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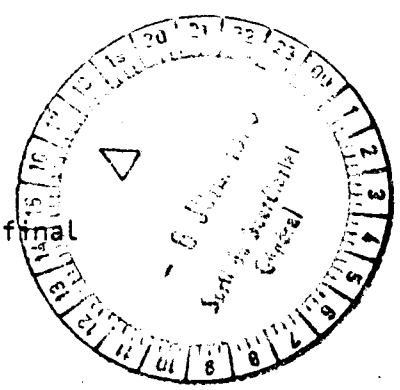
Proposal for a

COUNCIL DECISION

adopting a research and development programme for the European Economic Community in the field of reference materials and methods (Community Bureau of Reference - BCR) and applied metrology (non-nuclear indirect action) (1979-1982)

(submitted to the Council by the Commission)



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INTRODUCTION

The programme on reference materials and methods (Community Bureau of Reference - BCR) was initially launched in 1973 for a period of three years (x); in 1976, a second phase was adopted, covering a three-year period and ending on 31 December 1978 (xx).

In broad outline, the objectives of the second programme can be defined as follows :

- to develop reference materials and methods by drawing on the knowledge and skill of public and private laboratories in the member countries;

- to promote collaboration between bodies specializing in this type of work, an activity which amounts in effect to coordination;

- to back up the national efforts in the field of reference materials with projects of interest to the Community.

The term "reference material" is understood to mean a material or substance, one or more properties of which are sufficiently well established to be used for the calibration of an instrument or the verification of a measurement method.

Reference materials are used in every branch of commercial, industrial, medical and scientific activity to verify the proper functioning and the accuracy of instruments and measurement methods, and to ensure that valid comparisons can be made of the results obtained by different laboratories or in different countries.

The first period of the programme was an initiation phase: it consisted in defining areas for which it was desirable to develop reference materials, laying down rules of procedure and preparing a number of contracts for experimental work.

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x) Council Decision of 18 June 1973, OJ L 189

xx) Council Decision of 15 March 1976, OJ L 74

The second phase consisted in the development of the activities under contract in important fields - e.g. those relevant to industrial applications - which have resulted in certified reference materials. New fields have been explored, one being clinical chemistry (medical analyses), in which major projects have been set in train.

The implementation of the programme was backed up by the collaboration of the JRC, which assists greatly in providing secretarial services for working parties, evaluating measurements and drafting certification reports.

In view of the very encouraging results of the indirect action programme on reference materials and methods, it is proposed to follow up this activity by allocating somewhat ampler resources to it, notably in regard to personnel.

The result of this activity is to produce batches of samples of reference materials which represent considerable assets. It is now necessary to ensure those functions needed for correct management of these assets (safe storage, distribution and sale of reference materials).

Finally, it is proposed that for the first time research and development projects be undertaken in the field of applied metrology. This will call for close collaboration between specialized laboratories in the member countries. The objective of the project will essentially be to improve the accuracy and comparability of measurements, and to develop improved methods. It will be the technical and scientific extension of the Community activities in the field of legal metrology. Without interfering with existing collaboration projects under international agreements, it will supplement them when their possibilities are limited by lack of funds. In a first stage, this action could be of an experimental nature with limited resources which should, however, be sufficient to ensure efficiency.

MOTIVATION AND CONTENT OF THE PROPOSAL

PROJECT 1

REFERENCE MATERIALS AND METHODS (BCR)

Review of the results of the past programme

The BCR programme on reference materials and methods has not only succeeded in developing, by joint action, reference materials of Community-wide interest and of recognized quality, but has forged many links of collaboration in the course of the work, resulting in a degree of harmonization of national activities.

The preparation of a BCR reference material is essentially based on broad collaboration between the most expert public and private laboratories in the member countries.

Since the operations involved are highly specialized, only a very small part of the programme can be implemented on the basis of proposals received in response to public invitations to tender. Public calls for proposals have not proved to be very effective.

The projects are drawn up gradually as needs become known in discussions with experts and members of the Advisory Committee.

