

COMMISSION OF THE EUROPEAN COMMUNITIES

COM(74) 1690 final

Brussels, 22 October 1974

Proposal for a

COUNCIL DECISION

amending the Council Decision of 17 December 1973
adopting a five-year research and training programme
of the EAEC in the field of fusion and plasma physics
in order to include therein the necessary funds for
execution of the preparatory phase of the JET (Joint
European Torus) project

(submitted to the Council by the Commission)

COM(74) 1690 final

XII/479/74-E - Orig. F

EXPLANATORY MEMORANDUM

1. The Council, when making its Decision of 17 December 1973 amending the Council Decision of 21 June 1971 adopting a five-year research and training programme of the EAEC in the field of fusion and plasma physics (Doc. R/3183/73 (ATO 174) and Doc. R/3182 (ATO 173)), wrote a statement into the minutes to the effect that it had taken a note of the Commission's intention to put forward a new programme proposal in September 1974 for an increase of 2 million u.a. in the appropriation for the preparatory phase of the JET project.
2. The Council undertook to act on this proposal within three months and expressed a favourable attitude towards the application to be made by the Commission for the transfer of an appropriation of 2 million u.a. from Chapter 98 of the general part of the budget to Title 9 of Chapter 33 in the 1974 Budget, qualified by the following note : "This appropriation is intended to cover any commitments relating to long-term orders for the preparatory phase of JET but is may not be transferred to Chapter 3.20, "Fusion", until the Council has given a favourable decision on the proposal for a Programme Decision which the Commission will submit on this point in September 1974".
3. On 2 April 1974, the Council decided to transfer an appropriation of 2 million u.a. within Section III of the 1974 Budget from Chapter 98 "Non-allocated provisional appropriations", to Chapter 33 "Expenditure on research and investment", assigned to Chapter 9.40 "Provisional appropriations for the "Controlled thermonuclear fusion and plasma physics" in the statement of revenue and expenditure relating to research and investment activities, it being understood that this appropriation is intended to cover any commitments relating to long-term orders for the preparatory phase of JET,

but which may not be transferred to Chapter 3.20 "Fusion" until the Council has given a favourable decision on the proposal for a programme decision which the Commission will submit on this point in September 1974.

4. Pursuant to Article 21 of the Financial Regulation of 25 April 1973, the European Parliament was consulted on this application for a transfer by a letter dated 4 March.
5. The Commission and its associated partners, acting in accordance with the programme decision of 17 December 1973, have set up a team of research workers and technologists from every fusion laboratory, empowered to devise the detailed project for a large machine of the Tokamak-type (JET - "Joint European Torus"). The work of this team, carried out with the cooperation of research workers from all the associated laboratories, is covered by a single contract between the Commission and all its associated partners (JET Contract, Doc. XII/524/73).
6. The leader of the JET project team, acting in accordance with Article 9 of the abovementioned Contract, has forwarded to the Supervisory Board the reports setting out the project's basic parameters and designs, the technical specifications which the JET site must fulfil, a forecast of the staff and equipment required during the construction and experimental phases, a cost estimate for a particular size of machine and a bar chart for the various phases of the project.
7. The Supervisory Board, acting on behalf of all the partners, has met more than ten times to ensure proper fulfilment of the objectives of the JET contract.
At its 10th meeting, it gave its approval to the broad outlines of the preliminary project while taking account of the comments of the partners and of the project Scientific Committee by restricting the possibilities of later changes in the parameters to a single option.

8. The Commission, acting in accordance with the Council Decision of 2 April 1974 (Doc. R/839/74 (ATO 40)) on transfers of appropriations for commitments and payments for the Fusion Programme and with the terms of Contract No 30-74-I FUAC which covers the preparatory phase of the JET project, after having consulted the Coordinating Committee, asks the Council to adopt the programme decision annexed hereto in order that 2 million u.a. may be transferred from Title 9.40 of the Communities' research budget to Title 3.20, the Fusion Programme of that budget. The purpose of this transfer is to enable long-term orders to be placed, subject to clauses for cancellation on 31 December 1975, from the first quarter of 1975 and after the outline of the project has been fixed by the Commission and its associated partners and recorded in a written agreement, so as to allow for possible construction of the JET device under the fourth five-year programme of the Community.
9. These orders cover the construction of prototype components using appropriate equipment, and in particular the construction of:
- (1) rigid sectors and bellows of the vacuum vessel;
 - (2) the toroidal field coil
 - (3) the poloidal field coil;
 - (4) the vacuum switch,

the ordering of the necessary raw materials (copper, inconel, molybdenum) and the completion of the final drawings of the special buildings required to house the equipment.

