

COMMISSION OF THE EUROPEAN COMMUNITIES

COM (78) 534 final

Brussels, 24 October 1978

INTERNATIONAL ENERGY AGENCY IMPLEMENTING AGREEMENT FOR A PROGRAMME OF RESEARCH AND DEVELOPMENT ON ENERGY CONSERVATION THROUGH ENERGY STORAGE

(Communication from the Commission to the Council)

COM (78) 534 final

COMMUNICATION FROM THE COMMISSION TO THE COUNCIL

1. On June 24 and on July 6, 1976, an agreement in the form of an exchange of letters was concluded between the European Atomic Energy Community (Euratom) and the European Economic Community on the one hand and the International Energy Agency (IEA) on the other relating to co-operation in the field of Energy Research and Development.

According to the exchange of letters, the European Communities indicated their intention to negotiate, on a case by case basis, their participation in such "Implementing Agreements" prepared within the framework of the IEA as would contribute to the attainment of the research and development objectives of the Community. For its part, the IEA took note of this intention and confirmed that such participation is open to the European Community.

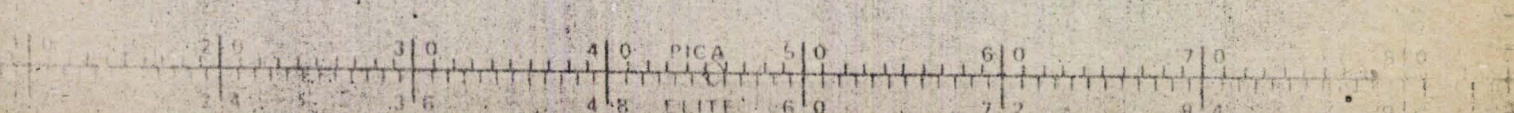
In application of this agreement, there has been concluded :

- an Implementing Agreement on the technical exchange of information in the field of reactor safety research and development;
- an Implementing Agreement for a co-operative research and development programme leading to the construction of an intense neutron source;
- an Implementing Agreement for a programme to develop and test solar heating and cooling systems;
- an Implementing Agreement for a programme of research and development on the production of hydrogen from water;
- an Implementing Agreement for a programme of research and development on plasma wall interaction in textor;
- an Implementing Agreement for a programme of research and development on superconducting magnets for fusion power.

2. The Council will find in the attached annex the text of a new Implementing Agreement proposed by the IEA for signature by the Community. This is :

Implementing Agreement for a programme of research and development on energy conservation through energy storage (Annex A).

This Implementing Agreement is ^{an} umbrella agreement setting forth rules for the execution of R & D tasks as described in the annex of the said agreement. When signing any Implementing Agreement, article 2 (a) specifies that each contracting party shall have to confirm its intention to participate in the tasks proposed under the Agreement. The Commission proposes that the Community will participate in Task 1 of the said Agreement which relates to large scale energy storage systems.



3. The Commission considers that the participation of the European Economic Community in this Implementing Agreement is justified for the following reasons.

As part of the Community's own energy conservation R & D programme an important design study is being performed on a large scale heat storage system (aquifer). In the IEA project on energy conservation through large scale thermal storage systems the proposal is to undertake design studies for different systems and make a comparative evaluation.

Such studies are of particular benefit to the Commission because they complement its own rather limited R & D programme on a single aquifer which is being carried out under contract to the Commission. A large part of this information for the IEA project will come from Sweden and Switzerland which are well advanced in this area. Furthermore, the US contribution on waste heat storage in the aluminium industry is of special interest because of similar work going on in the Community's own energy R & D programme. The results of the research from these countries will be made available to other participants in the project, and the Community as a participant stands to gain considerable additional research experience which will further its own energy conservation research objectives.

4. As concerns dissemination of information and intellectual property, no problem arises because no exchange of licences is envisaged in the task which the Commission intends to join.

However, since the Commission's contribution to the project will be work carried under contract as part of the Commission's programme it will be necessary to obtain agreement of the contractant to any obligations that arise from the task. The contractor has given his approval in principle to the Commission's participation and to information emerging from this work being transmitted to other participants. Furthermore it is the Commission's understanding and a condition of its participation that the information obtained may be made available to all Member States of the European Community.

5. The financial implication of participation is set out in the Implementing Agreement.

Each participant's contribution is in the form of a task, the cost of which will be borne by the participants themselves. The Commission proposes to contribute the relevant aspects of a study already being carried out under contract for the Commission in the framework of the energy conservation R & D programme. The total cost of this study is 1 199 967 DM (467 000 EUA) of which 50 % will be paid by the Commission. As has already been noted the contractants approval has been obtained.

6. It is the Commission's view that for the Implementing Agreement on energy storage the powers to negotiate and conclude such an Agreement are vested in the Commission by virtue of Article 211 of the EEC Treaty. However, as was indicated in the conclusion of the Implementing Agreement for a

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programme to develop and test solar heating and cooling systems⁽¹⁾, the Commission said that in the future, before signing similar kinds of agreements within the framework of the IEA, it would inform the Council of its intention to sign such an Agreement and take note of any comments that the Council may wish to make.

