

PROJECT AGREEMENT  
BETWEEN  
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA  
AND  
THE FEDERAL MINISTER FOR RESEARCH AND TECHNOLOGY  
OF THE FEDERAL REPUBLIC OF GERMANY  
ON METHODS OF TREATMENT FOR IMMOBILIZATION OF HIGH-LEVEL RADIOACTIVE WASTE

This Project Agreement is made between the Department of Energy of the United States of America ("DOE") and the Federal Minister for Research and Technology of the Federal Republic of Germany ("BMFT"), hereinafter the "Parties."

ARTICLE 1 - OBJECTIVE

1. The objective of cooperation under this Project Agreement is to undertake a joint experimental and analytical program for the development of processes for the treatment and immobilization of high-level radioactive waste and to use these processes for the fabrication of isotopic sources of radiation and heat (isotopic heat sources).
2. Cooperation under this Project Agreement shall constitute a joint project as contemplated by Article 4 of the DOE-BMFT Technical Exchange and Cooperative Arrangement in the Field of Management of Radioactive Wastes of December 20, 1974, as amended on March 19, 1980 (the "Waste Management Arrangement").
3. Articles 4, 7, 8, 9, 10, 11, 13, and 16 of the Waste Management Arrangement are hereby incorporated by reference into this Project Agreement.
4. The execution of this Project Agreement is not intended to supersede or adversely affect the existing mutually-beneficial cooperation between DOE and BMFT, their contractors and associated organizations under the overall Waste Management Arrangement of 1974, and in particular that cooperation involving Pamela, West Valley, and Pacific Northwest Laboratory.

## ARTICLE 2 - PROGRAM

A Joint Program (the "Program") designed to achieve the objectives of this Project Agreement is outlined below.

1. Exchange of information in the areas of design, development, construction, and operation of processes for the treatment and immobilization of high-level radioactive waste, including such information from the Pamela, West Valley, and Pacific Northwest Laboratory facilities.
2. Research and development efforts on processes for the treatment and immobilization of high-level radioactive waste by means of fabrication of isotopic heat sources under radioactive conditions. Prior to the start of such fabrication, the Parties shall agree in writing on the technical specifications for the isotopoic heat sources. The Record of the DOE/BMFT Meeting on February 28, 1984 shall provide the initial specifications and conditions for production, storage, and transportation of isotopic heat sources. Changes thereto shall be accomplished by exchange of letters between the Project Coordinators.
3. Assignment of staff of each Party or its contractors or associated organizations to the other Party or its contractors or associated firms to participate in the Program. Each such assignment shall be the subject of a separate assignment agreement between the Parties, pursuant to Article 7 of this Project Agreement.
4. Short visits by specialist teams or individuals of one Party or its contractors or associated organizations to the other Party or its contractors or associated organizations, as mutually agreed and subject to the regulations of each Party.

5. Recording and exchange between the Parties of data and results arising from the Program.
6. Analyses of the experimental results, exchange of the results of such analyses, and exchange of conclusions derived from such results.
7. Preparation and exchange between the Parties of agreed reports during the Program, and preparation of a joint report at the end of the Program.
8. It is understood between the Parties that the tasks under the Program may be implemented by contractors of the Parties, such as GSF (Gesellschaft fuer Strahlen-und Umweltforschung mbH) and PNL (Pacific Northwest Laboratory).

#### ARTICLE 3 - RESPONSIBILITIES OF THE PARTIES

1. To meet the requirements of the Program, DOE shall at its own expense:
  - a. Make available to BMFT information which DOE has the right to disclose in the areas of design, development, construction, and operation of processes for the treatment and immobilization of high-level radioactive waste and on the use of such processes for the fabrication of isotopic heat sources.
  - b. Provide the facilities and equipment necessary for fabrication of isotopic heat sources.
  - c. Participate in the preparation of joint DOE-BMFT technical reports of results of activities and conclusions derived from such results under this Project Agreement.

