Amended proposal for a Council Decision adopting a specific programme 2002-2006 for research and training to be carried out by the Joint Research Centre by means of direct actions for the European Atomic Energy Community [1]

(2002/C 181 E/05)

(Text with EEA relevance)

COM(2002) 43 final — 2001/0126(CNS)

(Submitted by the Commission pursuant to Article 250(2) of the EC Treaty on 31 January 2002)

[1] OJ C 240 E, 28.8.2001, p. 259.

INITIAL PROPOSAL	AMENDED PROPOSAL
THE COUNCIL OF THE EUROPEAN UNION,	Unchanged
Having regard to the Treaty establishing the European Atomic Energy Community, and in particular the first paragraph of Article 7 thereof,	
Having regard to the proposal from the Commission,	
Having regard to the opinion of the European Parliament,	
Having regard to the opinion of the Economic and Social Committee,	
Whereas:	
(1) By Decision No . . ./. ./Euratom, the Council adopted the multiannual framework programme 2002-2006 of the European Atomic Energy Community for research and training activities aimed at contributing towards the creation of the European Research Area (hereinafter referred to as 'the framework programme') to be implemented by means of research and training programme(s) drawn up in accordance with Article 7 of the Treaty, which define the detailed rules for their implementation, fix their duration and provide for the means deemed necessary.	
(2) The rules for the participation of undertakings, research centres and universities and for the dissemination of research results, for the framework programme, adopted by the Council in Decision No . . ./. ./Euratom should apply to this programme.	
(3) In implementing this programme, emphasis should be given to promoting the mobility and training of researchers, and innovation, in the Community.	
(4) For the purpose of implementing the framework programme, it may be appropriate to engage in international co-operation activities, in particular on the basis of Chapter X of the Treaty, with third countries and international organisations. Special attention should be paid to Accession Countries.	

INITIAL PROPOSAL	AMENDED PROPOSAL
(5) Research activities carried out within this programme should respect the fundamental ethical principles, notably those which appear in the Charter of Fundamental Rights of the European Union.	
(6) Following the Commission Communication 'Women and Science' [1] and the Resolution of the Council [2] and the European Parliament [3] on this theme, an action plan is being implemented in order to reinforce and increase the place and role of women in science and research.	
(7) This programme should be implemented in a flexible, efficient and transparent manner, taking account of relevant needs of JRC's users and Community policies, as well as respecting the objective of protecting the communities financial interests. The research activities carried out under it should be adapted where appropriate to these needs and to scientific and technological developments.	
(8) The JRC should implement the research and training activities carried out by means of direct action, in particular the tasks entrusted to the Commission by the Treaty. The Commission should undertake the tasks incumbent upon it in the area of nuclear fission, making use of the technical expertise of the JRC.	
(9) The JRC should actively pursue activities in innovation and technology transfer.	
(10) In the implementation of this programme, the Board of Governors of the JRC should be consulted by the Commission in accordance with the relevant provisions of Commission Decision 96/282/Euratom of 10 April 1996 on the reorganisation of the JRC [4].	
(11) The Commission should in due course arrange for an independent assessment to be conducted concerning the activities carried out in the fields covered by this programme.	
(12) The Scientific and Technical Committee has been consulted on the scientific and technological content of this specific programme.	
(13) The Board of Governors of the JRC has been consulted on the scientific and technological content of this specific programme,	

(1) COM(1999) 76.

(2) Resolution of 20 May 1999 (OJ C 201, 16.7.1999).

(3) Resolution of 3 February 2000, PE 284.656.

(4) OJ L 107, 30.4.1996, p. 12.

INITIAL PROPOSAL	AMENDED PROPOSAL
HAS ADOPTED THIS DECISION:	
Article 1	
1. In accordance with Decision [. . .] on the framework programme 2002-2006 (hereinafter referred to as 'the framework programme'), a specific programme related to direct action of research and training activities to be carried out by the Joint Research Centre (hereinafter referred to as 'the specific programme') is hereby adopted for the period from [. . .] to 31 December 2006.	
2. The objectives and scientific and technological priorities for the specific programme are set out in Annex I.	
Article 2	
In accordance with Annex II to [Decision [. . ./. . .]/the framework programme, the amount deemed necessary for the execution of the specific programme is EUR 330 million. An indicative breakdown of this amount is given in Annex II to this Decision.	In accordance with Annex II to [Decision [. . ./. . .]/the framework programme, the amount deemed necessary for the execution of the specific programme is EUR 290 million. An indicative breakdown of this amount is given in Annex II to this Decision.
Article 3	Unchanged
1. The Commission shall be responsible for the implementation of the specific programme.	
2. The specific programme shall be implemented in accordance with the specific rules set out in Annex III.	
Article 4	
1. The Commission shall draw up a work programme for the implementation of the specific programme, which shall be made available to all interested parties, setting out in greater detail the objectives and priorities, the timetable for implementation and the implementation arrangements.	
2. The work programme shall take account of relevant research activities carried out by the Member States, Associated States, European and international organisations. It shall be updated where appropriate.	
Article 5	
1. For the purposes of implementing the specific programme, the Board of Governors of the JRC shall be consulted by the Commission in accordance with Commission Decision 96/284/Euratom.	
2. The Commission shall regularly inform the Board of Governors of the implementation of this specific programme.	