7. In conclusion, the Commission informs the Council of its intention to sign the Implementing Agreement for a programme of Research and Development on energy conservation through energy storage and participate in the task for large scale energy storage systems.

(1) Council decision 18 July 1977 R/1615/77 (ATO 62)

INTERNATIONAL ENERGY AGENCY

**IMPLEMENTING AGREEMENT
FOR A PROGRAMME OF RESEARCH
AND DEVELOPMENT ON ENERGY
CONSERVATION THROUGH ENERGY STORAGE**

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INTERNATIONAL ENERGY AGENCY

IMPLEMENTING AGREEMENT
FOR A PROGRAMME OF RESEARCH
AND DEVELOPMENT ON ENERGY
CONSERVATION THROUGH ENERGY STORAGE

The Contracting Parties

CONSIDERING that the Contracting Parties, being either governments or international organizations or parties designated by their respective governments pursuant to Article III of the Guiding Principles for Co-operation in the Field of Energy Research and Development adopted by the Governing Board of the International Energy Agency (the "Agency") on 28th July, 1975, wish to take part in the establishment and operation of a Programme of Research and Development on Energy Conservation through Energy Storage (the "Programme") as provided in this Agreement;

CONSIDERING that the Contracting Parties which are governments and the governments of the other Contracting Parties (referred to collectively as the "Governments") participate in the Agency and have agreed in Article 41 of the Agreement on an International Energy Program (the "I.E.P. Agreement") to undertake national programmes in the areas set out in Article 42 of the I.E.P. Agreement, including research and development on energy conservation in which field the Programme will be carried out;

CONSIDERING that in the Governing Board of the Agency on 22nd September, 1978 the Governments approved the Programme as a special activity under Article 65 of the I.E.P. Agreement;

CONSIDERING that the Agency has recognized the establishment of the Programme as an important component of international co-operation in the field of energy conservation;

HAVE AGREED as follows:

Article 1

OBJECTIVES

(a) *Scope of Activity.* The Programme to be carried out by the Contracting Parties within the framework of this Agreement shall consist of co-operative research, development, demonstrations and exchanges of information regarding energy conservation through energy storage.

(b) *Method of Implementation.* The Contracting Parties shall implement the Programme by undertaking one or more tasks (the "Task" or "Tasks") each of which will be open to participation by two or more Contracting Parties as provided in Article 2 hereof. The Contracting Parties which participate in a particular Task are, for the purposes of that Task, referred to in this Agreement as "Participants".

(c) *Task Co-ordination and Co-operation.* The Contracting Parties shall co-operate in co-ordinating the work of the various Tasks and shall endeavour, on the basis of an appropriate sharing of burdens and benefits, to encourage co-operation among Participants engaged in the various Tasks with the objective of advancing the research and development activities of all Contracting Parties in the field of energy conservation through energy storage.

Article 2

IDENTIFICATION AND INITIATION OF TASKS

(a) *Identification.* The Tasks undertaken by Participants are identified in the Annexes to this Agreement. At the time of signing this Agreement, each Contracting Party shall confirm its intention to participate in one or more Tasks by giving the Executive Director of the Agency a Notice of Participation in the relevant Annex or Annexes and the Operating Agent for each Task shall give the Executive Director of the Agency a Notice of Acceptance of the Task Annex. Thereafter, each Task shall be carried out in accordance with the procedures set forth in Articles 2 to 11 hereof, unless otherwise specifically provided in the applicable Annex.

(b) *Initiation of Additional Tasks.* Additional Tasks may be initiated by any Contracting Party according to the following procedure:

- (1) A Contracting Party wishing to initiate a new Task shall present to one or more Contracting Parties for approval a draft Annex, similar in form to the Annexes attached hereto, containing a description of the scope of work and conditions of the Task proposed to be performed;

- (2) Whenever two or more Contracting Parties agree to undertake a new Task, they shall submit the draft Annex for approval by the Executive Committee pursuant to Article 3 (e) (2) hereof; the approved draft Annex shall become part of this Agreement; Notice of Participation in the Task by Contracting Parties and acceptance by the Operating Agent shall be communicated to the Executive Director in the manner provided in paragraph (a) above;
- (3) In carrying out the various Tasks, Participants shall co-ordinate their activities in order to avoid duplication of activities.

(c) *Application of Task Annexes.* Each Annex shall be binding only upon the Participants therein and upon the Operating Agent for that Task, and shall not affect the rights or obligations of other Contracting Parties.

Article 3

THE EXECUTIVE COMMITTEE

(a) *Supervisory Control.* Control of the Programme shall be vested in the Executive Committee constituted under this Article.

(b) *Membership.* The Executive Committee shall consist of one member designated by each Contracting Party; each Contracting Party shall also designate an alternate member to serve on the Executive Committee in the event that its designated member is unable to do so.

