

IMPLEMENTING ARRANGEMENT BETWEEN THE UNITED STATES DEPARTMENT OF ENERGY  
AND THE AGENCY OF INDUSTRIAL SCIENCE AND TECHNOLOGY OF JAPAN IN THE  
FIELD OF GEOTHERMAL ENERGY APPLICATIONS

WHEREAS

The Government of the United States of America and the Government of Japan have signed an Agreement on Cooperation in the Field of Energy Research and Development dated July 15, 1974;

Article IV of the above Agreement provides that implementing arrangements specifying the details and procedures of cooperative activities will be made between the appropriate agencies of the two Governments;

The United States Department of Energy (DOE) and the Agency of Industrial Science and Technology (AIST) of Japan, hereinafter called the Parties, wish to establish such an implementing arrangement for cooperation in the field of geothermal energy applications;

In their pursuit of bilateral cooperation under this Implementing Arrangement, (hereinafter referred to as "Arrangement"), the Parties agree to take into consideration those multilateral cooperative activities in the field of geothermal energy applications in which their respective governments participate, such as those under the aegis of the International Energy Agency.

IT IS AGREED AS FOLLOWS:

ARTICLE 1

The objective of cooperation under this Arrangement is to establish, for the mutual benefit of the Parties, a balanced exchange of geothermal energy application technology. The areas and forms of cooperation are listed under Article 2 and 3, respectively.

ARTICLE 2

The areas of cooperation in the field of geothermal energy applications covered by this Arrangement may include:

1. Development and evaluation of the geothermal resource data base in the country of each Party.
2. New techniques for resource assessment.
3. New techniques for drilling and fracturing.
4. Volcanic studies.
5. Transportation of steam and hot water for non-power uses.
6. Evaluation of reservoir life.
7. Environmental studies regarding the siting and operation of geothermal plants.

Other areas of cooperation as may be mutually agreed.

ARTICLE 3

Cooperation under this Arrangement may include, but is not limited to, the following forms:

1. Exchange of scientific and technical information, and results and methods of research and development.
2. Organization of seminars and other meetings on agreed topics covering problems of research and development in the areas enumerated in Article 2, in a manner agreed to by the Joint Coordinating Committee (Article 4).
3. Short survey visits by individuals or specialist teams to the geothermal energy facilities of the other Party. Such teams shall generally consist of no more than five members for each of the areas of cooperation listed in Article 2. Visits of up to two weeks duration shall generally be made alternately to Japan and the United States. The itinerary for each such visit shall be prepared by the receiving Party, taking into account requests by the sending Party for visits to specific persons, laboratories and facilities. Each such visit shall include one day of seminars in which the visiting team shall report on its Party's geothermal energy research activities. The receiving Party may invite additional participants to attend the one-day seminars.

4. Exchange of materials, instruments, and components for testing.
5. Exchange of scientists, engineers, and other specialists for participation in agreed research, development, analysis, design and experimental activities conducted in scientific centers, laboratories, engineering offices and geothermal energy facilities of each of the Parties or its contractors for agreed periods.
6. Joint undertakings in the form of experiments, tests, design analysis or other technical collaborative activities, including joint use of each Party's geothermal test facilities and measurement equipment, and the testing of each Party's equipment in the geothermal test facilities of the other Party.

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

#### ARTICLE 4

1. To supervise the execution of this Arrangement a Joint DOE/AIST Coordinating Committee in the Field of Geothermal Energy applications 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.

2. At its meetings, the Joint Coordinating Committee shall evaluate the status of cooperation under this Arrangement. This evaluation shall include an assessment of the balance of exchanges in the various areas of cooperation listed in Article 2 and, if necessary, a consideration of measures required to correct any imbalances.
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 Arrangement.
4. For the detailed management of the cooperation, each Party shall appoint one or more "Correspondents" for each of the areas listed in Article 2, paragraph 1. The Correspondents shall be responsible for the working contacts between the Parties in their respective areas of cooperation. The Correspondents shall agree on specific programs of cooperation in their respective areas, within guidelines and policy set by the Joint Coordinating Committee. At each meeting of the Joint Coordinating Committee, the Correspondents 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 either the Joint Coordinating Committee or by the respective Heads of Delegations of the Joint Coordinating Committee.
  
