

# COMMISSION OF THE EUROPEAN COMMUNITIES

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## COMMUNICATION FROM THE COMMISSION TO THE COUNCIL

REVIEW OF THE IMPLEMENTATION OF THE CURRENT PROGRAMME OF THE COMMUNITY  
BUREAU OF REFERENCE (BCR)

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COMMUNICATION TO THE COUNCIL

REVIEW OF THE IMPLEMENTATION OF THE CURRENT PROGRAMME OF THE COMMUNITY  
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1. The Council decision giving effect to the current multiannual programme for the BCR was taken on 9th October 1979. That decision provided for an increase in the coverage of the work including the completely new activity in the field of applied metrology. To give effect to the increased work, the Council decision provided for the addition of seven people to the earlier small team to organize and manage the work. It took until the middle of 1980 to recruit the extra personnel and to get the new programme operating at its new level. On the other hand, the programme is due to come to an end on 31st December, 1982. The work is, accordingly already well advanced of preparing for a new follow-on programme to commence at the beginning of 1983. The current programme must, therefore, be seen as a transition phase and a revision of the programme at the present stage, when the work in hand has only been at its full level for some months, would seem to be more likely to upset the work in hand and the preparation for the new phase than beneficial to the scientific work or to the smooth management of what should be a continuous though constantly developing programme of scientific work. The current programme covers three main fields of activity:

a) New reference materials

55 new projects have been started since the new programme entered into force. The objective of these projects is to produce reference materials where improvements are necessary in the quality and consistency of measurements and analyses. Some important examples are :

- analyses of impurities in metals like lead and copper, impurities and alloying elements in zircaloy, analyses of fertilizers and coal (reference materials in areas such as these are important for industry)

- analyses of polluting elements such as lead, cadmium, mercury in soils, fertilizers, meat milk and water ( important for improvements in the monitoring and control of pollution);
- analyses such as lead and cadmium in blood (important for health).

Each project requires the collaboration of some 10 to 15 laboratories throughout the Member States. Laboratories involved those in industry, in universities and in national research centres.

This activity had initially been supported substantially by the staff working at the Joint Research Centre on a related programme METRE. The METRE programme was removed from the JRC programme in the Council decision of 18th March 1980 setting out the new multiannual programme for the Joint Research Centre. Some 70 manyears per year previously devoted to this work is, accordingly, now reduced to approximately 7 man years per year. This decision was taken at precisely the time when the current BCR programme was coming into effect and the adaptation to the new circumstances required considerable effort. One of the results is that the individual projects are inevitably slowed down compared with the original plans which were made when it was assumed that the METRE programme would be continued.

Yet a further difficulty has arisen in the course of the first two years of the programme. The extension of the range of reference materials into new fields particularly those involving polluting elements has carried with it the need to prepare samples under carefully controlled conditions similar to those normally met with in laboratories concerned with pharmaceutical products and using similar techniques e.g. powders enclosed in sealed glass ampoules.

Strenuous efforts made over a period of 18 months have failed to locate a laboratory prepared to carry out this highly specialized work. Investigations are now in hand to see whether the Joint Research Centre at its Geel establishment (Central Bureau of Nuclear Measurements) can carry out this task.

## b) The management of the existing stock of reference materials

The Commission now owns some 80 lots of samples of certified reference materials which in total amount to some 30 000 samples. They are stored mainly in the establishments of the Joint Research Centre although some of them are held in government laboratories in Member States. The management of the distribution of these samples is one of the tasks of the personnel of the BCR team. It should be noted that there are big differences between the Member States in their awareness of the value of the use of certified reference materials. An educational task is needed in order to secure the better utilization of the materials which are much valued where they are used. Interest is certainly growing. But it is also true that some reference materials are not used at all and, in the future, a much more careful analysis of the potential use of reference materials will be made before the scientific work is embarked upon. It should be noted that once a project is started it costs very little more to make a large number of samples than a small number. The foresight of the Commission in its decisions to make substantial numbers of samples has proved correct in terms of the economies which result ; but it does mean that a certain proportion of the effort has always to be deployed on what are essentially checking and bookkeeping operations.