(c) *Responsibilities.* The Executive Committee shall:

- (1) Adopt for each year, acting by unanimity, the Programme of Work, and Budget if foreseen, for each Task, together with an indicative Programme of Work and Budget for the following two years; the Executive Committee may, as required, make adjustments within the framework of the Programme of Work and Budget;
- (2) Make such rules and regulations as may be required for the sound management of the Tasks, including financial rules as provided in Article 6 hereof;
- (3) Carry out the other functions conferred upon it by this Agreement and the Annexes hereto; and
- (4) Consider any matters submitted to it by any of the Operating Agents or by any Contracting Party.

(d) *Procedure.* The Executive Committee shall carry out its responsibilities in accordance with the following procedures:

(2) Whenever two or more Contracting Parties agree to undertake a new Task, they shall submit the draft Annex for approval by the Executive Committee pursuant to Article 3 (e) (2) hereof; the approved draft Annex shall become part of this Agreement; Notice of Participation in the Task by Contracting Parties and acceptance by the Operating Agent shall be communicated to the Executive Director in the manner provided in paragraph (a) above;

(3) In carrying out the various Tasks, Participants shall co-ordinate their activities in order to avoid duplication of activities.

(c) *Application of Task Annexes.* Each Annex shall be binding only upon the Participants therein and upon the Operating Agent for that Task, and shall not affect the rights or obligations of other Contracting Parties.

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(c) *Responsibilities.* The Executive Committee shall:

(1) Adopt for each year, acting by unanimity, the Programme of Work, and Budget if foreseen, for each Task, together with an indicative Programme of Work and Budget for the following two years; the Executive Committee may, as required, make adjustments within the framework of the Programme of Work and Budget;

(2) Make such rules and regulations as may be required for the sound management of the Tasks, including financial rules as provided in Article 6 hereof;

(3) Carry out the other functions conferred upon it by this Agreement and the Annexes hereto; and

(4) Consider any matters submitted to it by any of the Operating Agents or by any Contracting Party.

(d) *Procedure.* The Executive Committee shall carry out its responsibilities in accordance with the following procedures:

- (3) The decisions and recommendations referred to in sub-paragraphs (1) and (2) above may, with the agreement of each member or alternate member entitled to act thereon, be made by mail, telex or cable without the necessity for calling a meeting. Such action shall be taken by unanimity or majority of such members as in a meeting. The Chairman of the Executive Committee shall ensure that all members are informed of each decision or recommendation made pursuant to this sub-paragraph.

(f) *Reports.* The Executive Committee shall, at least annually, provide the Agency with periodic reports on the progress of the Programme.

Article 4

THE OPERATING AGENTS

(a) *Designation.* Participants shall designate in the relevant Annex an Operating Agent for each Task. References in this Agreement to the Operating Agent shall apply to each Operating Agent in respect of the Task for which it is responsible.

(b) *Scope of Authority to Act on Behalf of Participants.* Subject to the provisions of the applicable Annex:

- (1) All legal acts required to carry out each Task shall be performed on behalf of the Participants by the Operating Agent for the Task;
- (2) The Operating Agent shall hold, for the benefit of the Participants, the legal title to all property rights which may accrue to or be acquired for the Task.

The Operating Agent shall operate the Task under its supervision and responsibility, subject to this Agreement, in accordance with the law of the country of the Operating Agent.

(c) *Reimbursement of Costs.* The Executive Committee may provide that expenses and costs incurred by an Operating Agent in acting as such pursuant to this Agreement shall be reimbursed to the Operating Agent from funds made available by the Participants pursuant to Article 6 hereof.

(d) *Replacement.* Should the Executive Committee wish to replace an Operating Agent with another government or entity, the Executive Committee may, acting by unanimity and with the consent of such government or entity, replace the initial Operating Agent. References in this Agreement to the "Operating Agent" shall include any government or entity appointed to replace the original Operating Agent under this paragraph.

(e) *Resignation.* An Operating Agent shall have the right to resign at any time, by giving six months written notice to that effect to the Executive Committee, provided that:

- (1) A Participant, or entity designated by a Participant, is at such time

willing to assume the duties and obligations of the Operating Agent and so notifies the Executive Committee and the other Participants to that effect, in writing, not less than three months in advance of the effective date of such resignation; and

- (2) Such Participant or entity is approved by the Executive Committee, acting by unanimity.

(f) *Accounting.* An Operating Agent which is replaced or which resigns as Operating Agent shall provide the Executive Committee with an accounting of any monies and other assets which it may have collected or acquired for the Task in the course of carrying out its responsibilities as Operating Agent.

(g) *Transfer of Rights.* In the event that another Operating Agent is appointed under paragraph (d) or (e) above, the Operating Agent shall transfer to such replacement Operating Agent any property rights which it may hold on behalf of the Task.