When a project has been defined in broad outline with the help of experts and potential participants, it is submitted to the ACPM (*) for an opinion. Next, the participants meet a number of times to decide on the details of implementation (method of preparation, stability tests, methods of analysis, organization of the programme and procedure for processing the results). This is the basis on which the Commission concludes contracts with each of the participants in the measurement or analytical programme. When the experimental work is completed and evaluated the Commission discusses the results with the contractors and experts to examine whether these results warrant certification of the property or properties of the material. A draft report is submitted to a committee of experts, then, where appropriate, to the Certification Group, and then to the ACPM.

(*) ACPM = Advisory Committe on Programme Management

The decision to certify a reference material is taken by the Commission on the advice of the ACPM.

Each reference material is the subject of a report summarizing the results and conclusions of the work that led up to certification. The reference materials are offered for sale in the form of samples accompanied by a certificate and a copy of the report.

Table 1 gives some information on the reference materials already certified as at 30 April 1978 and those in preparation or planned.

TABLE 1

BCR reference materials	Number of materials Certified	In preparation	Planned
Chemical properties			
Coke	4	-	-
Coal	-	2	1
Non-ferrous metals	9	4	30
Non-ferrous ores	7	9	3
Lead glass	-	1	-
Silicates for petrographic analyses	-	4	-
Fertilizers	-	2	-
Organic compounds for analyses of elements	1	7	3
Liquid fuels (flash point)	5	5	-
Liquid fuels (sulphur content)	-	4	-
Polymers	-	3	5
Carcinogenic compounds	-	10	-
Trace metals in synthetic proteins	-	1	-
Trace metals in plants	-	4	10
Fly ash	-	1	-
Biological substances	-	2	5

BCR reference materials	Number of materials Certified	In preparation	Planned
Physical and technological properties			
Thermal conductivity	-	2	-
Dielectric	-	3	-
Magnetic susceptibility	-	2	-
Coloured glass	-	1	-
Reflectivity	-	1	-
Powders			
- particle size	-	6	-
- specific surface area	-	6	-
Porosity	-	5	-
Raman spectroscopy	-	1	-
Vacuum measurement (gauges)	-	1	-
Impact Toughness	-	1	-
Total	26	86	57

The total number of projects relating to reference materials and measurements is 52. They were the subject of 134 contracts during the first phase (1973-75) and 228 contracts during the period from 1 January 1976 up to the date of this document.

As a rule - and this is also true for similar activities of national organizations - the total duration of a project for the preparation of a reference material from the definition of the project to the certification of the product is about three to four years. This explains why many reference materials are in preparation and only some are fully certified. Because many laboratories participate in each project, several meetings must be held to coordinate the work in which they have to collaborate. The need to ensure adequate coordination and to evaluate the results puts high demands on Commission staff responsible for the management of the programme and on JRC staff who make a substantial contribution to the work.

In addition to the batches of high-quality certified reference materials produced, the benefits of these activities include the excellent collaboration established between the member countries, the interest shown by specialized institutes in taking part in the Community programme and the repercussions of this programme in various international bodies.

PROGRAMME

It is intended that the proposed programme will be implemented in the same spirit of close collaboration between the laboratories of the member countries as in the past. The JRC will continue to be associated with the projects according to its available expertise.

The research does not include any standardization work. This, however, does not rule out projects relating to precision measurement, the results of which might prove useful later on for standardization by the responsible bodies.

The activities envisaged in the programme will include :

a) Production and certification of reference materials

- definition of requirements for reference materials through contacts with possible users and by exchanges of information on existing reference materials
- characterization of materials
- organization of inter-laboratory comparisons
- approval of laboratories
- certification of reference materials at Community level

b) Development of associated reference methods

Methods associated to reference materials, having margins of error which can be determined and are in any case small for chemical analyses, property measurements or testing.

Areas of activity

The areas of activity are selected so that BCR reference materials and methods meet one or several of the following criteria :

- help towards the implementation of sectoral policies (e.g. environment, energy);
- have recognized value in industry or in commercial transactions;
- facilitate the implementation of regulations and directives for the removal of technical barriers to trade;
- help to improve living conditions (public health, environmental protection, consumer protection).

