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Concerne l'acronyme (versions: FR, DE et EN)

Proposal for a

COUNCIL DECISION

on adopting a supplementary research programme To be implemented by the Joint Research Centre for the European Atomic Energy Community

(presented by the Commission)

EXPLANATORY MEMORANDUM

1. On 24 January 2000, the Council adopted a four-years supplementary research programme to be implemented by the Joint Research Centre for the European Atomic Energy Community (2000-2003) concerning the operation of the High Flux Reactor (HFR) of Petten. This programme is therefore due to expire on 31 December 2003.

2. The present communication presents a new three-year programme (2004 - 2006).

3. Euratom and the Netherlands concluded an agreement concerning the High Flux Reactor (HFR) in Petten on 25 July 1961 for a period of 99 years. In order to execute it, the two parties concluded a long lease for 99 years conferring a right *in rem* (bail emphytéotique) on 31 October 1962.

4. HFR plays an important role, in the European Union, in support to safe nuclear technologies, in materials research for thermonuclear fusion, in fundamental research and in medical research and applications.

   – HFR is very active in the improvement of the safety of the existing reactors. HFR contributes to the following programmes: reactors' ageing and life management, transmutation of nuclear waste in view of a better safety of waste storage, improvement of the fuel safety. Fuel containing plutonium (Mixed oxides of U and Pu and high temperature reactor fuel) are studied in view of the elimination of military grade plutonium.

   – HFR is also used by an association of European centres working on a new treatment for encephalic cancers by using the BNCT (Boron Neutron Capture Therapy) techniques. The HFR reactor also supports other medical research, like production of new type of isotopes and development of other technical BNCT-applications like for melanoma and other pathologies.

   – In the frame of thermonuclear fusion, several projects have been undertaken at the HFR to test structural and breeding materials for future fusion reactors. The emphasis on materials development lies with low activation properties obtained at higher temperatures as these promote both the environmental and thermal efficiency of the future fusion power plants. These experiments support the European Long-term Fusion Materials Development Programme.

   – Fundamental research makes use of neutron beams for the study of the material's-structure. This activity is under permanent development and contributes to the understanding of degradation mechanisms and their mitigation relevant to the safety of existing plants. Methods under study are non-destructive evaluation techniques using neutron beams and neutron properties. The co-ordination of efforts, dissemination of results and support to harmonisation are carried out through a European network.

   – The reactor also produces isotopes necessary for more than 60% of the 10 million of medical diagnoses executed each year in Europe. Its qualities and reliability make it an important device for all the European pharmaceutical companies in this field. Moreover, through its location in Europe, the reactor's production is rapidly directed to the European medical centres. This is essential

for the most currently used short-life isotopes and is crucial for Europe's autonomy of supply.

– The HFR is also a training facility hosting doctoral and post doctoral students, as well as post doctoral fellows performing their research activities through national or European Programme.

5. In its financial statement, the appended proposal for the new supplementary programme mentions only the contribution to come from two participating Member States, namely The Netherlands and France. The contribution from the two participating Member States for the new programme is about 30.6 Mio€. This amount includes provisions for decommissioning. In the frame of the HFR re-licensing activities started in 2001, it is planned that by the mid-2004 the current licence held by the JRC will expire and a new operating licence will be granted to a third party who until now has been entrusted with the operation of the reactor under contract with the JRC. The JRC and the partners have jointly engaged in an analysis in order to explore longer term options for the future exploitation of the HFR. With this end in view, the period 2004-2006 will be actively exploited to finalise this process and, if appropriate, to design a new legal framework for HFR operation beyond 2006.

2003/0287(CNS)

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THE COUNCIL OF THE EUROPEAN UNION,

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 of the Scientific and Technical Committee,

Having regard to the opinion of the JRC Board of Governors,

Having regard to the opinion of the European Parliament,

Whereas:

(1) within the framework of the European Research area, the supplementary research programme involving the high flux reactor (HFR) is one of the principal means available in the Union to contribute to safe nuclear technologies, to materials research for thermonuclear fusion, to fundamental research, to medical research and medical applications and training in these areas.

(2) the financial contributions to this supplementary programme will come directly from the Netherlands and France.

HAS ADOPTED THIS DECISION:

Article 1

The supplementary programme on the operation of HFR, hereinafter referred to as "the programme", the objectives of which are set out in Annex 1, is hereby adopted for a period of three years, starting on 1 January 2004

Article 2

The financial contributions estimated as necessary for the execution of the programme amount to about 30.6 Mio€. The breakdown of this amount is given in Annex II. It includes provision for the reactor decommissioning.

Article 3

The Commission shall be responsible for the implementation of the programme, and to this end, shall call upon the services of the JRC. The Board of Governors of the Joint Research Centre will be kept informed about the implementation of the programme.

Article 4

The Commission shall each year, before 15 June, submit to the European Parliament, the Council, and the Economic and Social Committee a report on the implementation of this Decision.

Article 5

This decision is addressed to the Member States.

Done at Brussels,

For the Council
The President

ANNEX I

SCIENTIFIC AND TECHNICAL OBJECTIVES

The programmes' aims are primarily:

1. To provide more than 250 days per year of operation of the HFR in order to guarantee availability of neutrons for experiments.

