COUNCIL DECISION

of 12 March 1985

adopting a research and training programme in the field of controlled thermonuclear fusion (1985 to 1989)

(85/201/Euratom)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Atomic Energy Community, and in particular Article 7 thereof,

Having regard to the proposal from the Commission (1) presented after consultation of the Scientific and Technical Committee,

Having regard to the opinion of the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas the energy problem is common to all the Member States; whereas joint efforts to resolve this problem are likely to produce better results; whereas thermonuclear fusion is one possible solution to the energy problem in the longer term; whereas the rational use of all the different energy sources must be coordinated; whereas the Community must therefore continue to ensure optimum consistency in its efforts between Community activities in the various sectors of energy and energy research;

Whereas these considerations have been taken into account in the first framework programme 1984 to 1987 laid down in the Council resolution of 25 July 1983 (4) on framework programmes for Community research, development and demonstration activities;

Whereas thermonuclear fusion forms an important objective within the framework programme;

Whereas, in its Decision 82/350/Euratom (5), the Council adopted a research and training programme (1982 to 1986) in the field of controlled thermonuclear fusion; whereas Article 3 of that Decision provides that the Commission will submit to the Council, not later than 1 July 1984, a review proposal designed to replace the 1982 to 1986 programme by a new five-year programme (1985 to 1989) with 1985 and 1986 constituting years common to both programmes; whereas Decision 82/350/Euratom should therefore be replaced;

Whereas, as a result of Decision 82/350/Euratom being replaced, approximately 45,6 million ECU of the sum estimated necessary for the preceding programme, exclusive of JET (Joint European Torus), and some 72 million ECU of the sum estimated to be necessary for the preceding programme for the JET project will not have been used; whereas these amounts can be assigned to the new programme; whereas such assignment, together with the fact that the programme embraces all work carried out in the Member States in this field, must be taken into account in determining the amounts estimated to be necessary for the execution of the new programme;

Whereas, in view of the extent of the effort needed to reach the stage of applications of controlled thermonuclear fusion which could be of benefit to the Community, particularly in the wider context of the security of its long-term energy supplies, the work hitherto undertaken in this field must continue on a joint basis at its various stages of development;

Whereas the research proposed by the Commission constitutes an adequate means of pursuing such action and it is, consequently, in the common interest to adopt a multiannual programme in the field of controlled thermonuclear fusion, the existence of which is, moreover, necessary to enable the Community to participate in international cooperation in this field;

Whereas continuation of the programme should be based on the following strategy:

— pursuit of a substantial programme based on the Tokamak route to a demonstration reactor; completion of the first stage of the programme formed by the JET project with its extensions and by the full exploitation of the devices in existence or under construction in the Associations,

— continuation of the definition and predesign of the second stage of the Tokamak programme, the Next European Torus (NET) and pursuit of the technological developments necessary to its design and construction and of those needed in the longer term for the fusion reactor,

— investigation, depending on the resources available, of alternative confinement systems, concentrating on reversed field pinches and stellarators, subject to periodic reassessment of their reactor potential compared with that of the Tokamak;

(1) OJ No C 198, 27. 7. 1984, p. 3.
(2) OJ No C 46, 18. 2. 1985, p. 72.
(3) OJ No C 25, 28. 1. 1985, p. 9.
(4) OJ No C 208, 4. 8. 1983, p. 1.
(5) OJ No L 157, 8. 6. 1982, p. 22.

Whereas this strategy should be reviewed when a decision is taken on launching D-T operation in JET and on launching the detailed design of NET;

Whereas the research programme of the Joint Research Centre adopted by Decision 84/1/Euratom, EEC (1) provides for participation by the JRC in the field of NET and technology;

Whereas Sweden, Switzerland and Spain are associated with Community activities in the field of controlled thermonuclear fusion;

Whereas the Community should continue to encourage the construction of certain equipment relating to projects accorded priority status, support for JET and NET by the associations and certain developments in the field of fusion technology by granting a preferential rate of participation in expenditure on such projects;

Whereas the direct involvement of industry in implementation of the programme, in particular with regard to NET and fusion technology, must be strengthened;

Whereas, furthermore, the mobility of staff between organizations cooperating in the execution of the programme should be promoted;

Whereas it is necessary to implement the Council's Decision of 19 December 1984 to spread the technology programme over a longer period than previously planned,

HAS DECIDED AS FOLLOWS:

Article 1

A European Atomic Energy Community programme of research and training in the fields of controlled thermonuclear fusion, as defined in the Annex, is hereby adopted for a five-year period commencing 1 January 1985.