Ferrous metals (objectives : ECSC, industry)

As in the past, the research will be restricted to those requirements which are not covered by the existing organizations already collaborating under the provisions of the ECSC Treaty. Hence this sector will not be a major area of activity.

Non-ferrous metals (objectives : industry, commercial transactions)

There is no organized collaboration as in the case of iron and steel. The need for reference materials is an important one, notably in regard to ores and refined metals (copper, lead, zinc, etc.).

Non-metallic materials (objective : industry)

A number of problems are already being dealt with in the current activities. They relate in particular to glass and ceramics. These do not seem to call for any major effort.

Inorganic materials and products (objectives : industry, implementation of directives, environment)

Under this heading it is proposed to include in particular problems relating to environmental protection, such as reference samples for measuring heavy and toxic metals in fumes, water or industrial and urban waste.

Organic materials and products (objectives : industry, implementation of directives, environment, energy)

This is a very wide field which will probably be the focus of a good deal of activity. Besides organic synthesis products and the analytical problems they give rise to (e.g. simultaneous presence of sulphur and halogens), it is intended to give special attention to problems of environmental and consumer protection (e.g. heavy and toxic metals in proteins and plants).

Foodstuffs (objective : implementation of directives)

No work has as yet been done on human and animal foodstuffs under the BCR programme. They are the subject of numerous directives, however, the implementation of which will call for reference materials.

Biomedical analyses (objective : public health)

The Community laboratories for biomedical analyses[x] carry out an average of 10 analyses (results) per person per year. These analyses relate to a large number of biological substances or drugs present in biological fluids (blood, urine, etc.) or in tissues (muscle, etc.).

The results sometimes vary appreciably from one laboratory to another. This is due to a certain extent to the absence of adequate biological reference materials to check the accuracy of the routine methods and to the lack of sufficiently accurate methods.

According to some estimates, the number of required reference materials could amount to some hundred products for the most common analyses.

For the most frequently used compounds, there are existing reference methods (gas chromatography combined with mass spectrometry). These techniques can be used to produce certified reference materials (carbohydrates, lipids, amino acids, vitamins and inorganic compounds). Another important requirement is for reference materials to determine the presence in the blood of drugs used in long-term treatment. For compounds of higher molecular weight (protein group such as enzymes, protein hormones and coagulants), the methods are not yet satisfactory.

Physical and technological properties of materials
(Objectives : industry, implementation of directives, energy, environment)

There are relatively few certified reference materials for physical properties that are publicly available. They are sometimes provided by the manufacturers of equipment or by private associations. Reference materials of wider availability would be very useful. There are requirements with respect to optical properties, thermal, electrical or magnetic properties, and the precise characterization of porous or finely divided materials. In several of these fields , work is already in progress and well worth following up.

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[x] These analyses use chemical, physical and biological methods and are carried out in particular in clinical chemistry, haematology, clinical immunology, histology and clinical microbiology.

Staff and appropriations

The programme Reference Materials and Methods (BCR) had a staff of 7 members (4 A + 1 B + 2 C) for the period 1976-78. The total appropriation amounted to 2,7 million EUA for three years.

The staff allocated to this action was insufficient and this fact was deplored on several occasions by the ACPM. In order to ensure adequately the role of coordination which is essential and to undertake projects in the new fields of foodstuffs and biomedical analysis as indicated in the programme, a minimum increase of staff by one person of category A is proposed.

The appropriations for contracts were kept at the same level as for the years 1977 and 1978, with an annual increase of 10% including inflation.

Cost of staff (8 staff members)	1.760.000 EUA
Administration and contracts	4.840.000 EUA
Total for 4 years	6.600.000 EUA

PROJECT 2

DISTRIBUTION AND MANAGEMENT OF REFERENCE MATERIALS

PROGRAMME

Reference materials certified by the Community are offered for sale by the Commission. This service, which will have to be placed on an established basis, involves the following tasks :

1. The setting up of a storage system for reference materials. They will have to be stored in one or more establishments with special expertise in the field of reference materials, such as the JRC and specialized national laboratories. It will be necessary for the depository establishments to have at their disposal the qualified personnel necessary for the supervision and where necessary periodic inspection of the reference materials.