INITIAL PROPOSAL	AMENDED PROPOSAL
Article 6	
1. The Commission shall regularly report on the overall progress of the implementation of the specific programme, in accordance with Article 4 of the framework programme.	
2. The Commission shall arrange for the independent assessment provided for in Article 5 of the framework programme to be conducted concerning the activities carried out in the fields covered by the specific programme.	
Article 7	
The Commission may request the JRC to execute, on the basis of the criterion of mutual benefit, projects with legal entities established in third countries when this contributes effectively to the execution of direct actions.	
Article 8	
This decision is addressed to the Member States.	

ANNEX I

SCIENTIFIC AND TECHNOLOGICAL OBJECTIVES AND BROAD OUTLINES OF THE ACTIVITIES

1. INTRODUCTION	Unchanged
The Joint Research Centre carries out its mission to provide customer-driven scientific and technical support for the conception, development, implementation and monitoring of European Union policies. It serves the common interest of the Member States while being independent of special interests, private or national.	
The JRC's contribution to the framework programme 2002-2006 incorporates recommendations of recent evaluations of the JRC [1] and requirements necessitated by the Reform of the Commission. In particular, it includes	
— As strengthened user-orientation.	
— Networking activities to create a broad knowledge base and, in the spirit of the European Research Area (ERA), more closely associate Member State laboratories, industry and regulators in the S&T support provided to the EU policies.	
— The concentration of activities on selected themes, including training of researchers to maintain nuclear expertise in the EU and its associated Member States.	

[1] Davignon Report (2000), 5-year assessment of JRC (2000), 1999 JRC Scientific Audit, Prioritisation Audit 2001.

INITIAL PROPOSAL	AMENDED PROPOSAL
Co-ordination will be assured with the indirect actions under the Euratom specific programme.	
It responds to clearly expressed needs and requirements, notably from the Commission services, which have been identified, are updated through systematic and regular contacts [1].	
In its domains of competence, the JRC's contribution will aim at establishing synergies with the relevant thematic priorities in the other specific programmes, notably through participation in the indirect action, with a view to add value, when appropriate, to the work carried out therein (e.g. through the comparison and validation of tests and methods or the integration of results for policy-making purpose).	
2. PROGRAMME CONTENT	
2.1. **Motivation**	
JRC's activities in the nuclear area aim to support related Community policies and specific Treaty obligations entrusted to the Commission. Nuclear energy supplies about a third of the Community's electricity and vigilance is still required to ensure a continuation of the Community's outstanding safety record, to maintain efforts to avoid proliferation and to efficiently manage the processing and long-term storage of waste. The Enlargement of the Union together with the needs of safeguarding material arising from the disarmament process or the emergence of new technological developments introduce new challenges.	
Focusing its activities in areas where Community involvement is appropriate, the JRC operates where its pan-European identity provides an added value and where its action is justified by the cross-border aspects of nuclear safety and security or by public concern about the issues: safeguards, non-proliferation, radioactive waste management, reactor safety and radiation monitoring will be the key areas.	
The principal objective will be to further develop collaboration through networking, leading to broad consensus on a range of these issues at European and world-level. The application of Safeguards by the Euratom Safeguards Office (ESO) and the IAEA requires R & D support and direct assistance. Special attention will be given to co-operation with future EU Member States. Training activities will be an important component for JRC to help equip the EU with a future generation of scientists with necessary nuclear skills and expertise. Main areas of research activity will therefore be as follows:	

[1] Annual user workshops, interservice group of user DGs, bilateral agreement, etc.