(h) *Information and Reports.* Each Operating Agent shall furnish to the Executive Committee such information concerning the Task as the Committee may request and shall each year submit, not later than two months after the end of the financial year, a report on the status of the Task.

Article 5

ADMINISTRATION AND STAFF

(a) *Administration of Tasks.* Each Operating Agent shall be responsible to the Executive Committee for implementing its designated Task in accordance with this Agreement, the applicable Task Annex, and the decisions of the Executive Committee.

(b) *Staff.* It shall be the responsibility of the Operating Agent to retain such staff as may be required to carry out its designated Task in accordance with rules determined by the Executive Committee. The Operating Agent may also, as required, utilize the services of personnel employed by other Participants (or organizations or other entities designated by Contracting Parties) and made available to the Operating Agent by secondment or otherwise. Such personnel shall be remunerated by their respective employers and shall, except as provided in this Article, be subject to their employers' conditions of service. The Contracting Parties shall be entitled to claim the appropriate cost of such remuneration or to receive an appropriate credit for such cost as part of the Budget of the Task, in accordance with Article 6 (f) (6) hereof.

Article 6

FINANCE

(a) *Individual Obligations.* Each Contracting Party shall bear the costs it incurs in carrying out this Agreement, including the costs of formulating or transmitting reports

and of reimbursing its employees for travel and other per diem expenses incurred in connection with work carried out on the respective Tasks, unless provision is made for such costs to be reimbursed from common funds as provided in paragraph (g) below.

(b) *Common Financial Obligations.* Participants wishing to share the costs of a particular Task shall agree in the appropriate Task Annex to do so. The apportionment of contributions to such costs (whether in the form of cash, services rendered, intellectual property or the supply of materials) and the use of such contributions shall be governed by the regulations and decisions made pursuant to this Article by the Executive Committee.

(c) *Financial Rules, Expenditure.* The Executive Committee, acting by unanimity, may make such regulations as are required for the sound financial management of each Task including, where necessary:

- (1) Establishment of budgetary and procurement procedures to be used by the Operating Agent in making payments from any common funds which may be maintained by Participants for the account of the Task or in making contracts on behalf of the Participants;
- (2) Establishment of minimum levels of expenditure for which Executive Committee approval shall be required, including expenditure involving payment of monies to the Operating Agent for other than routine salary and administrative expenses previously approved by the Executive Committee in the budget process.

In the expenditure of common funds, the Operating Agent shall take into account the necessity of ensuring a fair distribution of such expenditure in the Participants' countries, where this is fully compatible with the most efficient technical and financial management of the Task.

(d) *Crediting of Income to Budget.* Any income which accrues from a Task shall be credited to the Budget of that Task.

(e) *Accounting.* The system of accounts employed by the Operating Agent shall be in accordance with accounting principles generally accepted in the country of the Operating Agent and consistently applied.

(f) *Programme of Work and Budget, Keeping of Accounts.* Should Participants agree to maintain common funds for the payment of obligations under a Programme of Work and Budget of the Task, the following provisions shall be applicable unless the Executive Committee, acting by unanimity, decides otherwise:

- (1) The financial year of the Task shall correspond to the financial year of the Operating Agent;
- (2) The Operating Agent shall each year prepare and submit to the Executive Committee for approval a draft Programme of Work and Budget, together with an indicative programme of work and budget for the following two years, not later than three months before the beginning of each financial year;

- (3) The Operating Agent shall maintain complete, separate financial records which shall clearly account for all funds and property coming into the custody or possession of the Operating Agent in connection with the Task;
- (4) Not later than three months after the close of each financial year the Operating Agent shall submit to auditors selected by the Executive Committee for audit the annual accounts maintained for the Task; upon completion of the annual audit, the Operating Agent shall present the accounts together with the auditors' report to the Executive Committee for approval;
- (5) All books of account and records maintained by the Operating Agent shall be preserved for at least three years from the date of termination of the Task;
- (6) Where provided in the relevant Annex, a Participant supplying services, materials or intellectual property to the Task shall be entitled to a credit, determined by the Executive Committee, acting by unanimity, against its contribution (or to compensation, if the value of such services, materials or intellectual property exceeds the amount of the Participant's contribution); such credits for services of staff shall be calculated on an agreed scale approved by the Executive Committee and include all payroll-related costs.

(g) *Contribution to Common Funds.* Should Participants agree to establish common funds under the annual Programme of Work and Budget for a Task, any financial contributions due from Participants in a Task shall be paid to the Operating Agent in the currency of the country of the Operating Agent at such times and upon such other conditions as the Executive Committee, acting by unanimity, shall determine, provided however that:

- (1) Contributions received by the Operating Agent shall be used solely in accordance with the Programme of Work and Budget for the Task;
- (2) The Operating Agent shall be under no obligation to carry out any work on the Task until contributions amounting to at least fifty per cent (in cash terms) of the total due at any one time have been received.