- d. Provide approximately  $3 \times 10^6$  Ci of Cesium-137 (Cs-137) and approximately  $3 \times 10^6$  Ci of Strontium-90 for use as the source of heat and radiation. On a best effort basis, DOE shall seek an additional  $7 \times 10^6$  Ci of Cs-137 in order to meet the specifications and conditions for production of all the isotopic heat sources as stated in the Record of the DOE/BMFT Meeting on February 28, 1984.
- e. Fabricate ten heat and radiation sources by incorporating the above radionuclides in a borosilicate-type glass matrix and encapsulating that matrix in steel canisters approximately 30 cm in diameter (O.D.) and 120 cm in length. The ten sources shall be fabricated with a nominal heat generation rate of 1,680 watts. In the event the additional  $7 \times 10^6$  Ci of Cs-137 is obtained, two additional sets of ten canisters each shall be fabricated with nominal heat generation rates of 1,285 watts and 2,065 watts, respectively. DOE shall give BMFT one month's advance notification prior to beginning fabrication of the first isotopic heat source. DOE shall proceed with fabrication of the isotopic heat sources unless formally notified by BMFT to the contrary.
- f. Provide and/or operate a canister storage, welding, decontamination, and gauging facility to prepare isotopic heat sources for shipment to the Federal Republic of Germany.
- g. Make the isotopic heat sources available F.O.B. at DOE's Pacific Northwest Laboratory located at Richland, Washington, to BMFT for shipment to the Federal Republic of Germany.

- h. Assign DOE or DOE contractor personnel to BMFT or BMFT's contractors or associated organizations as mutually agreed, to participate in the Program. Each such assignment shall be the subject of a separate assignment agreement between the Parties pursuant to Article 7 of this Project Agreement.
- 2. To meet the requirements of the Program, BMFT shall at its own expense:
  - a. Make available to DOE information which BMFT has the right to disclose in the areas of design, development, construction and operation of processes for the treatment and immobilization of high-level radioactive waste, and on the use of such processes for the fabrication of isotopic heat sources.
  - b. Participate in the preparation of joint DOE-BMFT technical reports of results of activities and conclusions derived from such results under this Project Agreement.
  - c. Provide DOE with suitable canisters and lids, compatible grappling devices, welding equipment, helium leak test equipment, and straightness and ovality gauges. Upon BMFT request, DOE shall provide welding equipment from its own sources at BMFT expense.
  - d. Assign BMFT or BMFT-contractor personnel to DOE or its contractors, as mutually agreed, to participate in the Program. Each such assignment shall be the subject of a separate assignment agreement between the Parties or their contractors pursuant to Article 7 of this Project Agreement.

- e. Accept responsibility for the isotopic heat sources upon their being made available F.O.B. by DOE at DOE's Pacific Northwest Laboratory located at Richland, Washington.
  - f. Upon acceptance of responsibility for the isotopic heat sources pursuant to Article 3.2.e, be responsible for their handling, storage, transportation, and insurance from point of origin at Richland, Washington, to their ultimate destination in the Federal Republic of Germany.
  - g. Obtain all licenses or approvals necessary for transportation of the isotopic heat sources from Richland, Washington, to their ultimate destination in the Federal Republic of Germany.
  - h. Be responsible within the Federal Republic of Germany for the handling, storage, use, and disposal of the isotopic heat sources, unless the Parties mutually agree to some other course of action.
3. Each Party, at its own expense, shall have the right to observe and discuss activities of the other Party including BMFT's isotopic heat source test facilities. This right may be exercised by short-term visits or by the attachment of staff, subject to the prior agreement of the receiving Party on each occasion.
4. In the event BMFT shall be unable, in BMFT's opinion, to obtain necessary licenses or approvals in its own country within a reasonable period of time, BMFT shall give written notification to DOE without delay. Upon receipt of such notification by DOE, the responsibilities of the Parties

under this Agreement shall be changed as follows:

- a. DOE's responsibilities listed in Article 3.1.b, 3.1.d., 3.1.e., 3.1.f., and 3.1.g. shall thereupon cease;
- b. BMFT's responsibilities listed in Article 3.2.c., 3.2.e., 3.2.f., 3.2.g., and 3.2.h. shall thereupon cease; and
- c. BMFT's responsibilities listed in Article 5.1. and 5.2. and 5.4. shall thereupon cease;

provided that termination costs, if any, shall remain the responsibility of BMFT.

5. If BMFT requests a later delivery than specified in the Record of the DOE/BMFT Meeting on February 28, 1984, then BMFT shall be responsible for the additional storage costs, if any. IF DOE requests a later delivery date than specified in the Record of the DOE/BMFT Meeting on February 28, 1984, then DOE shall be responsible for the additional storage costs, if any.