INITIAL PROPOSAL	AMENDED PROPOSAL
— Radioactive waste management and safeguarding nuclear materials.	
— Safety of present and innovative reactors, radiation monitoring and medical applications from nuclear research.	— Safety of the different types of reactors, radiation monitoring and metrology.
2.2. **Radioactive waste management and safeguarding nuclear materials**	Unchanged
Spent fuel and high level waste treatment and storage	
To address the issues of spent nuclear fuels and radio-active waste treatment and management, the JRC will further develop its understanding of fundamental physical, chemical and materials science data on actinides and actinide-containing products. The JRC will continue to provide basic nuclear data (such as elements cross sections, behaviour in extreme conditions) of importance for waste management studies as well as for material and medical sciences.	To address the issues of spent nuclear fuels and radio-active waste treatment and management, the JRC will further develop its understanding of fundamental physical, chemical and materials science data on actinides and actinide-containing products.
The basic processes governing the behaviour of irradiated fuel under conditions of interim storage or long-term geological disposal will be further investigated.	Unchanged
The JRC will continue to test and evaluate processes to improve the efficient separation (partitioning) of radio-toxic elements from spent fuel and the subsequent reprocessing of the resulting products. This will be carried out with European partners under the transmutation and partitioning programme. Besides this experimental and theoretical approach JRC will pursue and extend its participation in networks with a possible co-ordinating role like in the international working group on fuel design for the accelerator driven systems.	
Nuclear safeguards	
The safeguards work will provide direct support to the inspectorates (ESO and IAEA) and to operators and will undertake related underpinning research to prepare for future demands including continuous improvements of safeguards activities to adapt to political context, in particular changes in verification regimes, and technological evolution. The activity includes the development and assessment of instrumentation in the areas of destructive and non-destructive assays; provision of certified reference materials, containment and surveillance, training of inspectors and the upgrading and operation of on-site laboratories. JRC will continue to be the focus point of the European Safeguards Research and Development Association (ESARDA) network.	

INITIAL PROPOSAL	AMENDED PROPOSAL
The strengthening of the safeguard regime is increasingly reliant on information technologies to improve efficiency and to carry out new measures. JRC will pursue its efforts in developing environmental monitoring, satellite monitoring, and innovative data and information management systems as well as improved communications and remote surveillance techniques that enable certain safeguards activities to be performed remotely from headquarters. Synergy with the work performed by JRC in the area of anti-fraud will be further developed.	
The JRC will continue to support the transfer of the technological 'acquis communautaire' in the safeguards area to the Applicant Countries.	
The JRC is closely involved in the international efforts to detect clandestine activities and to combat the illicit trafficking of nuclear materials. Nuclear forensic science will be further developed.	
From nuclear safeguards to non-proliferation of weapons of mass destruction	
The JRC will support the non-proliferation by adapting specialised know-how and techniques used for nuclear safeguards that may also potentially support verification regimes of nuclear and other weapons for mass destruction.	
2.3. **Safety of present and innovative reactors, radiation monitoring and medical applications from nuclear research**	2.3. **Safety of the different types of reactors, radiation monitoring and metrology**
Safety of present and innovative reactors	*Safety of the different types of reactors*
The high safety level of plants within the EU must be maintained, in particular for reactors to be operated for a further 10-50 years. The JRC will continue supporting safety authorities and nuclear plant operators by networking on ageing, damage detection, in-service inspection structural integrity assessment and production of fundamental neutron data. Accident analysis and management, validation of codes, systems' analysis, and risk-informed methods development are traditional JRC competencies, which are important both for EU harmonisation and in view of enlargement. Support to the PHEBUS programme will continue. Retrieval of experimental data and their archiving for easy availability will be supported.	The high safety level of plants within the EU must be maintained, in particular for reactors to be operated for a further 10-50 years. The JRC will continue supporting safety authorities and nuclear plant operators by networking on ageing, damage detection, in-service inspection and structural integrity assessment. Accident analysis and management, validation of codes, systems' analysis, and risk-informed methods development are traditional JRC competencies, which are important both for EU harmonisation and in view of enlargement. Support to the PHEBUS programme will continue. Retrieval of experimental data and their archiving for easy availability will be supported.
Development of a common safety culture in central and eastern European countries is a further area for JRC support; this includes operational safety measures and plant upgrading, structural integrity, accident prevention and management.	Unchanged

