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10 May 1983

DOCUMENT 1-272/83

REPORT

drawn up on behalf of the Committee on Energy  
and Research

on the proposal from the Commission of the European  
Communities to the Council (Doc. 1-1167/82 - COM(82)  
806 final) for a decision amending Decision 82/402/EEC  
adopting a research and development programme  
(1982 to 1985) in the raw materials sector

Rapporteur: Mr F. PETRONIO



By letter of 17 January 1983, the Council of the European Communities requested the European Parliament to deliver an opinion on the proposal from the Commission of the European Communities for a Council decision (EEC) amending Decision 82/402/EEC adopting a research and development programme (1982 to 1985) in the raw materials sector.

On 7 February 1983, the President of the European Parliament referred this proposal to the Committee on Energy and Research as the committee responsible and to the Committee on Budgets for an opinion.

At its meeting of 19 January 1983, the Committee on Energy and Research appointed Mr PETRONIO rapporteur.

The committee considered the Commission's proposal and the draft report at its meetings of 24 February 1983, 23 March 1983, 21 April 1983 and 28 April 1983.

At the last meeting, it adopted the draft report and recommended that Parliament should approve the Commission's proposal with the following amendment.

The Commission notified the committee that it was prepared to accept the amendment.

The committee then adopted unanimously with one abstention the motion for a resolution as a whole and the explanatory statement.

The following took part in the vote: Mr Seligman, acting chairman; Mrs Walz, chairman; Mr Petronio, rapporteur; Mr Adam, Mr Gauthier, Mr Markopoulos, Mrs Phlix, Mr Purvis, Mr Rinsche, Mr Rogalla, Mr Sälzer, Mr Sassano and Mrs Viehoff (deputizing for Mrs Théobald-Paoli).

The opinion of the Committee on Budgets is attached.

The report was submitted on 3 May 1983.

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The Committee on Energy and Research hereby submits to the European Parliament the following amendment to the Commission's proposal and motion for a resolution together with explanatory statement:

- I. Proposal from the Commission to the Council for a Council decision (EEC) amending Decision 82/402/EEC adopting a research and development programme (1982 to 1985) in the raw materials sector

Amendment tabled by the Committee  
on Energy and Research

Text proposed by the Commission

Preamble and recitals unchanged

Amendment No. 1

Sole Article

Paragraph 2

Article 2(1) is replaced by the following text:

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'The amount estimated as necessary to implement the programme is 54 million ECU, including expenditure relating to a staff of 19 employees.

'The amount estimated as necessary to implement the programme is 54 million ECU, including expenditure relating to a staff of 19 employees. The amount shall be entered in the general budget of the European Communities.

These figures are intended only as a guide. The annual appropriations shall be fixed within the framework of the budgetary procedure.

The indicative distribution of this amount by sub-programme is shown in Section A of the Annex.'

The indicative distribution of this amount by sub-programme is shown in Section A of the Annex.'

Rest of the sole Article unchanged

MOTION FOR A RESOLUTION

closing the procedure for consultation of the European Parliament on the proposal from the Commission of the European Communities to the Council for a decision amending Decision 82/402/EEC adopting a research and development programme (1982 to 1985) in the raw materials sector

The European Parliament,

- having regard to the proposal from the Commission to the Council (COM(82) 806 final)<sup>1</sup>,
- having been consulted by the Council pursuant to Article 235 of the EEC Treaty and Article 7 of the EAEC Treaty (Doc. 1-1167/82),
- having regard to the favourable opinion of the Scientific and Technical Committee,
- having regard to the report of the Committee on Energy and Research and the opinion of the Committee on Budgets (Doc. 1-272/83),
- having regard to its previous reports on the proposals from the Commission of the European Communities relating to:
  - (a) a programme of research and development for the European Atomic Energy Community on uranium exploration and uranium extraction (indirect action 1978-1980) - Veronesi report (Doc. 409/77),
  - (b) a second programme of research and development for the European Atomic Energy Community in the field of uranium exploration and extraction (indirect action 1981-1984) - Ippolito report (Doc. 1-949/80),
  - (c) a research and development programme (1982 to 1985) in the raw materials sector - Croux report (Doc. 1-744/81),
- having regard to the result of the votes on the Commission's proposal,