#### ARTICLE 4 - MANAGEMENT

Each Party shall appoint a Project Coordinator pursuant to Article 7 of the Waste Management Arrangement. For periods between meetings of the Project Coordinators, each Party shall appoint a Project Leader to act on its behalf on all matters concerning cooperation under this Project Agreement.

#### ARTICLE 5 - FINANCIAL TERMS

1. As its part in defraying the incremental costs arising under the Program from the design and development of processes for the treatment and immobilization of high-level radioactive waste, and arising from the use

of such processes for the fabrication of the first ten isotopic heat sources, BMFT shall provide to DOE the sum of US \$4,900,000 in accordance with procedures to be identified by DOE. The incremental cost of work to be performed by DOE under this Agreement shall not at any time exceed the advance received by DOE. Payments shall be made in accordance with the following schedule:

- a. US \$1,500,000 within 60 days after this Project Agreement enters into force.
  - b. US \$2,400,000 within 120 days after this Project Agreement enters into force.
  - c. US \$1,000,000 within 180 days after this Project Agreement enters into force.
2. In the event the additional  $7 \times 10^6$  Ci of Cs-137 to fabricate the additional 20 isotopic heat sources on a schedule that is mutually acceptable by both Parties is obtained, BMFT shall provide to DOE an additional amount, estimated in February 1984 to be \$2,300,000, as its part in defraying the additional incremental costs arising under the Program. The provision by DOE of such additional Cs-137, and the provision by BMFT of such additional funds, shall be subject to written amendment to this Project Agreement, pursuant to Article 11.
3. In the event the Program outlined in Article 2, and the responsibilities of the Parties listed in Article 3, are to be modified to provide for additional activities, the financial terms in Article 5.1 and Article 5.2 may also be modified to reflect the additional responsibilities and contributions of each Party. Any such modification shall be the subject



of a written amendment to this Project Agreement pursuant to Article 11.

4. Unless otherwise provided elsewhere in this Project Agreement, all costs arising from the conduct of the Program shall be borne by the Party that incurs them.

#### ARTICLE 6 - INFORMATION AND PATENTS

1. The Parties shall exchange information which they have a right to disclose in the areas of design, development, construction, and operation of processes for the treatment and immobilization of high level radioactive waste and of the use of such processes for the fabrication of isotopic heat sources. The Parties shall also exchange information arising from activities set forth in Article 2, Paragraphs 5 through 7, of this Project Agreement.
2. The application or use of any information provided under or arising from this Project Agreement shall be the responsibility of the Party receiving it, and the other Party does not warrant the suitability of such information for any particular use or application.
3. The information provided under or arising from this Project Agreement may be made available to the public by either Party through customary channels and in accordance with the normal procedures of the Parties, subject to the provisions of Article 6.5 through Article 6.8 below.
4. Copyrights of either Party or of cooperating organizations shall be accorded treatment consistent with internationally recognized standards of protection.

5. Proprietary information shall not be exchanged, accepted for or utilized in the activities under this Project Agreement without the express written approval of the Parties. For the purposes of this Project Agreement, proprietary information shall mean information of a confidential nature acquired prior to or outside the scope of this Project Agreement such as trade secrets and know-how (for example, computer programs, design procedures and techniques, chemical composition of materials, or manufacturing methods, processes, or treatments) which is appropriately marked, provided such information:

- a) has been held in confidence by its owner;
- b) is of a type which is customarily held in confidence by its owner;
- c) has not been transmitted by the transmitting Party to other entities, including the receiving Party, except on the basis that it be held in confidence; and
- d) is not otherwise available to the receiving Party from another source without restriction on its further dissemination.

It shall be the responsibility of the Party supplying proprietary information to identify the information as such as to ensure that it is appropriately marked.

6. Inventions or discoveries made or conceived in the course of or under this Agreement (hereinafter referred to as "arising inventions") shall be identified by the inventing Party and shall be reported promptly to the other Party. Information regarding arising inventions on which patent protection is to be obtained shall not be published or publicly disclosed by the Parties until a patent application has been filed in either country of the Parties; provided, however, that this restriction on publication or disclosure shall not extend beyond six months from the date of reporting of the arising invention. It shall be the responsibility of the inventing Party to mark appropriately reports which disclose arising inventions that have not been appropriately protected by the filing of a patent application.
7. Arising inventions shall be owned:
  - a) by BMFT in the Federal Republic of Germany, subject to a royalty-free, non-exclusive, irrevocable license to DOE, its Government, and the nationals of its country designated by it; and
  - b) by DOE in the United States and in third countries, subject to a royalty-free, non-exclusive, irrevocable license to BMFT, its Government, and the nationals of its country designated by it.
8. Each Party shall, without prejudice to any rights of inventors or authors under its national laws, take all necessary steps to provide the cooperation from its inventors or authors required to carry out the provisions of this Article.
9. Each Party shall assume responsibility to pay awards or other compensation required to be paid to its own nationals according to its own laws.

