

COUNCIL DECISION

of 25 August 1975

amending Decisions No 73/124/Euratom and No 73/177/Euratom adopting research and training programmes for the European Atomic Energy Community

(75/511/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 submitted after consultation with the Scientific and Technical Committee;

Having regard to the Opinion of the European Parliament ⁽¹⁾;

Whereas the Council adopted Decision No 73/124/Euratom ⁽²⁾ of 14 May 1973 adopting a research and training programme for the European Atomic Energy Community, and Decision No 73/177/Euratom ⁽³⁾ of 18 June 1973 adopting a research and training programme for the European Atomic Energy Community (direct projects);

Whereas Article 3 of the abovementioned Decisions provides for the review of the said programmes;

Whereas it therefore seems appropriate to review these programmes;

Whereas, in the context of the common policy on science and technology, the multiannual research and training programme is one of the principal means whereby the Community can contribute to the rapid formation and expansion of nuclear industries and also to the acquisition and dissemination of knowledge in the nuclear field,

HAS DECIDED AS FOLLOWS:

Article 1

The Annexes to Decisions No 73/124/Euratom and No 73/177/Euratom shall, with effect from 1 April

1975, be replaced by the Annexes to this Decision. The Annexes shall form an integral part of this Decision.

Article 2

Article 2 of Decisions No 73/124/Euratom and No 73/177/Euratom shall be replaced by the following, with effect from 1 April 1975:

'The upper limit for expenditure commitments and for staff necessary for carrying out these programmes shall be 152·080 million units of account and 1 327 staff for the duration of the programme.

The allocation of funds and staff, and the establishment of the scales of financial contributions from the Member States for supplementary programmes, are shown in Annexes II and III respectively.

The unit of account is defined in Article 10 of the Financial Regulation of 25 April 1973 ⁽⁴⁾ applicable to the general budget of the European Communities.'

Article 3

Article 3 of Decisions No 73/124/Euratom and No 73/177 Euratom shall be replaced by the following, with effect from 1 April 1975:

'The programme defined in Annex I shall be subject to review at the beginning of 1976 in accordance with the appropriate procedures.'

Done at Brussels, 25 August 1975.

For the Council
The President
M. RUMOR

⁽¹⁾ OJ No C 95, 28. 4. 1975, p. 7.

⁽²⁾ OJ No L 153, 9. 6. 1973, p. 1.

⁽³⁾ OJ No L 189, 11. 7. 1973, p. 36.

⁽⁴⁾ OJ No L 116, 1. 5. 1973, p. 1.

ANNEX I

JOINT MULTIANNUAL RESEARCH AND TRAINING PROGRAMME AND
SUPPLEMENTARY MULTIANNUAL PROGRAMMES

DIRECT ACTIONS

1. HANDLING AND DISPOSAL OF WASTE

Joint programme

A maximum of 5.512 million units of account shall be allocated to this objective, the number of staff being fixed at 60 (including a programme staff of 32).

The objectives shall include:

- basic studies on the separation of fission products from irradiated fuel by the 'Saltex' process,
- studies and research on the chemical separation of actinides from high level radioactive waste,
- studies of physical measurements to determine the neutronic properties of actinides and studies to establish the optimum conditions for their consumption in reactors,
- activities concerning the processing of low-level radioactive waste and instrumentation for alpha-emitters.

These activities will be conducted for the most part by the Ispra Establishment.

2. PLUTONIUM AND TRANSPLUTONIUM ELEMENTS

(a) Joint programme

A maximum of 13.000 million units of account shall be allocated to this objective, the number of staff being fixed at 124 (including a programme staff of 63).

The research constituting the programme based on plutonium and its compounds shall deal with the following:

- phase diagrams, thermodynamic properties and structures of ceramic compounds of plutonium (carbides, nitrides and their combinations),
- energy transport processes (thermal conductivity and diffusibility),
- mechanical properties of ceramic compounds in their microscopic aspects and the effect of irradiation on these properties,
- processes and kinetics of material transport phenomena and the effect of irradiation thereon.

The irradiation required for these basic studies will take place in instrumented capsules.

In addition, certain studies will be carried out on determining the physical properties of certain very high purity actinides and their compounds.

(b) Supplementary programme

A maximum of 8.650 million units of account shall be allocated to this objective, the number of staff being fixed at 82 (including a programme staff of 42).

Research for the programme of applied studies will deal with the following:

- the study of the behaviour of advanced fuels in a fast reactor,
- the development of the manufacture of samples of materials of this kind for irradiation,
- the analysis of irradiated materials and fuels in existing power plants,
- work required by the projects.

These activities will be conducted at the European Institute for Transuranium Elements in Karlsruhe.