<sup>1</sup> OJ No. C 341, 29.12.1982, p. 8

- A. whereas it is essential to restructure and concentrate the Community research and development programmes,
- B. whereas
- the Community should aim to become self-sufficient in every form of energy-producing material,
  - the locating, extraction and storage of uranium constitute a source of wealth to the Community, irrespective of whether it is immediately utilized or not,
1. Notes that the research projects put forward in the second stage of the programme of research and development on uranium exploration and extraction adopted by the Council on 6 March 1978 and amended, also by the Council, on 28 April 1981, have not yet been completed;
  2. Recognizes that, pursuant to Article 7 of the Treaty establishing the European Atomic Energy Community, no Community research and training programme may exceed 5 years and that the programme on uranium exploration and extraction which was started on 1 January 1978 ended on 31 December 1982 and cannot be extended;
  3. Takes the view that positive results have been obtained in some research sectors of the above-mentioned programme but that, as a whole, despite the financial resources allocated, not all objectives have yet been attained;
  4. Despite adequate uranium supplies at present, considers that research and development of extraction techniques should be continued in view of
    - (a) the long lead times involved
    - (b) the prospects of finding other rare metals of benefit to Community industries;
  5. Calls for intensified action in research and development in the field of uranium extraction, in particular where deposits have already been discovered;

6. Agrees to complete the activities on radiometry and measuring techniques within the raw materials programme; these activities should not exceed the limit of 0.5 million ECU;
7. Points out in this connection that it is advisable to develop and improve constantly, but within reason, the instruments of and techniques for uranium exploration;
8. Declares, therefore, that it is in favour of integrating these specific research and development activities connected with uranium exploration into the research and development programme (1982 to 1985) in the raw materials sector;
9. Instructs its President to forward to the Commission and the Council, as Parliament's opinion, the Commission's proposal as voted by Parliament and the corresponding resolution.



EXPLANATORY STATEMENTI - Introduction

1. The Council decision on the programme of research and development in the field of uranium exploration and extraction was adopted on 28 April 1981. The invitation to present proposals published on 9 May 1981 fixed the time-limit for submission of research projects at 15 July 1981. The relevant Advisory Committee on Programme Management met on 17 September to select the projects submitted. As a result of the sometimes difficult negotiations, most of the 2-year contracts were not signed until 1982 (17 contracts out of 31).
2. Various projects have already produced positive results or seem likely to produce satisfactory results although not always resulting in a patent. For example:

(a) uranium exploration

- improved method of geochemical prospecting to be used especially in granitic areas. Its use has led to the discovery of an economically important uranium deposit (Contract 003-78 EXU France);
- a drill capable of determining the uranium content in situ has been developed and is operational (at present its general use in exploration campaigns has encountered some difficulties in view of the situation at the site of exploration itself) (Contract 004-79 EXU United Kingdom);
- development of an ICP (Inductively Coupled Plasma) mass spectrometer for rapidly calculating the isotope ratios and for multi-element analyses. Some negotiations have been started with a view to industrial production (Contract 012-79 United Kingdom);

- use of remote sensors in uranium exploration (improvement in data processing and correlation of geological, geochemical and geophysical data). Very good results have been obtained in the case of a study in Greenland where it has been possible to produce evidence of important geological structures (Contract 016-79 EXU Denmark).

(b) extraction

- study of acid leaching under pressure: application to refractory ores - subsidiary recovery of uranium from industrial waste;
- laboratory studies and small pilot plants have yielded good results as well as the basic data to plan a pilot stage in the industrial sector as the logical extension, but the present economic situation has forced this to be postponed. The application of this high-pressure technique to lean ores has interesting potential for barren regions or regions which are far from the centres of industrial production of sulphuric acid (transport problem) (Contract 024-79 EXU France);
- a process has been formulated for the recovery of uranium from phosphoric acid to be used in small-scale industries (patent applied for). A pilot stage will be necessary to examine its large-scale use and to study other technical problems. In view of the present situation on the uranium market this study has not been continued (Contract 006-79 EXU Italy).

For the projects which have been completed, one patent has been applied for; however, six inventions have been forecast. Some current projects have produced preliminary results.

## II - Information

3. The presence of uranium in bore-holes may be detected by means of a drill emitting fission neutrons. The results thus obtained and combined with gamma logs can provide information on the radioactive balance of the mineralization. This is very important in order to understand the transport and alteration phenomena in uranium.
4. The gamma rays emitted by the decay products of radioactive elements can easily be identified. However, without proper calibration of the measuring instruments, the quantification of the signals recorded in relation to the concentration of the elements poses a serious problem.