PROPOSAL FOR A COUNCIL DECISION

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 submitted after consultation with the Scientific and Technical Committee;

Whereas by a Decision of 21 June 1971 (1), as amended by the Decisions of 14 May 1973 and 17 December 1973 (2), the Council adopted a research and training programme in the field of fusion and plasma physics;

(1) OJ No L 143 of 29 June 1971, p.33

(2) OJ No L 153 of 9 June 1973, p.17

OJ No L 30 of 4 Febr.1974, p.10

Whereas the results already obtained in the course of this programme show that it is desirable to undertake detailed studies to serve as a basis for a subsequent decision to provide the Community with a large machine of the Tokamak type (JET: "Joint European Torus"); whereas to avoid delay it is desirable to start on the preparatory phase of the project during 1975, without prejudice, however, to a final decision to proceed to the construction phase of the project during 1975;

Whereas, in order to ensure the continuity of the said five-year programme which is moreover to be looked upon in the wider context of the security of the long-term energy supplies of the Community, it must accordingly be adequately supplemented with regard to the operations to be conducted during 1974 and 1975;

Whereas the above-mentioned developments call for an increase in staff mobility;

HAS DECIDED AS FOLLOWS:

Article 1

Article 2 of the Decision of 21 June 1971, as amended (1) is replaced by the following:

"The upper limit for expenditure commitments in respect of this programme shall be 73.1 million units of account and the number of staff necessary for its implementation shall be 112 Community servants plus 20 temporary Community servants, the unit of account being as defined in Article 10 of the Financial Regulation of 25 April 1973 applicable to the general budget of the European Communities (2)"

(1) OJ No L 153 of 9 June 1973, p.17

OJ No L 30 of 4 Febr.1974, p.10

(2) OJ No L 116 of 1 May 1973, p. 1

Article 2

The Annex to the Decision of 21 June 1971, as amended (1), is replaced by the Annex to this Decision.

Done at Brussels,

For the Council

The President

(1) OJ No L 153 of 9 June 1973, p.17

OJ No L 30 of 4 Febr.1974, p.10

A N N E X

FUSION AND PLASMA PHYSICS

- I. The subject-matter of the programme to be executed by the associated laboratories shall be:
- general physics in the field concerned, in particular studies of a basic character or relating to confinement of plasma with suitable devices and to methods for producing and heating plasmas;
 - research on the confinement in closed and open-ended configurations of plasma of widely varying density and temperature;
 - production of and research on plasma of high and very high density;
 - improvement of diagnostics methods;
 - investigation of technological problems connected with current research and of problems relating to thermonuclear reactor technology;
 - the design phase and the preparatory phase of the JET project.

This work shall be carried out by means of association contracts.

2. The programme set out in point I shall be part of a long-term cooperative project embracing all work carried out in the Member States in the field of fusion and plasma physics. It is designed to lead in due course to the joint construction and prototypes with a view to their industrial production and marketing.

3. An amount of 73.1 million units of account shall be allocated to this programme and the upper limit for staff shall be fixed at 112 permanent servants and 20 temporary servants. This amount is intended to cover:
- the expenditure on equipment concerned with operations already undertaken or to be undertaken during the last two years of the programme which are accorded priority status and specified in point 5;
 - the expenditure relating to the design phase and preparatory phase of the large Tokamak JET project;
 - the cost of staff mobility;
 - other expenditure relating to operations to be carried out under this programme.
4. Within the upper limit of 73,1 million units of account:
- (a) a maximum amount of 17.8 million units of account shall be allocated to the financing of the operations specified in point 5 which have been or are to be undertaken, a standard preferential rate of participation not exceeding 44 % being applied. In return, all members of the association shall have the right to take part in the experiments carried out with this equipment;
 - (b) a maximum amount of 1.25 million units of account shall be set aside for expenditure for ensuring mobility of research staff of the Member States in order to enable them to work in the associates laboratories or the JET Working Party;
 - (c) a maximum amount of 3.6 million units of account shall be set aside for expenditure incurred in the first design phase and the preparatory phase of the JET project.

This amount shall be used to enable the work carried out by way of contracts other than association contracts to be entirely financed by the Commission, and to provide up to 0.6 million units of account so as to increase its participation in the work carried out for the JET project in the associated laboratories to about 44 %.

- (d) the amount not set aside for the operations and expenditure referred to in sections (a), (b) and (c) shall form the upper limit of financial participation by the Community in other expenditure of the associations, in their management and in support of the JET project. This participation shall be at a standard rate of about 25 %. By way of derogation from this principle, this rate shall be increased to a maximum of 30 % for the Euratom-CNEN-CNR Association, which will further benefit from the assumption by the programme of the expenses in respect of the Euratom staff seconded thereto.

5. After conducting a technical examination of the various projects the Commission may finance, within the following upper limits, the operations mentioned below, which are accorded priority status:

- low-beta stellarator and Tokamak	11.8 million u.a.
- screw pinch and high-beta stellarator	3.3 million u.a.
- heating and injection processes	1.9 million u.a.
- very high density processes	1.4 million u.a.
- open-ended configurations	0.5 million u.a.
- reactor technology	0.9 million u.a.