Article 2

The funds estimated as being necessary for the execution of the programme amount to 690 million ECU, including expenditure on a workforce of 270 staff and the unused amounts from the previous programme.

Article 3

During the second year, the programme shall be reviewed. On the basis of this review, the Commission will submit to the Council a proposal for revision aimed at replacing the present programme by a new five-year programme in 1987.

Article 4

Decision 82/350/Euratom is hereby replaced by this Decision with effect from 1 January 1985.

However, amounts which are authorized under the relevant headings of the 1982, 1983 and 1984 budgets pursuant to Decision 82/350/Euratom and which on 1 January 1985 have not yet been committed, or have been committed but not yet paid, will be used for execution of the present programme.

Done at Brussels, 12 March 1985.

For the Council

The President

F. M. PANDOLFI

(1) OJ No L 3, 5. 1. 1984, p. 21.

ANNEX

CONTROLLED THERMONUCLEAR FUSION

1. The programme to be executed will cover:

   (a) plasma physics in the sector concerned, in particular studies of a basic character relating to confinement with suitable devices and to methods for producing and heating plasma;

   (b) research into the confinement, in closed configurations, of plasma of widely varying density and temperature;

   (c) research into light-matter interactions and transport phenomena and the development of high-power lasers;

   (d) the development and application to confinement devices of sufficiently powerful plasma heating methods;

   (e) improvement of diagnostic methods;

   (f) definition and predesign of NET (Next European Torus), and technological developments necessary to its design and construction and those needed in the longer term for the fusion reactor; all these activities will be spread over a longer period than previously planned;

   (g) extension of the JET device to full performance; operation and exploitation of JET.

   The work referred to in (a), (b), (c), (d), (e), and (f) will be carried out by means of association or limited duration contracts which are designed to yield the results necessary for implementation of the programme and which take into consideration the work carried out by the Joint Research Centre, in particular work relating to NET and the technology referred to in (f).

   The implementation of the JET project referred to in (g) has been entrusted to the 'Joint European Torus (JET), Joint Undertaking', established by Decision 78/471/Euratom [1].

2. The programme set out in point 1 forms part of a long-term cooperative project embracing all activities undertaken in the Member States in the field of controlled thermonuclear fusion. It is designed to lead in due course to the joint construction of prototypes with a view to their industrial production and marketing.

3. The funds allocated to the programme are intended to finance:

   (a) priority projects at a uniform rate of approximately 45 %, as specified in paragraph 4;

   (b) running expenditure of the associations at a uniform rate of approximately 25 %;

   (c) certain industrial contracts in the fields of 'NET/fusion technology' and the development of advanced plasma heating methods at a rate of 100 %, as specified in paragraph 4;

   (d) administration costs and expenditure intended to ensure the mobility of staff to enable them to work in organizations cooperating in implementation of the programme and in the NET team;

   (e) the operational costs of the NET team at a rate of approximately 75 %;

   (f) the Community contribution at a rate of 80 % of the commitments entered in the budget of the JET Joint Undertaking. The Swedish and Swiss contributions to the JET project will be deducted directly from the share of the overall appropriation for this project to be paid from the Community budget.

   Any positive balance from the contributions of associated third countries under the programme, exclusive of JET, will be devoted to financial participation by the Community in the expenditure referred to in paragraphs 3 (a), (b), (c), (d) and (e).

4. After consulting the Consultative Committee of the Fusion Programme the Commission may finance at a uniform rate of approximately 45 %, as specified in paragraph 3 (a), projects belonging to one of the following areas:

   (a) Tokamak systems and support for JET;

   (b) other toroidal machines;

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[1] OJ No L 151, 7. 6. 1978, p. 10.

(c) heating and injection;

(d) NET and fusion technology.

If such projects belong to areas (c) and (d) and if they are carried out by industry, the Commission may finance them at a rate of 100 % as specified in paragraph 3 (c).

In return, all associates will be able to take part in the experiments carried out with the equipment thus constructed.