## III - Conclusions

5. According to the latest report on the activities of the Nuclear Energy Agency submitted by the Organization for Economic Cooperation and Development (in 1982), the short-term demand for uranium (1982-1990) depends on the number of reactors already in operation or under construction. In 1981 there were 250 nuclear reactors in operation in the world in 22 countries. In the territory of the OECD there were 205 in operation.  
At world level (apart from countries with centralized economies) the forecast is that demand will increase from 30,000 tonnes (1980) to 53,000/65,000 tonnes per annum in 1990. At Community level it is predicted that demand will rise from 11,400 tonnes (1980) to more than 20,000 tonnes in 1990.
6. At present uranium production exceeds demand. This situation might continue until the end of the decade. On the other hand, within the Nuclear Energy Agency the working group on uranium extraction considers that for the moment the standard techniques for the extraction of uranium face several minor problems.

7. The extraction of uranium from sources with a low uranium content, especially from granitic rocks or sea water, is hindered by the huge costs of this technique. Recent studies indicate that, for example, the recovery of uranium from sea water costs from 500 to 1,000 US dollars per kilogramme of uranium, whilst the current price is approximately 20 US dollars per kilogramme.
8. Although there has been a fall in the uranium exploration sector since 1979, activity is continuing in this sector at a sufficiently intensive level to supply the short-term resources necessary (1990). To keep the Community industry competitive and to take measures to support the Community activities laid down in Article 70 of the EAEC Treaty, it is necessary, despite the present slump in the prices of ore concentrate and in order to guarantee short, medium and long-term supplies in the best conditions, to urge that the specific research and development activities in the exploration sector be encouraged.
9. In view of the financial resources available, concentration on more sophisticated measuring techniques for uranium and its decay products is not only proposed but is necessary in order to detect deep deposits. For example: radiometric measurements, diagraphy, calibration of instruments and diversification of resources.
10. It is important to stress that radiometric samples do not merely supply information on uranium and thorium mineralization but also on associated metals such as copper, molybdenum, vanadium, etc. The improvement of radiometric techniques is therefore advantageous to the raw materials programme, particularly the 'Metals and Mineral Substances' sub-programme, and is fully compatible with its objectives.

Sources

- URANIUM-Resources, Production and Demand. OECD-NEA-IAEA, Paris, Feb. 1982.
- FAST, Atti delle XIV giornate dell'Energia nucleare.
- Training seminar on nuclear analytical technology in mineral exploration, organized by the IAEA (Ottawa, Canada, July 1982).
- EEC - Uranium exploration and extraction R and D Programme 1978 - 1982.
- L'énergie nucléaire et son cycle du combustible, OECD-NEA, Paris 1982.
- SYNCHRON, AGIP journal, speech by Prof. Ippolito.
- OECD, Symposium parlementaire sur l'énergie, Paris, April 1982.
- U. COLOMBO, Sicurezza del rifornimento energetico, "Energia e materie prime".
- L: BRIERLEY, "La microbiologia nell'estrazione mineraria", Le Scienze, a journal edited by F. Ippolito, Milan, October 1982.



OPINION OF THE COMMITTEE ON BUDGETS

Letter from the chairman to Mrs WALZ, chairman of the Committee on Energy and Research

Dear Mrs Walz,

The Committee on Budgets was asked for an opinion on the proposal from the Commission to the Council (Doc. 1-1167/82) for a decision amending Decision 82/402/EEC adopting a research and development programme (1982 to 1985) in the raw materials sector.

In the light of the interinstitutional agreement of 30 June 1982 and in order to dispel any doubts about the need to respect Parliament's budgetary powers, the committee recommends that the Committee on Energy and Research should table the following amendment to paragraph 2 of the sole Article concerning Article 2(1) of Decision 82/402/EEC:

'The amount estimated as necessary to implement the programme is 54 million ECU, including expenditure relating to a staff of 19 employees. These figures are intended only as a guide. The annual appropriations shall be fixed within the framework of the budgetary procedure. The indicative distribution of this amount by sub-programme is shown in Section A of the Annex.'

Yours sincerely,

(sgd) Erwin LANGE

21 April 1983

The following took part in the vote: Mr Lange, chairman; Mr Notenboom and Mrs Barbarella, vice-chairmen; Mr Ansquer, Mr Arndt, Mr Brok (deputizing for Mr Adonnino), Mr Gouthier, Mr R. Jackson, Mr Kellett-Bowman, Mr Lalumière, Mr Langes, Mr Lega, Mr Orlandi, Mr Protopapadakis, Mr Saby, Mr K. Schön and Mrs Scrivener.

