

IMPLEMENTING AGREEMENT
between
THE UNITED STATES DEPARTMENT OF ENERGY
and
THE FRENCH COMMISSARIAT A L'ENERGIE ATOMIQUE
in the area of
WASTE IMMOBILIZATION TECHNOLOGY
(WASTE IMMOBILIZATION AGREEMENT)

This Implementing Agreement also referred to as the "Waste Immobilization Agreement" is made between the United States Department of Energy (hereinafter referred to as "DOE") and the Commissariat a l'Energie Atomique of France (hereinafter referred to as "CEA") hereinafter referred to as the "Parties".

WHEREAS

DOE and CEA under the Agreement in the Field of Radioactive Waste Management of July 26, 1983, (hereinafter referred to as the "Radioactive Waste Management Agreement", included for reference as Appendix I to this Implementing Agreement) agreed to establish an equitable exchange of information and experience in the management of radioactive waste.

DOE and CEA have a mutual interest in designing and demonstrating the immobilization of radioactive waste in cementitious materials.

CEA has excellent facilities and equipment dedicated to and extensive experience in the investigation of the physical and materials properties of cement waste forms.

DOE has extensive experience in the formulation of cement materials for retention of radionuclides and the processability of such formulations.

DOE and CEA believe that joint collaboration in waste immobilization development and testing would be of significant benefit to both Parties

IT IS AGREED AS FOLLOWS:

ARTICLE I - OBJECTIVE

- 1.1 The objective of cooperation under this Implementing Agreement is to establish and to carry out a joint development and testing program (hereinafter referred to as the "Program") to investigate the performance of cement based waste forms for the immobilization of radioactive wastes.

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- 1.2 This cooperation shall involve the exchange of scientific and engineering information, the sharing of results and methods of research and development, and short visits by and attachment of specialist teams or individuals to the experimental and operational radioactive waste management facilities of the other Party as envisaged in Article 3.1 and 3.2.a. of the Radioactive Waste Management Agreement. Cooperation under this Implementing Agreement shall be carried out subject to national laws and regulations of the Parties and the availability of duly authorized funds.

ARTICLE 2 - PROGRAM

- 2.1 A joint Program designed to meet the objectives of this Implementing Agreement has been agreed between the Parties as described in Appendix II. It is recognized at the outset that this Program may be subject to changes as the work progresses. Any changes to the Program affecting cost, schedule, and broad objective shall require the prior agreement in writing of the Parties.
- 2.2 In summary, the Program envisages:
- a. Development and testing of cementitious waste forms to immobilize wastes of mutual interest to be done partly in the United States and partly in France.
 - b. Emphasis on physical and materials testing to be done in France.
 - c. Emphasis on processability and Quality Assurance/Quality Control testing to be done in the United States.
 - d. Sharing of all technology and information jointly developed and tested in this Program.

ARTICLE 3 - PROVISION OF SERVICES

- 3.1 To meet the requirements of the Program defined in the Appendix II, DOE shall, at its own expense:
- a. Arrange and provide for the attachment and visits of staff of DOE's Oak Ridge National Laboratory (ORNL) to CEA facilities.
 - b. Provide suitable office facilities for the CEA staff attached to ORNL to enable them to fulfill the agreed function of participation in the Program.
 - c. Make available for use or provide equipment and analytical services to the CEA staff attached to ORNL to enable them to fulfill the agreed function of participation in the Programs.
 - d. Provide to CEA reports, data, and other information necessary for the implementation of the Program.

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- 3.2 To meet the requirements of the Program defined in Appendix II, the CEA shall, at its own expense:
- a. Arrange and provide for visits and attachment of CEA staff to ORNL.
 - b. Provide suitable office facilities for the ORNL staff attached to CEA-Saclay, to enable them to participate in the Program.
 - c. Make available for use or provide equipment and analytical services to the ORNL staff attached to Saclay to enable them to fulfill the agreed function of participation in the Program.
 - d. Provide to DOE reports, data, and other information necessary for the implementation of the Program.
- 3.3 The attachment of staff by either Party shall be the subject of a separate written agreement.
- 3.4 The Parties may propose to analyze the results arising from the Program according to their own requirements at their own expense. However, each Party shall inform the other Party of its intentions in this respect so as to provide for the possibility of cooperation on appropriate aspects of the analysis if desired between the Parties.
- 3.5 Termination costs, if any, shall be borne by each Party for the portion of the Program that Party is obligated to perform.
- 3.6 Each Party shall be responsible for obtaining any documentation, customs clearance, or other procedures necessary to permit the import or export of the required materials into or out of its own country.