2. Where it is decided by the Parties that a cooperative program or project under this Arrangement should be subject to a formalized specific memorandum of agreement executed by both Parties, the specific agreement shall cover all detailed provisions for implementing that agreement, including such matters as patents, exchange of equipment, and information disclosure specific to the particular program or project.

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 related to work carried out under this Arrangement. 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. Seminar proceedings and reports of joint programs carried out under this Arrangement shall be published as joint publications, as mutually agreed by both Parties.

3. Both Parties agree that information developed or exchanged under this Arrangement may be given wide distribution. Such information, except as noted in paragraphs 4 and 5 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.
  
4. 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, but 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 consent of the transmitting Party. Such property is defined as:
  - a. of 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 or others without an agreement concerning its confidentiality; and
  - d. not already in the possession of the receiving Party or its contractors.

5. Recognizing that "industrial property of a proprietary nature", as defined above, may be necessary for the conduct of a specific cooperative project or may be included in an exchange of information, such property shall be used only in the furtherance of geothermal energy applications 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 Government agencies 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 will use its best efforts to ensure that the dissemination of proprietary data received under this Arrangement 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, 2 and 3 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 Arrangement 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 Arrangement.
  - 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.
  - 2) The Assigning Party shall acquire all right, title and interest in and to any such invention or discovery in its own country.
- 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 arrangement 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.
- c. For loans or exchanges of material, instruments and equipment having a value of less than five thousand United States dollars, the provisions of subparagraph b above shall apply.
- d. The Party which owns an invention referred to in subparagraphs a, b and c above shall license such inventions to the other Party upon request of the other Party on terms and conditions most favorable under the laws and regulations of the owning Party, taking into consideration the licensing policies of each Party toward the nationals of the other Party in order to provide equal treatment.

- e. The distribution of rights set forth in subparagraph a, b and c are applicable only to the exchange of personnel and information, and loans or exchanges of materials, instruments, and equipment having a value of less than five thousand United States dollars. With regard to other specific forms of cooperation including special joint research projects, the Parties shall provide for appropriate distribution of rights to inventions or discoveries resulting from such cooperation taking into consideration the benefits, rights and contributions of the Parties.
2. The preceding paragraph 1 of this Article shall apply mutatis mutandis to design protection.
3. Each Party shall assume the responsibility to pay awards or compensation required to be paid to its own nationals according to its own laws. AIST 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 with respect to any inventions within the scope of paragraph 1 and 2 of this Article. Each Party shall, without prejudice to any rights of inventors under its national laws, take all necessary steps to provide the cooperation from its inventors required to carry out the provisions of this Article.

ARTICLE 10

Both Parties agree that in the event equipment is to be exchanged or supplied by one Party to the other, 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 sending Party for use in joint projects shall remain its property and shall be returned to the sending Party upon completion of the mutually agreed upon activity 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 AIST.
7. The equipment provided by the sending Party for carrying out mutually agreed upon activities 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

1. In carrying out agreed upon exchanges of personnel, it may be necessary to attach selected staff of one Party to an establishment of the other Party. The sending Party shall ensure the selection of adequate staff with skills and competence necessary to conduct the agreed joint projects.
2. Each such attachment of staff shall be the subject of a separate attachment agreement between the Parties.

3. Each Party shall be responsible for the salaries, insurance and allowances to be paid to its staff.
4. Each Party shall pay for travel and living expenses of its staff while on attachment to the host Party unless otherwise agreed.
5. The host establishment shall arrange for satisfactory 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 attached staff (and their families) of the other Party as regards administrative formalities, including travel arrangements.
7. 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

1. Should any question of liability occur between the Parties relating to damages to staff or equipment or property or between a Party and a third party during the cooperation, the two Parties agree that compensation for damages shall be provided by the Party responsible in accordance with the applicable laws of the country on whose territory the said damages have been incurred.
  