   In the event of storage in a JRC establishment the BCR programme could profit from the expertise and infrastructure existing by virtue of the METRE programme. Provision should nevertheless be made for the services strictly specific to the storage and handling of reference materials for sale to be chargeable to the BCR programme.

   If the materials were stored in other establishments, the service provided by the body in question (supervision of the preservation of products and the packing and despatch of samples) would have to be the subject of contracts concluded with the Commission.

2. The development of an efficient system for receiving orders, forwarding them to the storage location(s), preparing invoices, despatching samples, and drawing up a periodic inventory.

Although the Commission intends to use automated management techniques as far as possible, the need for a minimum staff cannot be ruled out.

3. The editing and dissemination of documents (catalogues, advertisements and annual reports on activities) to bring the existence of reference materials to the notice of those concerned.

Staff and appropriations

To ensure an appropriate management of this action it is proposed to allocate to it a staff of 1 A + 1 B + 1 C. The estimated expenditure include rather high costs in the starting phase for storage contracts and for setting appropriate means of computarized management.

Cost of staff (3 staff members)	527.400 EUA
Administration and contracts	962.600 EUA
Total for 4 years	1.490.000 EUA

In the long run the income from sales of reference materials could compensate partly the management expenditures for storage and selling.

PROJECT 3

APPLIED METROLOGY

As yet there is no Community scientific and technical programme in the field of applied metrology except for nuclear measurements (Central Bureau for Nuclear Measurements - CBNM).

Commercial transactions, however, frequently require that products be measured, weighed or analysed with sufficient accuracy. Most industrial activities rely on still more sophisticated measurements.

The importance of "measurement" explains why one of the tasks the European Economic Community has set itself is that of harmonizing the rules and practices in the member countries relating to measuring instruments and methods relevant to legal metrology. In this field, which covers those measurements whose accuracy is ruled by legal texts, twenty-six directives have been adopted by the Council. They relate to instruments for measuring length, volume (gas meters, water meters, etc.), weight, electrical energy and alcoholic strength.

The basic units are the subject of international agreements and international collaboration, and there is no question of interfering with them.

This apart, applied metrology offers a fairly wide field in which it is important for the Community not just to improve measurement techniques and their accuracy, but even more to stimulate collaboration with a view to improving the comparability of existing methods and encouraging the joint development of new methods required by technical progress. A variety of collaboration arrangements already exist but it appears important now to bring them together, specially for those fields of applied metrology which correspond to Community objectives. In those fields where new metrology needs arise, a close collaboration at Community level would enable to make better use of existing means and facilities (specially for expensive projects) and to ensure homogeneous development of measurement techniques so that the establishment of future Community directives would be considerably easier.

PROGRAMME

Objectives

To promote metrology projects based essentially on collaboration between laboratories in the member countries with a view to :

- ensuring the equivalence and comparability of secondary standards and transfer standards;
- improving the accuracy of measurements;
- developing metrology in areas of importance to the Community and where projects are costly.

Projects

The programme is to be put under way progressively in the following areas.

1. Intercomparison of secondary and transfer standards for derived units of measurement

This work would essentially concern units derived from the base units such as force and pressure. Such intercomparison would result in improving mutual confidence in the level of accuracy of measurements made in the various member countries. It could also lead to an improvement in the overall level of accuracy.

2. Improvement of measurement techniques and their accuracy

This will mainly consist of joint research in areas of Community interest in which the improvement of measurement accuracy is a matter of major economic importance.

For instance, although there is a directive in force on gas meters, the accuracy that it requires is not sufficient for very large gas flows under high pressure (x).

(x) An uncertainty of only 1% (current value) in the metering of millions of cubic metres of gas can have serious financial consequences.

Difficult problems of this kind require large test facilities which are very expensive and could not be fully used if they were reproduced in all member countries. It would therefore be most useful for the Community to stimulate collaboration by a financial support.