(h) *Ancillary Services.* Ancillary services may, as agreed between the Executive Committee and the Operating Agent, be provided by that Operating Agent for the operation of a Task and the costs of such services, including overheads connected therewith, may be met from budgeted funds of that Task.

(i) *Taxes.* The Operating Agent shall pay all taxes and similar impositions imposed by national or local governments and incurred by it in connection with a Task, as expenditure incurred in the operation of that Task under the Budget; the Operating Agent shall, however, endeavour to obtain all possible exemptions from such taxes.

(j) *Audit.* Each Participant shall have the right, at its sole cost, to audit the accounts of any work in a Task for which common funds are maintained, on the following terms:

- (1) The Operating Agent shall provide the other Participants with an opportunity to participate in such audits on a cost-shared basis;
- (2) Accounts and records relating to activities of the Operating Agent other than those conducted for the Task shall be excluded from such audit, but if the Participant concerned requires verification of charges to the Budget representing services rendered to the Task by the Operating Agent, it may at its own cost request and obtain an audit certificate in this respect from the auditors of the Operating Agent;
- (3) Not more than one such audit shall be required in any financial year;
- (4) Any such audit shall be carried out by not more than three representatives of the Participants.

Article 7

INFORMATION AND INTELLECTUAL PROPERTY

It is expected that for each Task agreed to pursuant to this Agreement, the applicable Annex will contain information and intellectual property provisions. The General Guidelines Concerning Information and Intellectual Property, approved by the Governing Board of the Agency on 21st November, 1975, shall be taken into account in developing such provisions.

Article 8

LEGAL RESPONSIBILITY AND INSURANCE

(a) *Liability of Operating Agent.* The Operating Agent shall use all reasonable skill and care in carrying out its duties under this Agreement in accordance with all applicable laws and regulations. Except as otherwise provided in this Article, the cost of all damage to property, and all expenses associated with claims, actions and other costs arising from work undertaken with common funds for a Task shall be charged to the Budget of that Task; such costs and expenses arising from other work undertaken for a Task shall be charged to the Budget of that Task if the Task Annex so provides or the Executive Committee, acting by unanimity, so decides.

(b) *Insurance.* The Operating Agent shall propose to the Executive Committee all necessary liability, fire and other insurance, and shall carry such insurance as the

Executive Committee may direct. The cost of obtaining and maintaining insurance shall be charged to the Budget of the Task.

(c) *Indemnification of Contracting Parties.* The Operating Agent shall be liable, in its capacity as such, to indemnify Participants against the cost of any damage to property and all legal liabilities, actions, claims, costs and expenses connected therewith to the extent that they:

- (1) Result from the failure of the Operating Agent to maintain such insurance as it may be required to maintain under paragraph (b) above; or
- (2) Result from the gross negligence or wilful misconduct of any officers or employees of the Operating Agent in carrying out their duties under this Agreement.

Article 9

LEGISLATIVE PROVISIONS

(a) *Accomplishment of Formalities.* Each Participant shall request the appropriate authorities of its country (or its Member States in the case of an international organization) to use their best endeavours, within the framework of applicable legislation, to facilitate the accomplishment of formalities involved in the movement of persons, the importation of materials and equipment and the transfer of currency which shall be required to conduct the Task in which it is engaged.

(b) *Applicable Laws.* In carrying out this Agreement and its Annexes, the Contracting Parties shall be subject to the appropriation of funds by the appropriate governmental authority, where necessary, and to the constitution, laws and regulations applicable to the respective Contracting Parties, including, but not limited to, laws establishing prohibitions upon the payment of commissions, percentages, brokerage or contingent fees to persons retained to solicit governmental contracts and upon any share of such contracts accruing to governmental officials.

(c) *Decisions of Agency Governing Board.* Participants in the various Tasks shall take account, as appropriate, of the Guiding Principles for Co-operation in the Field of Energy Research and Development, and any modification thereof, as well as other decisions of the Governing Board of the Agency in that field. The termination of the Guiding Principles shall not affect this Agreement, which shall remain in force in accordance with the terms hereof.

(d) *Settlement of Disputes.* Any dispute among the Contracting Parties concerning the interpretation or the application of this Agreement which is not settled by negotiation or other agreed mode of settlement shall be referred to a tribunal of three arbitrators to be chosen by the Contracting Parties concerned who shall also choose the Chairman of the tribunal. Should the Contracting Parties concerned fail to agree upon the composition of the tribunal or the selection of its Chairman, the President of the

International Court of Justice shall, at the request of any of the Contracting Parties concerned, exercise those responsibilities. The tribunal shall decide any such dispute by reference to the terms of this Agreement and any applicable laws and regulations, and its decision on a question of fact shall be final and binding on the Contracting Parties concerned. Operating Agents which are not Contracting Parties shall be regarded as Contracting Parties for the purpose of this paragraph.