2. a. "Staff" of a Party means the employees of the Party, its contractors and subcontractors performing services under this Arrangement, and employees of these contractors and subcontractors performing services under this Arrangement.  
  
b. "Equipment or Property" of a Party means the equipment or property owned or controlled by that Party, or by the contractor and subcontractors of that Party who perform services in connection with joint projects under this Arrangement.
  
3. The Party on whose territory the damage was incurred shall in consultation with the other Party, take upon itself the resolution 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.

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 will be presented to DOE and AIST who shall review the conclusions and arrive at a mutual agreement concerning final disposition.

ARTICLE 13

The provisions of this Arrangement shall not affect the rights or duties of the Parties hereto under other agreements or arrangements. This Arrangement 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 4 and 5, of this Arrangement. Moreover, it is expected that the present Arrangement should facilitate industrial and commercial exchanges in the field of geothermal energy 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 Arrangement shall be in accordance with laws of the respective countries and the regulations of the Parties. All questions related to the Arrangement 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 Arrangement. 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 Arrangement shall enter into force upon signature and remain in force as long as the July 15, 1974 Agreement between the Government of the United States of America and the Government of Japan on cooperation in the field of energy research and development remains in force, but in no event later than ten years from the date of signature of this Arrangement. This Arrangement may be amended by mutual agreement of the parties. The implementation and progress under this Arrangement shall be subject to annual review by the parties.
2. This Arrangement 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 Arrangement. Such termination shall be without prejudice to the rights which may have accrued under this Arrangement to either Party up to the date of such termination.

3. In the event that, during the period of this Arrangement, the nature of either Party's geothermal energy applications program should change substantially, whether this be by extension, reduction, transformation or amalgamation of major elements with the geothermal energy applications program of a third party, either party shall have the right to request revisions in the scope and/or terms of this Arrangement.
  
4. All joint efforts and experiments not completed at the termination of this Arrangement may be continued until their completion under the terms of this Arrangement.

Done at     Tokyo, Japan     in duplicate.

this     15th     day of     June    , 1978.

William W. Henoeh

William W. Henoeh  
Scientific Representative  
For the United States Department  
of Energy

Yoshio Tadenuma

Yoshio Tadenuma  
Councillor for Technological Affairs  
For the Agency of Industrial Science  
and Technology of Japan

JUN 15 1978

Sir:

I have the honor to acknowledge the receipt of your letter of today's date, which reads as follows:

I have the honor to refer to the Implementing Arrangement between the United States Department of Energy and the Agency of Industrial Science and Technology of Japan in the field of Geothermal Energy applications signed on June 15, 1978, and specifically to Article 9.1.d. of that Arrangement concerning the licensing of inventions.

Although the United States patent policy would allow a license to be granted to a United States patent royalty free, you have stated that Japanese laws and regulations require some royalty to be paid for a license to a Japanese patent on an invention developed upon activities sponsored by a government agency. In recognition of the differences between Japanese and United States patent laws and regulations the language of Article 9.1.d. provides for an equitable balancing by the U.S. of minimum royalties charged by Japan.

We understand the Japanese royalty on patents will be calculated pursuant to a formula by taking into consideration the market value of the patent and the contribution of the patent to the total value of the product. We further understand that the Ministry of International Trade and Industry has discretionary power to reduce the payment in special situations. Both Parties recognize the importance of international cooperation in meeting their energy needs. Therefore, MITI agrees to license Japanese patents made or conceived in the course of or under this Arrangement as provided in Article 9.1. at the lowest permissible

royalty to the United States citizens. Specifically, in view of the United States patent policy, Japan shall exercise its discretion by assigning the minimum permissible factor with regard to the market value of the patent to an area of technology and by making a seventy-five percent reduction from the highest value of the patent. The United States reserves the right to charge Japanese citizens a comparable royalty for a license to United States patents made or conceived in the course of or under this Arrangement as provided in Article 9.1.