3. Development of new measurement techniques

With technological progress and changing conditions of life, new needs for methods of measurements are emerging in fields of importance for the Community. This applies to a variety of topics (e.g. industrial metrology, safety regulations for equipment and regulations for environmental protection) for which there is a growing need for methods of measurement and reference materials. Development costs in these new fields of metrology may be very high and cost-sharing by means of efficient collaboration could be extremely advantageous. In this and other similar fields, the Community should be involved at an early stage, for this would result in a more efficient use of the skills and resources of the member countries. Furthermore, an important consequence of such collaboration at an early stage is to avoid the development of rules and standards that differ from one country to another and are afterwards difficult to harmonize.

4. Exchange of personnel

Since collaboration depends not only on equipment but also on individuals, it appears important to give special attention to and to encourage exchanges of personnel - perhaps specialists - in the context of the programme itself. They would continue to receive their salary from their own employer, but would benefit from Community allowances to cover expatriation costs.

Staff and appropriations

Because metrology problems often involve difficult commercial and regulation aspects, they should be treated with great care. In addition the projects should be set up so as to include a close collaboration between the partners.

The minimum personnel to start this action is 2 A + 1 C officials. The appropriations for contracts are evaluated at a modest level. In fact the unit cost of metrology projects could be very high due to the fact that they will always involve several laboratories and require high accuracy measurements.

Cost of staff (2 A + 1 C)	665.000 EUA
Administration and contracts	2.545.000 EUA
Total for 4 years	3.210.000 EUA

PROPOSAL FOR A COUNCIL DECISION ADOPTING A MULTIANNUAL RESEARCH AND DEVELOPMENT PROGRAMME FOR THE EUROPEAN ECONOMIC COMMUNITY IN THE FIELD OF REFERENCE MATERIALS AND METHODS (BCR) AND APPLIED METROLOGY

(indirect action)

(1979-1982)

COUNCIL DECISION

adopting a research and development programme for the European Economic Community in the field of reference materials and methods (Community Bureau of Reference - BCR) and applied metrology (non-nuclear indirect action) (1979-1982)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament[1],

Having regard to the opinion of the Economic and Social Committee[2],

Whereas according to Article 3 (a) and (h) of the Treaty, the activities of the Community shall include, inter alia, the elimination, as between Member States, of quantitative restrictions on the import and export of goods, and of all other measures having equivalent effect, together with the approximation of the laws of the Member States to the extent required for the proper functioning of the common market;

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(1) OJ No

(2) OJ No

Whereas the research projects covered by this Decision are of such a nature as to make an effective contribution to the carrying out of these Community tasks and whereas, therefore, they are necessary for the achievement, within the Common Market, of the said objectives;

Whereas the Treaty does not provide the necessary powers for this purpose;

Whereas, in its Resolution of 14 January 1974 on a first action programme of the European Communities in the field of science and technology[3], the Council stated that the whole range of available ways and means, including indirect action, should be used as appropriate;

Whereas the Scientific and Technical Research Committee (CREST) has delivered an opinion on the Commission proposal,

HAS DECIDED AS FOLLOWS:

Article 1

A research and development programme for the European Economic Community in the field of reference materials and methods and of applied metrology, as defined in the Annex, is hereby adopted for a period of four years with effect from 1 January 1979.

Article 2

The upper limit for commitments for expenditure and the maximum number of staff necessary for the implementation of the programme are estimated at 11.3 million European units of account and 14 staff respectively, the European unit of account being defined in the Financial Regulations in force.

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(3) OJ No C 7, 29.1.1974, p. 6

Article 3

The Commission shall be responsible for the implementation of the programme. It shall be assisted in this task by the Advisory Committee on Programme Management set up by the Council Resolution of 19 November 1973, the terms of reference of which are set out in the Resolution of 18 July 1977[4]. The Joint Research Centre (JRC) shall remain associated with the implementation of the programme[5].

Article 4

During the third year the programme shall be reviewed and possibly revised in accordance with the appropriate procedure and after consultation of the Advisory Committee on Programme Management.

Article 5

The information resulting from the implementation of the programme shall be disseminated in accordance with Council Regulation (EEC) No 2380/74 of 17 September 1974 adopting provisions for the dissemination of information relating to research programmes for the European Economic Community[6].