2. To allow for the rational use of this reactor according to the needs of research institutions requiring HFR support in areas such as: Improvement of Safety of Existing Nuclear Reactor, Health including the development of medical isotopes to answer the questions of medical research and the testing of medical therapeutic techniques, Fusion, Fundamental Research and Training, and Waste Management including the possibility to develop nuclear fuel devoted to the elimination of weapon grade plutonium.

ANNEX II

BREAKDOWN OF THE CONTRIBUTIONS

The contributions to this supplementary programme will come from the Netherlands and France.

The breakdown of these contributions is as follows:

The Netherlands: 29.75 Mio€

France: 0.9 Mio€

Total: 30.65 Mio€

LEGISLATIVE FINANCIAL STATEMENT

Policy area(s): Title 10 – Direct Reasearch

Activit(y/ies): 10 04 COMPLETION OF PREVIOUS FRAMEWORK PROGRAMMES AND OTHER ACTIVITIES

TITLE OF ACTION: SUPPLEMENTARY HFR PROGRAMME (2004 TO 2006)

1. BUDGET LINE(S) + HEADING(S)

10 04 04 Operation of the high-flux reactor (HFR)

Item 10 04 04 02 — Supplementary HFR programme (2004 to 2006)

2. OVERALL FIGURES

2.1. Total allocation for action (Part B): € million for commitment

This programme implies no direct budgetary funding from the Commission. The financing from the participating countries amounts to 30,6 Mio€

2.2. Period of application:

1/1/2004 – 31/12/2006

2.3. Overall multi-annual estimate of expenditure:

(a) Schedule of commitment appropriations/payment appropriations (financial intervention) *(see point 6.1.1)*

€ million (*to three decimal places)*

	Year [n]	[n+1]	[n+2]	[n+3]	[n+4]	[n+5 and subs. Years]	Total
Commitments	9,929	10,214	10,507	p.m.	p.m.	p.m.	30,650
Payments	8,274	9,296	9,296	3,784	p.m.	p.m.	30,650

(b) Technical and administrative assistance and support expenditure*(see point 6.1.2)*

Commitments	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.
Payments	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.

Subtotal a+b							
Commitments	9,929	10,214	10,507	p.m.	p.m.	p.m.	30,650
Payments	8,274	9,296	3,784	p.m.	p.m.	p.m.	30,650

(c) Overall financial impact of human resources and other administrative expenditure *(see points 7.2 and 7.3)*

Commitments/ payments	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.

TOTAL a+b+c							
Commitments	9,929	10,214	10,507	p.m.	p.m.	p.m.	30,650
Payments	8,274	9,296	9,296	3,784	p.m.	p.m.	30,650

2.4. Compatibility with financial programming and financial perspective

Not applicable

2.5. Financial impact on revenue:

No financial implications (involves technical aspects regarding implementation of a programme by some member states)

Two Member States (The Netherlands and France) will fund this supplementary programme.

It should be noted that the appended proposal for the new supplementary programme mentions only the contribution from two participating Member States.

(€ million to one decimal place)

		Prior to action	Situation following action					
Budget line	Revenue	[Year n-1]	[Year n]	[n+1]	[n+2]	[n+3]	[n+4]	[n+5]
	a) Revenue in absolute terms	p.m.	30,1	0,3	0,3	p.m.	p.m.	p.m.
	b) Change in revenue	*Δ*						

3. BUDGET CHARACTERISTICS

Type of expenditure		**New**	**EFTA contribution**	**Contributions form applicant countries**	**Heading in financial perspective**
Non-comp	Non-diff	YES	NO	NO	**No** 3

4. LEGAL BASIS

The Euratom Treaty is the legal basis.

5. DESCRIPTION AND GROUNDS

5.1. Need for Community intervention

5.1.1. Objectives pursued

Euratom and the Netherlands concluded an agreement concerning the High Flux Reactor (HFR) in Petten on 25 July 1961 for a period of 99 years. In order to execute it, the two parties concluded a long lease for 99 years conferring a right in rem (bail emphytéotique) on 31 October 1962.

HFR plays an important role, in the European Union, in support to safe nuclear technologies, in materials research for thermonuclear fusion, in fundamental research and in medical research and applications. HFR is very active in the safety of the existing reactors. HFR contributes to the following programmes: reactors' ageing and life management, transmutation of nuclear waste in view of a better safety of waste storage, improvement of the fuel safety.

Fuel containing plutonium (Mixed oxides of U and Pu and high temperature reactor fuel) are studied in view of the elimination of military grade plutonium.

HFR is also used by an association of European centres working on a new treatment for encephalic cancers by using the BNCT (Boron Neutron Capture Therapy) techniques.

The HFR reactor also supports other medical research, like production of new type of isotopes and development of other technical BNCT-applications like for melanoma and other pathologies.

Fundamental research makes use of neutron beams for the study of the material's- structure. This activity is under permanent development and contributes to the understanding of degradation mechanisms and their mitigation relevant to the safety of existing plants. Methods under study are non-destructive evaluation techniques using neutron beams and neutron properties.