Article 10

ADMISSION AND WITHDRAWAL OF CONTRACTING PARTIES

(a) *Admission of New Contracting Parties: Agency Countries.* Upon the invitation of the Executive Committee, acting by unanimity, admission to this Agreement shall be open to the government of any Agency Participating Country (or a national agency, public organization, private corporation, company or other entity designated by such government), which signs or accedes to this Agreement, accepts the rights and obligations of a Contracting Party, and is accepted for participation in at least one Task by the Participants in that Task, acting by unanimity. Such admission of a Contracting Party shall become effective upon the signature of this Agreement by the new Contracting Party or its accession thereto and its giving Notice of Participation in one or more Annexes and the adoption of any consequential amendments thereto.

(b) *Admission of New Contracting Parties: Other OECD Countries.* The government of any Member of the Organisation for Economic Co-operation and Development which does not participate in the Agency may, on the proposal of the Executive Committee, acting by unanimity, be invited by the Governing Board of the Agency to become a Contracting Party to this Agreement (or to designate a national agency, public organization, private corporation, company or other entity to do so), under the conditions stated in paragraph (a) above.

(c) *Admission of New Participants in Tasks.* Any Contracting Party may, with the agreement of the Participants in a Task, acting by unanimity, become a Participant in that Task. Such participation shall become effective upon the Contracting Party's giving the Executive Director of the Agency a Notice of Participation in the appropriate Task Annex and the adoption of consequential amendments thereto.

(d) *Contributions.* The Executive Committee may require, as a condition to admission to participation, that the new Contracting Party or new Participant shall contribute (in the form of cash, services or materials) an appropriate proportion of the prior budget expenditure of any Task in which it participates.

(e) *Replacement of Contracting Parties.* With the agreement of the Executive Committee, acting by unanimity, and upon the request of a government, a Contracting Party designated by that government may be replaced by another party. In the event of such replacement, the replacement party shall assume the rights and obligations of a Contracting Party as provided in paragraph (a) above and in accordance with the procedure provided therein.

(f) *Withdrawal.* Any Contracting Party may withdraw from this Agreement or from any Task either with the agreement of the Executive Committee, acting by unanimity, or by giving twelve months written Notice of Withdrawal to the Executive Director of the Agency, such Notice to be given not less than one year after the date hereof. The withdrawal of a Contracting Party under this paragraph shall not affect the rights and obligations of the other Contracting Parties; except that, where the other Contracting Parties have contributed to common funds for a Task, their proportionate shares in the Task Budget shall be adjusted to take account of such withdrawal.

(g) *Changes of Status of Contracting Party.* A Contracting Party other than a government or an international organization shall forthwith notify the Executive Committee of any significant change in its status or ownership, or of its becoming bankrupt or entering into liquidation. The Executive Committee shall determine whether any such change in status of a Contracting Party significantly affects the interests of the other Contracting Parties; if the Executive Committee so determines, then, unless the Executive Committee, acting upon the unanimous decision of the other Contracting Parties, otherwise agrees:

- (1) That Contracting Party shall be deemed to have withdrawn from the Agreement under paragraph (f) above on a date to be fixed by the Executive Committee; and
- (2) The Executive Committee shall invite the government which designated that Contracting Party to designate, within a period of three months of the withdrawal of that Contracting Party, a different entity to become a Contracting Party; if approved by the Executive Committee, acting by unanimity, such entity shall become a Contracting Party with effect from the date on which it signs or accedes to this Agreement and gives the Executive Director of the Agency a Notice of Participation in one or more Annexes.

(h) *Failure to Fulfil Contractual Obligations.* Any Contracting Party which fails to fulfil its obligation under this Agreement within sixty days after its receipt of notice specifying the nature of such failure and invoking this paragraph, may be deemed by the Executive Committee, acting by unanimity, to have withdrawn from this Agreement.

Article 11

FINAL PROVISIONS

(a) *Term of Agreement.* This Agreement shall remain in force for an initial period of three years from the date hereof, and shall continue in force thereafter unless and until the Executive Committee, acting by unanimity, decides on its termination.

(b) *Legal Relationship of Contracting Parties and Participants.* Nothing in this Agreement shall be regarded as constituting a partnership between any of the Contracting Parties or Participants.

(c) *Termination.* Upon termination of this Agreement, or any Annex to this Agreement, the Executive Committee, acting by unanimity, shall arrange for the liquidation of the assets of the Task or Tasks. In the event of such liquidation, the Executive Committee shall, so far as practicable, distribute the assets of the Task, or the proceeds therefrom, in proportion to the contributions which the Participants have made from the beginning of the operation of the Task, and for that purpose shall take into account the contributions and any outstanding obligations of former Contracting Parties. Disputes with a former Contracting Party about the proportion allocated to it under this paragraph shall be settled under Article 9 (d) hereof, for which purpose a former Contracting Party shall be regarded as a Contracting Party.

(d) *Amendment.* This Agreement may be amended at any time by the Executive Committee, acting by unanimity, and any Annex to this Agreement may be amended at any time by the Executive Committee, acting by unanimity of the Participants in the Task to which the Annex refers. Such amendments shall come into force in a manner determined by the Executive Committee, acting under the voting rule applicable to the decision to adopt the amendment.