INITIAL PROPOSAL	AMENDED PROPOSAL
On the safety of nuclear fuel, JRC will concentrate on mechanical and chemical interactions at the fuel/cladding interface and on fuel behaviour at high burn-up. The TRANSURANUS fuel performance codes will continue to be extended with new data and training of users, including scientists from eastern European countries.	
Together with industry and R & D institutions, the JRC will contribute to the analysis and evaluation of several safety features of new energy production systems, currently under investigation in several countries.	Together with industry and R & D institutions, the JRC will contribute to the analysis and evaluation of several safety features of the different types of energy production systems, currently under investigation in several countries.
Radiation monitoring	*Radiation monitoring and metrology*
Research into understanding how to protect the citizen and the environment against the effects of ionising radiation requires reliable dosimetry as a basis. The JRC's long-standing expertise in radio-protection and its reference laboratory for radionuclide metrology will be used to develop further skills and various nuclear measurements.	Research into understanding how to protect the citizen and the environment against the effects of ionising radiation requires reliable dosimetry as a basis. The JRC's long-standing expertise in radio-protection and metrology will be further oriented towards this subject.
The radionuclide metrology activity includes new networks, which will provide support to nuclear safety together with food, chemical and environmental safety (with the detection of radioactivity traces and speciation). Efforts will focus on reference radionuclide metrology and on monitoring of low radiation levels.	Radionuclide metrology will focus on reference measurements and the development of international standards for reference radioactivity measurements. Additionally, support to nuclear safety and safeguards, radiation monitoring according to the Treaty, and the measurement of ultra low levels of radiation will be carried out. JRC expertise in radioactivity trace analysis and speciation will be further developed in the context of environment protection.
Medical applications from nuclear research	Deleted
A number of nuclear technologies of importance for medical applications have resulted from JRC's nuclear facilities and expertise. These emerge from research on new isotope production, development of clinical reference materials and support to diagnostic and therapeutic tools. The JRC will improve the co-ordination of such activities throughout Europe through networking with universities, nuclear research facilities, research centres, European medical associations and the pharmaceutical industry.	

INITIAL PROPOSAL

ANNEX II

INDICATIVE BREAKDOWN OF THE AMOUNT

Activity	Amount (Euro million)
Radioactive waste management and safeguarding nuclear materials	213
Safety of present and innovative reactors, radiation monitoring and medical applications from nuclear research	102
Staff necessary for the monitoring of the decommissioning of JRC obsolete installations	15
Total	330 (1) (2)

(1) Of which approximately 6 % may be allocated to exploratory research and up to 2 % for exploitation of own JRC results and technology transfer.

(2) This total includes the JRC's budget contribution necessary for its participation in indirect actions.

AMENDED PROPOSAL

ANNEX II

INDICATIVE BREAKDOWN OF THE AMOUNT

Activity	Amount (Euro million)
Radioactive waste management and safeguarding nuclear materials	186
Safety of the different types of reactors, radiation monitoring and metrology	89
Staff necessary for the monitoring of the decommissioning of JRC obsolete installations	15
Total	290 (1) (2)

(1) Of which approximately 6 % may be allocated to exploratory research and up to 2 % for exploitation of own JRC results and technology transfer.

(2) This total includes the JRC's budget contribution necessary for its participation in indirect actions.

ANNEX III

SPECIFIC RULES FOR IMPLEMENTING THE PROGRAMME

1. The Commission, after consulting the Board of Governors of the JRC, shall implement the direct action on the basis of the scientific objectives and contents described in Annex I. The activities relating to this action shall be performed in the relevant institutes of the Joint Research Centre (JRC).

2. In the implementation of its activities, the JRC will, whenever appropriate and feasible, participate in or organise networks of public and private laboratories in the Member States or European research consortia in the support of the European policy making process. Particular attention shall be paid to co-operation with industry, especially with small and medium-sized enterprises. Research bodies established in third countries may also co-operate on projects, in accordance with the relevant provisions of Article 6 and, where applicable, of agreements for scientific and technological co-operation between the Community and the third countries concerned. Particular attention will be paid to co-operation with research laboratories and institutes in the Candidate countries and countries of central and eastern Europe and the former Soviet Union.

   It will also use appropriate mechanisms to continuously identify the requirements and needs of its customers and users and to involve them in the related activities.

3. The knowledge gained through implementation of the projects will be disseminated by the JRC itself (taking into account possible limitations due to confidentiality issues).

Unchanged

INITIAL PROPOSAL	AMENDED PROPOSAL
4. The accompanying measures shall include:	
— the organisation of the visits of JRC staff to national laboratories, industrial laboratories and universities,	
— the promotion of mobility of young scientists, particularly from the Candidate countries,	
— specialised training with the emphasis on the nuclear expertise and the nuclear safety culture in the European Union,	
— the organisation of visits to JRC institutes of visiting scientists and seconded national experts, particularly from the Candidate countries,	
— systematic exchange of information, through, *inter alia*, the organisation of scientific seminars, workshops and colloquiums and scientific publications,	
— the independent scientific and strategic evaluation of the performance of the projects and programmes.	