ARTICLE 4 - GENERAL PROVISIONS

- 4.1 Article 6 (Information) under the Umbrella Agreement is incorporated by reference with the following changes: 6.4.1 "The term "information" means scientific or technical data, results, or methods of research and development, and any other information intended to be provided or exchanged under this Implementing Agreement or developed jointly under this Implementing Agreement; jointly developed information is defined as developed as a result of transfer or exchange of funds, equipment, software, personnel or materials between the Parties or developed in the performance of a research project with an agreed distribution of tasks". 6.4.2 For the purpose of this Implementing Agreement, "Proprietary Information" (in French: "Connaissances Privilegiees") means information...Add new paragraph 6.4.2 e Jointly developed information shall not be treated as Proprietary Information; however, if such information discloses Proprietary Information developed outside this Implementing Agreement, it shall be treated as Proprietary Information if the Parties mutually agree. If however the Parties are unable to agree on the disposition of this information, the originating Party shall have final say on its dissemination.

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- 4.2 Articles 7 (Disclaimer), 8 (Liabilities), 9 (Legal Provisions), and 10 (Financial Obligations) of the Radioactive Waste Management Agreement are hereby incorporated by reference.

ARTICLE 5 - PROTECTION AND DISTRIBUTION OF INTELLECTUAL PROPERTY RIGHTS

5.1 Ownership of Intellectual Property Rights

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

5.2 Inventions

- A. For the purpose of this Implementing Agreement, the term "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 Parties or any third country.
- B. As to the Invention, the Parties to the cooperative activity concerned shall take appropriate steps, in accordance with the national laws and regulations of the respective countries, to realize the following:
 - i) If an Invention is made as a result of a cooperative activity under this Implementing Agreement that involves only the transfer or exchange of information between the Parties, such as by joint meetings, 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 the other 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:

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- 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 subparagraph (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 cooperative activities, such as joint research projects with an agreed research work scope, shall provide for the mutually agreed upon disposition, on an equitable basis, of rights to the Inventions made as a result of such activities.
- iv) The Inventing Party shall 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 shall not exceed a period of six months from the date of communication of such documentation or information.

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5.3 Copyrights

Disposition of rights to copyright-protected works created in the course of the cooperative activities under this Implementing Agreement shall be determined on a case-by-case basis as necessary or in the relevant implementing arrangements. The Parties to the cooperative activities concerned may take appropriate steps to secure copyright 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.

5.4 Other Forms of Intellectual Property

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

5.5 Cooperation

Each Party to the cooperative activity concerned shall 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 Article. 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 Implementing Agreement creates no entitlement to any such award or compensation.

ARTICLE 6 - USE AND DISCLOSURE OF INFORMATION

- 6.1 The Parties may publish jointly or either Party may publish individually (after no less than 30 days' advance notice to the other Party) a series of reports, after joint consultation, of the tests and analyses of the results.
- 6.2 Only information developed prior to or outside this Implementing Agreement may be designated as "Proprietary Information" in accordance with paragraph 6.4.2 of the Radioactive Waste Management Agreement as well as Article 6.4.2 e as provided in Article 4.1 of this Implementing Agreement.

ARTICLE 7 - MANAGEMENT OF THE PROGRAM

- 7.1 The Program shall be managed pursuant to the terms of Article 5 (Management) of the Radioactive Waste Management Agreement which are incorporated herein by reference.
- 7.2 Each Principal Coordinator shall nominate one representative to be responsible for making and coordinating the arrangements for all transport of material or equipment required by the Program.

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ARTICLE 8 - FACILITIES AND EQUIPMENT

- 8.1 In the event that equipment is to be provided by one Party to the other Party for the purposes of implementing the Program, the loan or transfer of ownership of such equipment shall be the subject of a separate written agreement.
- 8.2 Subject to Article 8 (Liabilities) of the Radioactive Waste Management Agreement, each Party shall at all times be responsible for the operation of its own facilities and for any consequences arising from such operation. The Parties shall discuss any modifications of the Program which may be necessary for safety or operational reasons but each Party shall retain the right to suspend operation of its facilities at any time for operational or safety reasons.