In the frame of thermonuclear fusion, several projects have been undertaken at the HFR to test structural and breeding materials for future fusion reactors. The emphasis on materials development lies with low activation properties obtained at higher temperatures as these promote both the environmental and thermal efficiency of the future nuclear fusion power plants. These experiments support the European Long-term Fusion Materials Development Programme. The co-ordination of efforts, dissemination of results and support to harmonisation are carried out through a European network.

5.1.2. Measures taken in connection with ex ante evaluation

This is the renewal of a previous supplementary programme. The preparation of this new supplementary programme was the subject of detailed internal evaluation by the participating Member States.

5.1.3. Measures taken following ex post evaluation

The quantitative and qualitative indicators and criteria used to assess the results of the programme will be determined for each project: the results will be reported to the members of the JRC Board of Governors and published in an annual report where possible.

In addition to an annual report devoted solely to the HFR (EUR 20773 EN, 2002), the Joint Research Centre publishes an "Annual Report" approved by its Board of Governors. The references of the 2002 report are COM (2003) 189 and EUR 20659 EN.

5.2. Action envisaged and budget intervention arrangements

The programmes' aims are primarily:

– To provide more than 250 days of operation of the HFR in order to guarantee availability of neutrons for experiments.

– To allow for the rational use of this reactor according to the needs of research institutions requiring HFR support in areas such as: Improvement of Safety of Existing Nuclear Reactor, Health including the development of medical isotopes to answer the questions of medical research and the testing of medical therapeutic techniques, Fusion, Fundamental Research and Training, and Waste Management including the possibility to develop nuclear fuel devoted to the elimination of weapon grade plutonium.

5.3. Methods of implementation

The period 2004-2006 will be actively used to consider a new framework for HFR operation beyond 2006. During this period the programme will be implemented by the JRC trough its Institute for Energy located at Petten.

6. FINANCIAL IMPACT

6.1. Total financial impact on Part B - (over the entire programming period)

The cost of the proposed programme was assessed taking account of:

– Estimated staff costs based on the forecast mid-term economic trends in the host Member States of the JRC establishments, notably the Netherlands;

– Estimated expenditure on resources (scientific and technical support and share of cost of general services);

– Estimated expenditure of operational appropriations needed to carry out the planned programme (direct expenditure for operation, equipment and contracts).

- Provisions to cover the cost of the decommissioning of the reactor.

As for previous supplementary programmes, no Community funds will be requested for the execution of this programme.

The two Member States concerned will contribute to the funding of this supplementary programme, either directly or via agreements with research bodies.

The indicative breakdown of contributions is as follows:

– Netherlands € 29,75 million

– France € 0,9 million

Total € 30,65 million

6.1.1. Financial intervention

Commitments (in € million to three decimal places)

Breakdown	[Year n]	[n+1]	[n+2]	[n+3]	[n+4]	[n+5 and subs. Years]	Total
Staff Commission	0,320	0,330	0,339	p.m.	p.m.	p.m.	0,989
Means of execution	9,609	9,884	10,168	p.m.	p.m.	p.m.	29,661
TOTAL	9,929	10,214	10,507	p.m.	p.m.	p.m.	30,650

6.1.2. Technical and administrative assistance, support expenditure and IT expenditure (commitment appropriations)

Not applicable – There is no Community funding

6.2. Calculation of costs by measure envisaged in Part B (over the entire programming period)

Not applicable – There is no Community funding

7. IMPACT ON STAFF AND ADMINISTRATIVE EXPENDITURE

7.1. Impact on human resources

Types of staff		Staff to be assigned to management of the action using existing and/or additional resources		Total	Description of tasks deriving from the action
		Number of permanent posts	Number of temporary posts		
Officials or temporary staff	A B C	1 1		1 1	*If necessary, a fuller description of the tasks may be annexed.*
Other human resources					
Total		2		2	

This staff is fully financed by the supplementary programme

7.2. Overall financial impact of human resources

Type of human resources	Amount (€)	Method of calculation *
Officials Temporary staff	320.000	Average cost including overheads
Other human resources (specify budget line)	p.m.	
Total	p.m.	

This staff is fully financed by the supplementary programme.

7.3. Other administrative expenditure deriving from the action

Not applicable – There is no Community funding

8. FOLLOW-UP AND EVALUATION

8.1. Follow-up arrangements

The nature and frequency of the internal assessment process should enable the Commission to satisfy its obligations.

The quantitative and qualitative indicators and criteria used to assess the results of the programme will be determined for each project: the results will be reported to the members of the JRC Board of Governors and published in an annual report where possible.

8.2. Arrangements and schedule for the planned evaluation

For each experiment carried out specific ex post reporting is made. In addition, monthly reports are made towards the nuclear safety authorities. Annual reporting is made on the HFR operation.

9. ANTI-FRAUD MEASURES

Audit and internal control programme by Joint Research Centre officers, covering the scientific and budgetary aspects, reporting to the JRC Board of Governors, reporting to the financing Member States, and access for the Court of Auditors. Control of the circulation of fissile materials is covered by Euratom and the IAEA.