3. MATERIALS SCIENCE**Joint programme**

A maximum of 13.600 million units of account shall be allocated for this objective, the number of staff being fixed at 143 (including a programme staff of 79).

The objective shall include:

- studies of lattice defects,
- studies of surface reactions (particle/surface interaction),
- studies of mechanical behaviour, fractures of metals and composite materials (mechanical properties and structure, physical properties, plastic deformation and fracture),
- studies of the physical properties of materials at high temperatures (solid and liquid),
- studies of the effects of structural changes and crystalline imperfections on the properties of materials,
- studies of transport phenomena and structural behaviour in metals, polymers and other materials.

These activities will be conducted by the Ispra Establishment.

4. APPLICATION OF NUCLEAR ENERGY FOR PURPOSES OTHER THAN GENERATING ELECTRICITY (hydrogen production by decomposition of water on the basis of chemical cycles)**Joint programme**

A maximum of 7.040 million units of account and a staff of 69 (including a programme staff of 37) shall be allocated to this project.

This objective shall include:

- chemistry studies: thermodynamic calculations, monitoring of unknown reactions, measurements of the physical properties of the compounds used, study of the effect of impurities, etc.
- kinetics studies: calculation of reaction parameters (kinetics, yield etc.) and continuous simulation on laboratory scale of the various reactions and then complete cycles, again on laboratory scale,

- studies of materials: corrosion tests, firstly for indicative evaluations and then for quantitative measurements on the required materials,
- chemical engineering studies: preliminary definition of 'flowsheets', calculations for cycle optimization, studies of the problems of coupling chemical processes with reactors.

Initially, emphasis will be placed on defining the data required for evaluating the technical and economic potential of the process in cooperation with the circles involved.

These activities will be conducted by the Ispra Establishment.

5. REACTOR SAFETY

Joint programme

A maximum of 21.716 million units of account shall be allocated to this objective, the number of staff being fixed at 238 (including a programme staff of 122).

The objective shall include:

- engineering research associated with serious accidents and their prevention,
- research on thermohydraulic phenomena in the coolants associated with accidents,
- early failure detection,
- reliability studies,
- theoretical analysis of accidents.

These activities will be conducted by the Ispra Establishment.

6. APPLIED DATA PROCESSING

Joint programme

A maximum of 6.050 million units of account shall be allocated to this objective, the number of staff being fixed at 50 (including a programme staff of 31).

The objective shall include:

- computer programme library activities for the Community (collection, testing and analysis of computer programmes, consultation on their use),
- studies of an integrated system of documentation and automatic translation,
- assistance in computer systems and methods (Caronte modular system, special programming language for experimental mathematics).

These activities will be conducted by the Ispra Establishment.

7. INFORMATION ANALYSIS OFFICE

Joint programme

A maximum of 5.100 million units of account shall be allocated to this objective, the number of staff being fixed at 51 (including a programme staff of 27).

The objective shall include:

three units for the compilation, analysis and distribution of scientific and technical information in the following fields:

- shielding of nuclear reactor (ESIS),
- integrated nuclear data (INDAC),
- structural mechanics connected with reactor technology (ESMIS).

These activities will be conducted by the Ispra Establishment.

8. CENTRAL BUREAU FOR NUCLEAR MEASUREMENTS (CBNM)

Joint programme

A maximum of 20-350 million units of account shall be allocated to this objective, the number of staff being fixed at 167 (including a programme staff of 92).

The objective shall include:

- determination of basic neutron data,
- continuation of work on nuclear metrology (measurements of radioactive elements, measurements of the isotopic composition of elements by mass spectrometry, calibration and standardization of methods of dosimetry),
- the preparation and definition of nuclear reference samples and materials.

These activities will be the task of the Central Bureau for Nuclear Measurements at Geel.

9. TECHNICAL ASSISTANCE TO NUCLEAR POWER PLANT OPERATORS

Joint programme

A maximum of 6-100 million units of account shall be allocated for this objective, the number of staff being fixed at 56 (including a programme staff of 23).

The objective shall consist of technical support in the following fields:

- water chemistry,
- in-pile inspection and intervention,
- post-irradiation examination of fuel elements,
- methods of quality control for materials and components in stations, establishment of standard techniques, training of operators' staff.

These activities will be undertaken by the Ispra Establishment.

10. TRAINING

Joint programme

A maximum of 1-450 million units of account shall be allocated for this objective, the number of staff being fixed at 15 (including a programme staff of 10).

This objective includes three courses at technical standard, post-graduate or advanced and specialized level.

11. TRANSFER OF ISPRA I ACTIVITIES

Joint programme

A maximum of 0.902 million units of account shall be allocated to this objective.