ARTICLE 9 - DELAYS

If during the course of this Implementing Agreement, any event occurs which significantly delays the Program, the Parties shall discuss the action to be taken to achieve an equitable solution.

ARTICLE 10 - DURATION AND TERMINATION

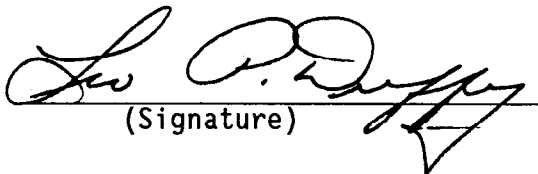
- 10.1 This Implementing Agreement shall enter into force upon the later date of signature and, except as provided in Article 10.2 and 10.3, shall continue for 5 years.
- 10.2 This Implementing Agreement may be amended or extended at any time by mutual agreement of the Parties in writing.
- 10.3 This Implementing Agreement may be terminated at any time at the discretion of either Party upon 1 year's advance notification in writing by the Party seeking to terminate the Implementing Agreement. Such termination shall be without prejudice to the rights which may have accrued under this Implementing Agreement to either Party up to the date of such termination.
- 10.4 In the event of termination by either Party pursuant to Article 10.3 after completion of the Program, all information and results available up to the time of such termination shall be exchanged by the Parties under the terms of the Implementing Agreement.

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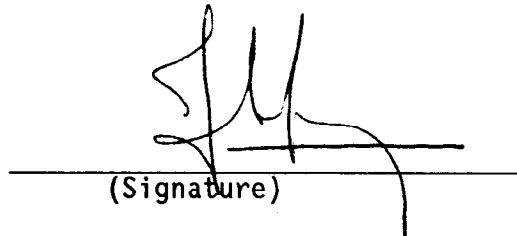
Done in Duplicate in both the English and French languages, both texts being equally authentic.

FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA

FOR THE COMMISSARIAT A L'ENERGIE
ATOMIQUE OF FRANCE



(Signature)



(Signature)

Leo P. Duffy
(Name Typed)

Jean LEFEVRE
(Name Typed)

Director
Environmental Restoration and
Waste Management
(Title)

Director Radioactive Wastes
(Title)

November 15, 1989
(Date)

January 17, 1990
(Date)

APPENDIX II

THE UNITED STATES DEPARTMENT OF ENERGY (DOE) THE FRENCH COMMISSARIAT A L'ENERGIE ATOMIQUE (CEA) WASTE IMMOBILIZATION AGREEMENT

TECHNICAL SCOPE

DOE and the CEA shall collaborate in the development and testing of cementitious materials for the immobilization of radioactive wastes. The program shall include:

- a) The development and testing of cementitious waste forms to immobilize wastes of mutual interest to be done partially in the United States and partially in France,
 - b) Emphasis on physical and materials testing to be done in France,
 - c) Emphasis on processability and Quality Assurance/Quality Control testing to be done in the United States, and
 - d) Sharing all technology and information jointly developed and tested in the program.
1. The overall long-range plan, which shall take 3 to 5 years to complete, shall include development and implementation of the technology for producing environmentally acceptable cementitious waste forms for the immobilization and disposal of low (and intermediate in France) level radioactive wastes. The program shall follow two pathways:
 - 1) An initial task focused on ongoing CEA and DOE programs, which presently have established test protocols and facilities, beginning late 1990. These established tests shall be applied to wastes of mutual interest to both Parties.
 - 2) A longer-range effort utilizing the technology demonstrated and information gained in the initial task, to address the long-term viability/durability of cement waste forms, and to incorporate that technology into the plans and engineering designs for radioactive waste disposal in both countries.
 2. Elements of the initial effort focused on combining technology and experience:

Most of the technical tasks of developing and testing cementitious waste forms have been completed at either CEA's Saclay laboratory or for DOE's

Oak Ridge National Laboratory (ORNL). Much of this activity rather than being duplicative, has been complementary. Thus, the focus of the initial effort shall be to combine the technology and experience of both Parties exchange of staff between ORNL and CEA-Saclay. During these exchanges, mutually agreed upon wastes shall be immobilized in cement formulations of the host laboratory and performance of the resulting waste forms determined.

3. Wider-range program:

While most of the effort of the first year or two shall be devoted to the initial effort, elements of a wider-range program may be carried out during calendar year 1991, such as planning, identifying additional technology needs, and assignment of work tasks between the two countries as can be agreed to and as funds are available in each country.