## c) Applied metrology

The field of applied metrology is new in the current programme. Its objective is to help laboratories in the Member States improve the accuracy of their measurements when these are necessary for economic reasons. Examples are the measurement of electrical power, of high voltages, of the flow of natural gas and of the power radiated by microwave ovens. The point of importance is that different measuring methods tend to give different results. This is the case even when the parameter to be measured is relatively straightforward and the scientific basis of the measuring method has been established for a very long time. The economic importance has become increasingly great in Europe in recent years because of the development of the Common Market and the increasing tendency

for electricity or natural gas to be sent from one Community country to another. Other topics of similar importance are under study in the programme. This is thus a fundamental Community task assisting in the creation of a true Common Market and in the free passage of goods and services from one Community country to another.

Some 35 such projects are now in operation. Each project associates all the national metrology laboratories which wish to participate together with certain laboratories from industry.

Although this part of the programme is very recently started, it is already considered by the Member States to be useful and successful.

## 2) OPINION OF THE ACPM

The ACPM formulated its opinion as given in the appendix during its meeting held on 10-11th June, 1981.

It is worth mentioning that each project is discussed with experts from all the Member Countries before it is fully defined and that the ACPM is then consulted on each project. The certification of the reference materials is also only decided upon after the positive advice of the ACPM.

## 3). Conclusion :

The Commission feels that after a delayed and difficult start, it would be unwise at this stage to consider any substantial amendment of the programme as set out in the Council decision of the 9th October 1979. Such changes as may be necessary will be incorporated in the Commission's new proposal for a programme to begin in 1st January 1983 on which proposals will be submitted soon. These new proposals will take account of the problems encountered in carrying out the current programme and the major tasks still to be accomplished. In view of the difficulties at present being experienced because of the limited personnel available and in view of the fact that the completion of the Common Market continues to demand increased emphasis on applied metrology, the Commission

anticipates, subject to the advice of the Advisory Committee on Programme Management, putting forward a proposal for the phase of the work to begin in 1982 which will involve some increase in personnel and in appropriations. In the course of the review of the activities of the Joint Research Centre, the Commission will examine the relationship between the BCR and the potential of the CBNM to assist in its work. It will seek out ways of more fully involving the CBNM in the work of the BCR with a view to making the maximum use of the Community's own facilities.

There is one further action which needs to be taken now. The Advisory Committee on Programme Management has been extremely helpful but its membership is very weighted on the side of experts in the fields of reference materials and applied metrology. It does not include sufficient representatives from the world of the users of the results of the programme - from public health authorities, from environmental protection services or from industry. The Commission calls upon the Member States to review the contribution of the Advisory Committee with a view to changing their nominees to make the Committee more representative of the users. This should be done as a matter of urgency to ensure not only a more effective ACPM for the new programme but also more useful advice to the Commission for its management of the remainder of the current programme and for the work still needed in anticipation of the new programme.

ANNEX

OPINION OF THE ACPM

Formulated at the meeting of 10-11 June, 1981

In accordance with the definition of the programme, 55 new projects were started to develop reference materials for a variety of fields in particular non-ferrous metals and ores, environmental analyses, biomedical analyses, physical and technological properties of materials. Twenty projects could be finalised by the certification of the 41 reference materials.

The termination of the METRE programme did not seriously affect this indirect action programme, however. The support still provided by the JRC has been important to carry out successfully certain work on reference materials. The ACPM recommends that such support should be maintained in the future.

Solutions were found for the storage and distribution of the batches of reference materials available.

Also the activities in the field of applied metrology which was a new addition to the programme is very successful : 35 projects were started since the end of 1979, in fields of importance for the Community. The ACPM agrees with the Commission that the Decision of the Council of 9th October, 1979, is adequate to implement the programme satisfactorily.

All above projects are based on the collaborative work of several public and private laboratories in the member countries. In particular all the national metrology laboratories are often involved in the applied metrology projects. The results of this collaboration are essentially in either cases the improvement of the methods and a closer agreement of the results of different laboratories, which are most important con-

tributions to the solutions of problems of technical barriers to trade, harmonisation of regulations and easier implementation of Community directives. To fully achieve this purpose continued and increased systematic cooperation with other services of the Commission seems now essential.

The ACPM requests the Commission to prepare a new programme proposal for the period beyond 1982 early enough so that possible delays in the Council decision to approve that new programme would not cause, as in the past, interruption of important activities.