The programme comprises:

- the closing-down of the reactor,
- the transfer of the Euracos converter to the Pavia reactor,
- the construction of a pneumatic irradiation plant, the installation thereof in the Essor reactor and the operation thereof.

12. TECHNICAL ASSESSMENTS IN SUPPORT OF COMMISSION ACTIVITIES

Joint programme

A maximum of 2.000 million units of account, and a staff of 20 (including a programme staff of 12) shall be allocated to this objective.

The objective shall include:

- public service activities using systems analysis techniques: collection and analysis of data, preparation of models, development of methods of calculation and codes for computers, studies of the results,
- forward studies of the foreseeable development of electronic components required for building computers and their peripheral equipment.

These activities will be conducted by the Ispra Establishment in cooperation with the relevant directorates-general.

13. CONTRACT RESEARCH

Joint programme

A maximum of 1.850 million units of account shall be allocated for this objective, the number of staff being fixed at 16 per year (including a programme staff of five per year).

This objective is intended to help make facilities or techniques available to outside parties for payment.

The staff carrying out these activities will be assigned to the Ispra Establishment.

14. MANAGEMENT AND COORDINATION

Joint programme

A maximum of 10.360 million units of account shall be allocated for these activities, the number of staff being fixed at 88.

This item covers the activities of general management, coordination and management of the Joint Research Centre programmes, some investments of a general nature, certain

programming activities and direct support to studies of thermonuclear reactors being carried out by study groups set up within 'Fusion' Associations.

15. CONTROL AND MANAGEMENT OF FISSILE MATERIALS

Supplementary programme

A maximum of 5·400 million units of account shall be allocated for this objective, the number of staff being fixed at 57 (including a programme staff of 27).

This objective includes:

- systems analysis,
- development of destructive and non-destructive methods,
- study of fool-proof sealing and identification techniques.

These activities will be carried out mainly by the Ispra Establishment, in cooperation with establishments in the Member States.

16. OPERATION OF THE HFR REACTOR

Supplementary programme

A maximum of 23·000 million units of account shall be allocated for this objective, the number of staff being fixed at 91 (including a programme staff of 46).

It covers operation of the reactor and the planning, execution and supervision of experiments for the benefit of the programmes of the participating States. Surplus capacity may be made available to outside parties for payment.

This objective will be carried out at the Petten Establishment.

ANNEX II

TABLE OF STAFF AND MAXIMUM EXPENDITURE

Objectives	Joint programme		Supplementary programme			Total (in million u.a.)	Total staff
	Amount (in million u.a.)	Staff	Amount (in million u.a.)	Staff	Participating countries		
DIRECT ACTION (JRC) NUCLEAR PROJECTS							
Handling and disposal of waste	5·512	60				5·512	60
Plutonium and transplutonium elements	13·000	124	8·650	82	B/D/F/ L/NL/DK/ Ih/UK	21·650	206
Materials science	13·600	143				13·600	143
Hydrogen production	7·040	69				7·040	69
Reactor safety	21·716	238				21·716	238
Applied data processing	6·050	50				6·050	50
Information analysis office	5·100	51				5·100	51
Central Bureau for Nuclear Measure- ments (CBNM)	20·350 ⁽¹⁾	167				20·350	167
Technical assistance to nuclear power plant operators	6·100	56				6·100	56
Training	1·450	15				1·450	15
Transfer of the activities of the Ispra I reactor	0·902	—				0·902	—
Technical assessments in support of Commission activities	2·000	20				2·000	20
Contract research	1·850	16				1·850	16
Management and coordination	10·360	88				10·360	88
Supervision and management of fissile materials			5·400	57	B/D/I/ L/NL/DK/ Ih/UK	5·400	57
Operation of the HFR reactor			23·000	91	D/N	23·000	91
Total	115·030	1 097	37·050	230		152·080	1 327

⁽¹⁾ Including certain investments.

ANNEX III

DEFINITION OF THE SCALES FOR FINANCIAL CONTRIBUTIONS FROM MEMBER STATES FOR THE EURATOM SUPPLEMENTARY RESEARCH AND INVESTMENT PROGRAMMES

I. SCALES BASED ON 'RELATIVE SHARES'

— Plutonium and trans-plutonium elements	}	The scale applied corresponds, for each financial year, to the scale resulting from the 'relative shares' for the year concerned, the 'relative share' of the participating Member States being increased in proportion to the 'relative share' of the Member State (or States) which does (or do) not participate in the programme in question, except that for the new Member States the reduction coefficients provided for in Article 130 of the Accession Treaty are to be applied
— Control and management of fissile materials		

II. FLAT-RATE SCALE

— Petten (HFR)	{	Germany Netherlands	}	100%
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