This arrangement is applicable only to the exchange of personnel and information and loans or exchanges of materials, instruments and equipment having a value of less than five thousand United States dollars. In cases of other forms of cooperation, including loans or changes of materials, instruments and equipment for joint research projects, other arrangements shall be undertaken which will equitably reflect the contributions of Japan and the United States to the research effort.

With regard to Japanese information supplied to DOE, AIST shall provide DOE with English summaries of Japanese geothermal information to be exchanged in accordance with the provisions of this Arrangement. In addition, AIST, at no cost to DOE, shall provide English translations of approximately 100 pages each year of those Japanese geothermal reports which DOE shall designate. Detailed arrangements for the translation

of scientific and technical information to be exchanged in accordance with the provisions of the Geothermal Arrangement will be decided by the Joint Coordinating Committee.

I have the honor to confirm on behalf of my Agency that foregoing is also the understanding of the Agency of Industrial Science and Technology.

Accept Sir the renewed assurance of highest consideration.

For the Agency of Industrial  
Science and Technology

A handwritten signature in cursive script, reading "Yoshio Tadenuma", written over a horizontal line.

Yoshio Tadenuma  
Councillor for Technological Affairs

JUN 15 1978

Sir:

I have the honor to refer to the Implementing Arrangement between the United States Department of Energy and the Agency of Industrial Science and Technology of Japan in the field of Geothermal Energy applications signed on June 15, 1978, and specifically to Article 9.1.d. of that Arrangement concerning the licensing of inventions.

Although the United States patent policy would allow a license to be granted to a United States patent royalty free, you have stated that Japanese laws and regulations require some royalty to be paid for a license to a Japanese patent on an invention developed upon activities sponsored by a government agency. In recognition of the differences between Japanese and United States patent laws and regulations the language of Article 9.1.d. provides for an equitable balancing by the U.S. of minimum royalties charged by Japan.

We understand the Japanese royalty on patents will be calculated pursuant to a formula by taking into consideration the market value of the patent and the contribution of the patent to the total value of the product. We further understand that the Ministry of International Trade and Industry has discretionary power to reduce the payment in special situations. Both Parties recognize the importance of international cooperation in meeting their energy needs. Therefore, MITI agrees to license Japanese patents made or conceived in the course of or under this Arrangement as provided in Article 9.1. at the lowest permissible

royalty to the United States citizens. Specifically, in view of the United States patent policy, Japan shall exercise its discretion by assigning the minimum permissible factor with regard to the market value of the patent to an area of technology and by making a seventy-five percent reduction from the highest value of the patent. The United States reserves the right to charge Japanese citizens a comparable royalty for a license to United States patents made or conceived in the course of or under this Arrangement as provided in Article 9.1.

This arrangement is applicable only to the exchange of personnel and information and loans or exchanges of materials, instruments and equipment having a value of less than five thousand United States dollars. In cases of other forms of cooperation, including loans or changes of materials, instruments and equipment for joint research projects, other arrangements shall be undertaken which will equitably reflect the contributions of Japan and the United States to the research effort.

With regard to Japanese information supplied to DOE, AIST shall provide DOE with English summaries of Japanese geothermal information to be exchanged in accordance with the provisions of this Arrangement. In addition, AIST, at no cost to DOE, shall provide English translations of approximately 100 pages each year of those Japanese geothermal reports which DOE shall designate. Detailed arrangements for the translation

of scientific and technical information to be exchanged in accordance with the provisions of the Geothermal Arrangement will be decided by the Joint Coordinating Committee.

Accept Sir the renewed assurance of highest consideration.

For the Department of Energy



---

William W. Henoch  
Scientific Representative