(e) *Deposit.* The original of this Agreement shall be deposited with the Executive Director of the Agency and a certified copy thereof shall be furnished to each Contracting Party. A copy of this Agreement shall be furnished to each Agency Participating Country and to each Member country of the Organisation for Economic Co-operation and Development.

Done in Paris, this 22nd day of September, 1978.

For the COMMISSION OF THE
EUROPEAN COMMUNITIES:

For the MINISTRY OF TRADE AND INDUSTRY
for and on behalf of the Government of Denmark:

For the KERNFORSCHUNGSANLAGE JÜLICH GmbH
(designated by the Government of Germany):

For the STICHTING ENERGIEONDERZOEK CENTRUM NEDERLAND
(designated by the Government of the Netherlands):

For the NATIONAL SWEDISH BOARD FOR
ENERGY SOURCE DEVELOPMENT
(designated by the Government of Sweden):

For the OFFICE FÉDÉRAL DE L'ECONOMIE ENERGÉTIQUE
for and on behalf of the Government of Switzerland:

For the DEPARTMENT OF ENERGY
for and on behalf of the Government of
the United States of America:

L'UNIVERSITÉ DE NEUCHÂTEL, acting through its CENTRE
D'HYDROGÉOLOGIE, hereby accepts the rights and powers and
agrees to carry out the obligations and functions of the
Operating Agent for Annex I as provided in the above
Agreement and Annex I thereof.

For the UNIVERSITÉ DE NEUCHÂTEL:

~~ANNEX I~~

LARGE SCALE THERMAL STORAGE SYSTEMS

1. Objectives

- (a) The first objective of this Task is to undertake preliminary design studies of a variety of large-scale, low-temperature thermal storage systems.
- (b) The second objective is to carry out comparative evaluations of the design studies, and to select at least one to be the basis of a proposed, jointly-funded hardware demonstration project.

2. Means

- (a) The work under this Annex will be carried out on a task-sharing basis, with each Participant responsible for carrying out one or more preliminary design studies as specified below in paragraph 3, and providing copies of these to the Executive Committee for use in the technical evaluations.
- (b) The Participants in this Annex may establish, in the Executive Committee, a Technical Working Group for the purpose of carrying out technical evaluations of the design studies.

3. Responsibilities of the Participants

- (a) *Commission of the European Communities.* There will be carried out a design study of an aquifer thermal storage facility for use with a district heating system. The study will include basic biological, soil chemistry, and physical investigations. The storage cycle will be simulated on a laboratory scale.

Study Cost: DM 600,000.

Estimated Date of Completion: June 1979.

- (b) *Denmark.* A design study of an aquifer storage facility with a capacity of 100,000 m³ will be carried out. The study comprises the development of mathematical models (DKr 1,950,000), site-specific geological and hydrological studies (DKr 500,000), and the design of a specific plant (DKr 500,000).

Study Cost: DKr 2,950,000.

Estimated Date of Completion: Mid-1980.

- (c) *Germany.* A general economic and technical study will be undertaken of energy storage systems for both heat and electricity, and their combination with different heating systems such as heat pumps, heat-power plants, etc.

The aim of this study will be to optimize overall energy conversion efficiency of heating systems that include storage. Cost-benefit analyses will also be made.

Study Cost: DM 1,100,000.

Estimated Date of Completion: Late 1978.

(d) *Sweden*

(1) Lake Storage

A conceptual design study will be made of warm water storage in part of a natural lake or bay that is thermally insulated from the surrounding water and atmosphere. The volume would be on the order of 1 million m³, with maximum water temperatures of 80-95 °C.

Study Cost: SwKr 900,000.

Estimated Date of Completion: October 1978.

(2) Aquifer Storage

A preliminary study will be carried out of large scale heat storage in aquifers including geological, hydrogeological and thermohydraulic studies. Estimates will be made of heat losses; studies will be made of technical installations, environmental and legal aspects, and costs.

Study Cost: SwKr 335,000.

Estimated Date of Completion: Summer 1978.

(e) *Switzerland*. A conceptual design study will be made of a 600,000 m³ underground seasonal heat storage accumulator in an aquifer. The accumulator would consist of a central well equipped with 2 levels of 6 radiating drains, one near the top of the aquifer, the other at the bottom. The drains would permit injection and recovery of warm water. Industrial waste would be used as input, and the heat extracted would be used in district heating or in industry.

Study Cost: SFr 280,000.

Estimated Date of Completion: End 1979.

(f) *United States*

(1) JFK Airport Project

This project will investigate the technical and economic feasibility of a system for the seasonal storage of winter-chilled water in an aquifer for the summer cooling of JFK Airport (Long Island, New

York) terminal buildings. The preliminary design and cost estimates for the cold-capture, injection recovery wells, and storage subsystems will be developed. A plan for field testing to explore the aquifer behaviour and to evaluate the effects on the groundwater reservoir will be prepared. A preliminary system cost-effectiveness study will provide input to the decision as to whether to proceed with subsequent phases of the project.

