the English and French languages, both texts
being equally authentic.

For the U.S. Energy Research and
Development Administration


Kenneth Rush

For the French Commissariat
à l'Energie Atomique


André Giraud