Done at Brussels,

For the Council

The President

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(4) OJ No C 192, 11.8.1977, p. 1
(5) OJ No L 200, 8.8.1977, p. 7
(6) OJ No L 255, 20.9.1974, p. 1

Annex

Reference materials and methods (Community Bureau of Reference - BCR) and applied metrology (Non-nuclear indirect action)

The programme comprises three projects as described below. The first two are activities of the Community Bureau of Reference.

The aim of the programme defined below is to strengthen, supplement and harmonize national efforts in the field of reference materials, analytical and measuring methods and applied metrology.

1. Reference materials and methods

This project shall include the following activities :

- exchange of information on reference materials and methods and in particular on national activities in these fields;
- determination of the requirements for reference materials and methods;
- characterization of materials;
- organization of inter-laboratory comparisons;
- joint preparation of reference materials;
- certification of the properties of reference materials at Community level;
- joint definition of reference methods;
- approval of laboratories.

2. Management and distribution of Community reference materials

- Storage and preservation of BCR reference materials in JRC laboratories and national laboratories;

- Preparation of information to be disseminated to publicize reference materials by suitable means within and outside the Community;

- Distribution of samples.

3. Applied metrology

This project comprises the following activities :

- Inter-laboratory comparisons of secondary and transfer standards for derived units of measurement;

- Improvement of measuring techniques and their accuracy;

- Development of new measuring techniques;

- Exchange of information and exchange of scientific personnel.

Studies and research work will be carried out under contract.

ANNEX I

ADVISORY COMMITTEE ON PROGRAMME MANAGEMENT

The terms of reference of the Committee are set out in the Council Resolution of 18 July 1977.

Its powers extend to the non-nuclear part of the programme on measurements, standards and reference techniques (METRE) (direct action) and to the programme on reference materials and methods (BCR) and applied metrology.

If necessary, the Member States will review the composition of their delegations to this Committee so that they can accomplish their new tasks in the field of metrology.

ANNEX II

OPINION OF THE ACPM

The ACPM is of the unanimous opinion that the results of the current BCR programme are very satisfactory. The reference materials prepared and certified up to now appear to have aroused interest not only in the Community but also in non-member countries. The ACPM wishes to stress that the implementation of the BCR programme has provided an opportunity for very fruitful cooperation, which should be continued and extended, between experts and participating laboratories of the member countries.

The work in the field of reference materials and associated methods should therefore be actively continued.

The ACPM is unanimously in favour of the programme proposed by the Commission and approves the options outlined for projects 1 and 2 on reference materials and associated methods, as regards both their technical content and the staffing and budgetary implications.

The ACPM is also in favour of the Commission proposal that cooperation be promoted by way of indirect action in those fields of applied metrology which are regarded as appropriate, where a specific need arises and where the planned activities will not interfere with national efforts or existing international collaboration.

FINANCIAL RECORD

1. RELEVANT BUDGET HEADING CODE : 3353.

2. TITLE OF BUDGET HEADING : Reference materials and methods (BCR), applied metrology.

3. LEGAL BASIS :
-In application of Article 235 of the Treaty establishing the EEC
-Council Decision of 15 March 1976 (1 January 1976 - 31 December 1978)
-Council Decision of

4. DESCRIPTION, OBJECTIVE AND JUSTIFICATION OF THE PROJECT :

4.1. Description

The project relates to
- the preparation, in close collaboration between the member countries, of reference materials of interest to the Community;
- the joint definition of reference methods;
- characterization of materials;
- distribution of certified reference specimens resulting from the programme;
- research in the field of applied metrology.

4.2. Objective

- to promote the preparation of reference materials and reference methods at Community level;
- to develop cooperation and consequently coordination between national activities in the field of reference materials and applied metrology;
- to back up national efforts by projects of interest to the Community especially in respect of particularly costly projects.

4.3. Justification

To facilitate commercial transactions and industrial operations and ensure efficiently medical care and environmental protection, it is necessary to have reliable methods of analysis and measurement.