Study Cost: \$102,180.

Estimated Date of Completion: Summer 1978.

(2) Aquifer Storage

This study will consider the feasibility of storing waste heat from a primary aluminium plant in Bellingham, Washington in aquifers for subsequent use in the district heating of residential and commercial buildings.

Study Cost: \$89,500.

Estimated Date of Completion: Summer 1978.

(3) Computer Model Verification

In order to assist the verification of computer models used to predict aquifer performance the U.S. Participant will, upon request, supply other Participants with input tapes containing data prepared for the Auburn University Aquifer Project.

Cost: \$150,000.

- (g) *Executive Committee.* The Executive Committee, acting by unanimity, will assign responsibility to one or more Participants for the carrying out under its guidance of comparative evaluations of all design studies produced under this Task.

Level of Effort: Six man-months.

4. *Time Schedule*

- (a) *Phase I: Conceptual Design Studies*
May 1978 to End 1979.
- (b) *Phase II: Comparative Evaluation and Selection of Hardware Project Proposal(s)*
- (i) October-December 1978
- (ii) December 1979-March 1980.

This Annex shall remain in force for an initial period of two years from the date hereof, and may be extended by the Executive Committee, acting by unanimity.

5. *Operating Agent*

Université de Neuchâtel, acting through its Centre d'Hydrogéologie (Switzerland).

6. *Responsibilities of the Operating Agent*

The Operating Agent shall prepare and circulate to Participants interim, annual and final reports on the work of the Task as decided by the Executive Committee.

7. *Information and Intellectual Property*

(a) *Executive Committee's Powers.* The publication, distribution, handling, protection, and ownership of information and intellectual property arising from this *Annex I* to the IEA Implementing Agreement for a Programme of R and D on Energy Conservation through Energy Storage (hereinafter called *Annex I*) shall be determined by the Executive Committee, acting by unanimity, in conformity with this Agreement.

(b) *Right to Publish.* Subject only to copyright restrictions, the *Annex I* Participants shall have the right to publish all information provided to or arising from *Annex I* except proprietary information.

(c) *Proprietary Information.* The *Annex I* Participants shall take all necessary measures in accordance with this paragraph, the laws of their respective countries and international law to protect proprietary information. For the purposes of this Annex, proprietary information shall mean information of a confidential nature such as trade secrets and know-how (for example, computer programmes, design procedures and techniques, chemical composition of materials, or manufacturing methods, processes, or treatments) which is appropriately marked, provided such information:

- (1) Is not generally known or publicly available from other sources;
- (2) Has not previously been made available by the owner to others without obligation concerning its confidentiality; and
- (3) Is not already in the possession of the recipient *Annex I* Participant without obligation concerning its confidentiality.

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

(d) *Production of Relevant Information by Governments.* The Operating Agent should encourage the governments of all Agency Participating

Countries to make available or to identify to the Operating Agent all published or otherwise freely available information known to them that is relevant to the Task.

- (e) *Production of Available Information by Participants.* Each Participant agrees to provide to the Operating Agent all previously existing information, and information developed independently of the Task, which is needed by the Operating Agent to carry out its functions in this Task and which is freely at the disposal of the Participant and the transmission of which is not subject to any contractual and/or legal limitations:
- (1) If no substantial cost is incurred by the Participant in making such information available, at no charge to the Task therefor;
 - (2) If substantial costs must be incurred by the Participant to make such information available, at such charges to the Task as shall be agreed between the Operating Agent and the Participant with the approval of the Executive Committee.
- (f) *Acquisition of Information for the Task.* Each Participant shall inform the Operating Agent of the existence of information that can be of value to the Task, but which is not freely available, and the Participant shall endeavour to make the information available to the Task under reasonable conditions, in which event the Executive Committee may, acting by unanimity, decide to acquire such information.
- (g) *Reports on Work Performed under the Task.* The Operating Agent shall provide reports of all work performed under the Task and the results thereof, including studies, assessments, analyses, evaluations and other documentation to the Executive Committee.
- (h) *Copyright.* The Operating Agent or each Participant for its own results may take appropriate measures necessary to protect copyrightable material generated under this Task. Copyrights obtained shall be the property of that Participant or the Operating Agent, for the benefit of the Participants, provided, however, that *Annex I* Participants may reproduce and distribute such material, but shall not publish it with a view to profit, except as otherwise directed by the Executive Committee.
- (i) *Authors.* Each *Annex I* Participant will, without prejudice to any rights of authors under its national laws, take necessary steps to provide the co-operation from its authors required to carry out the provisions of this paragraph. Each *Annex I* Participant will assume the responsibility to pay awards or compensation required to be paid to its employees according to the laws of its country.

Participants in this Task

The Contracting Parties which are Participants in this Task are the following:

The Commission of the European Communities,