#### ARTICLE 7 - ASSIGNMENT OF STAFF

1. Whenever an assignment of staff is contemplated under this Project Agreement, each Party shall ensure that qualified staff are selected for such assignment.
2. Each such assignment of staff shall be the subject of a separate assignment agreement between the Parties or, when authorized by the Parties, between their contractors or associated firms.
3. Each Party shall be responsible for the salaries, insurance and allowances to be paid to its staff.
4. Each Party shall pay for the travel and living expenses of its staff while assigned to the other Party, its contractors or associated firms, unless otherwise agreed.
5. Each Party shall arrange or do its best to arrange for comparable accommodations for the other Party's staff and their families on a mutually-agreeable reciprocal basis.
6. Each Party shall provide all necessary assistance to the assigned staff and their families as regards administrative formalities such as travel arrangements.
7. The assigned staff of each Party shall conform to the general and special rules of work and safety regulations in force at the host establishment, or as agreed in separate assignment agreements.

#### ARTICLE 8 - EQUIPMENT

1. In the event that equipment is to be exchanged or supplied by one Party to the other Party under this Project Agreement, the loan or transfer of such equipment shall be the subject of a separate agreement.
2. The sending Party shall supply as soon as possible a detailed list of the equipment to be provided, together with the associated specifications and technical and other documentation.
3. Responsibility for expenses, safekeeping, and insurance during transport of the equipment from its original location in the country of the sending Party to the final destination in the country of the receiving Party, and return, shall rest with the sending Party.
4. The equipment provided by the sending Party shall be considered to be scientific, not having a commercial character, and the receiving Party shall make a good faith effort to avoid the requirement for payment of import taxes on such equipment.
5. It is understood that the equipment provided by one Party to the other Party shall remain the property of the receiving Party unless mutually agreed in advance to the contrary.

#### ARTICLE 9 - DAMAGES

Compensation for damages incurred during the implementation of this Agreement shall be in accordance with the applicable laws of the countries of the Parties.

#### ARTICLE 10 - GENERAL PROVISIONS

Cooperation under this Agreement shall be in accordance with the laws and regulations under which each Party operates. All questions related to this Agreement arising during its terms shall be settled by mutual agreement of the Parties.

#### ARTICLE 11 - FINAL PROVISIONS

1. This Project Agreement shall enter into force upon the later date of signature, and shall continue in force for a period of six years unless sooner terminated in accordance with Article 11.3 below.
2. This Project Agreement may be amended or extended at any time by written agreement of the Parties.
3. This Project Agreement may be terminated at any time upon six months advance notification in writing by either Party. Such termination shall be without prejudice to the rights which may have accrued to either Party up to the date of termination.
4. All joint efforts and experiments initiated but not completed at the expiration or termination of this Project Agreement may be continued as if this Project Agreement were still in effect.

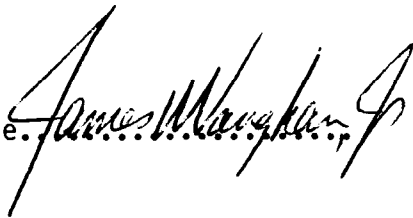
5. This Project Agreement shall also apply to Land Berlin provided that the Government of the Federal Republic of Germany has not made a contrary declaration to the Government of the United States of America within three months of the date of entry into force of this Project Agreement.

Done in duplicate.

FOR THE DEPARTMENT OF ENERGY  
OF THE UNITED STATES OF AMERICA

FOR THE FEDERAL MINISTER FOR RESEARCH  
AND TECHNOLOGY OF THE FEDERAL REPUBLIC  
OF GERMANY

Signature.....



Name..... James W. Vaughan, Jr. ....

Acting Assistant Secretary  
Title..... for Nuclear Energy .....

Date..... November 16, 1984 .....

Signature.....



Name..... Dr. Günter Lehr .....

Ministerialdirektor  
Title..... ..

Date..... November 28, 1984 .....