To ensure that results are comparable in different parts of the Community, the methods and instruments used have to be calibrated by means of reference materials.

The Community's efforts in the way of harmonization directives have to be backed up by technical and scientific work designed to facilitate correct implementation of the directives and the development of adequate methods of measurement.

5. FINANCIAL IMPLICATIONS OF THE PROJECT IN EUA (at current prices)

5.0. Implications in respect of expenditure

5.0.0. Total cost over the full period

- to the Community budget :	11,300,000	EUA
- to national administrations : }	2,000,000	EUA
- to other sectors at national level : }		
Total cost :	13,300,000	EUA

5.0.1. Multiannual timetable

Appropriations for commitment

	1979	1980	1981	1982	Total	
Personnel	640,400	727,600	768,400	816,000	2,952,400	
Administrative operations	245,000	262,000	277,000	294,000	1,078,000	
Technical operations	55,000	59,000	62,000	66,000	242,000	
Contracts	1,876,500	2,098,000	2,287,000	766,100	7,027,600	
Total	2,816,900	3,146,600	3,394,400	1,942,100	11,300,000	

Appropriations for payment

	1979	1980	1981	1982	1983	Total
Personnel	640,400	727,600	768,400	816,000		2,952,400
Administrative operations	245,000	262,000	277,000	294,000		1,078,000
Technical operations	55,000	59,000	62,000	66,000		242,000
Contracts	1,076,500	1,393,000	1,887,000	1,880,000	791,100	7,027,600
Total	2,016,900	2,441,600	2,994,400	3,056,000	791,100	11,300,000

5.0.2. Method of calculation

a) Personnel costs

The staff required for this programme has been estimated at :

8 staff in category A
2 staff in category B
4 staff in category C

The A staff comprises five persons for project 1, one person for project 2 and two persons for project 3.

Project 1 corresponds to the previous programme 1976-1978 for which the staff allocation was quite inadequate. One extra member of staff is essential. A staff of one A for project 2 and two A for project 3 are the absolute minimum if these operations are to be successful.

The B and C staff have been evaluated proportionately.

In calculating the relevant expenditure, account has been taken of the parameters laid down for the preparation of the preliminary draft budget for 1979. No increase in purchasing power is foreseen. Only a variation in weighting has been taken into consideration to allow for changes in the general price level in the Community.

b) Expenditure on administrative and technical operations

These cover costs of travel, missions and the organization of meetings and the use of a scientific and technical support when this is essential for the proper execution of the programme.

c) Contract expenditure

As the type of subject and qualifications of the contract holders vary a uniform method of calculation cannot be used.

In any case, the Advisory Committee on Programme Management will be consulted on the allocation of appropriations.

d) Multiannual forecasts

The rates adopted for the calculation of the forecasts are as follows : 1979 - 1.07; 1980 - 1.13; 1981 - 1.20; 1982 - 1.27.

5.1. Implications in respect of revenue

For information purposes, it is pointed out that some revenue is to be expected (see point 8).

6. TYPE OF CONTROL TO BE APPLIED

Scientific controls: ACPM
responsible officials of DG XII

Administrative controls :
Budgetary execution : General Directorate for Financial Control
Regularity of expenditure : General Directorate for Financial Control

7. FINANCING THE PROJECT

7.0.
7.1.
7.2.
7.3. Appropriations to be entered in future budgets

8. REVENUE

8.1. Legal basis

Articles 3(1), last paragraph of 87 and 90(4) of the Financial Regulation of 21 December 1977.

8.2. Type of revenue

The revenue under this programme will come from the services supplied upon request and against payment for public or private undertakings or bodies.

This revenue will be used to cover the expenditure entered in Item 3388 of the statement of expenditure.

The revenue will be entered in Chapter 92 of the Budget (Article 924).

8.3. Amount of revenue

1979 token entry
1980 token entry
1981 token entry
1982 token entry

8.4. Method of calculation

In 1977, the revenue amounted to 1,271.35 EUA. It is not possible to prepare valid forecasts for revenue in 1979 and future years since it will depend essentially on the requests made to the Commission which in principle cannot be estimated at the present time.