

COMMISSION OF THE EUROPEAN COMMUNITIES

COM(82) 785 final

Brussels, 1 December 1982

MEMORANDUM

concerning a supplementary coal research programme with a
view to granting aid under the terms of Art. 55 § 2c) of the
ECSC Treaty

(Budgetary year 1982)

(submitted to the Council by the Commission)

COM(82) 785 final

MEMORANDUMCONCERNING A SUPPLEMENTARY COAL RESEARCH PROGRAMME WITH A VIEW
TO GRANTING AID UNDER THE TERMS OF ART. 55 § 2c) OF THE ECSC TREATY

(Budgetary year 1982)

I. INTRODUCTION

The supplementary coal research programme for 1982 comprises 14 projects; 7 form complements to certain projects that had been included in the first train of research for 1982 (the subject of two Memoranda^{*}, XVII/17/82 and XVII/18/82) and that were reduced financially and technically for reasons of budgetary availability at that time. The remaining 7 projects have been selected from the proposals submitted to the Commission in 1981 for the budgetary year 1982, some of them having been brought up to date.

Of the 14 projects or part-projects chosen, 8 are concerned with mining engineering, 1 with coal preparation and 5 with coal upgrading. This choice was made after a detailed examination by the Commission's services, in collaboration with the Coal Research Committee whose members were consulted on the selection.

* Doc. COM(82)96 final

The selection of these 14 projects for ECSC financial aid takes account of the Medium-term guidelines for Technical Coal Research (1981-1985) on the one hand and, on the other hand, fits in perfectly with the Rôle for Coal in Community Energy Strategy* and the conclusions of the latter document.

Moreover, with regard to mining engineering, the 8 projects correspond to the aims relating to production and productivity in the Community's coal mines and to the requirements for safety and working conditions underground; they are concerned principally with technological progress related to improving the management of operations by the application of modern techniques.

The project ^{on} coal preparation relates to improvements in the drying of coal fines in relation to the increased production of fines resulting from the application of increasingly powerful winning machines.

The 5 projects on coal upgrading deal with the improvement of combustion and carbonization and the study of methods for manufacturing chemical products from coal.

The 14 research projects in question will be carried out by the following institutions and undertakings :

- National Coal Board, London (NCB)
- Steinkohlenbergbauverein, Essen (StBV)
- Centre d'Etudes et Recherches des Charbonnages de France, Paris
(CERCHAR)
- Institut National des Industries Extractives, Liège (INIEK)
- Centro Sperimentale Metallurgico, Rome (CSM)
- University of Newcastle-on-Tyne

* Doc COM(82) 31 final

II. RESEARCH PROJECTS

1. Actuated boring II

Complement to a project aimed at improving actuated cutting tools of various types and sizes. The project had been subjected to financial and technical cuts.

Proposer : StBV

Total cost : DM 1 800 000, of which DM 446 000 contracted

Aid : 60% of DM 354 000 = 90 300 ECU

2. Automated management of methane drainage

Complement to a project on automated management of methane drainage by micro-processors in order to supply users with a gas of the desired quality punctually and in sufficient quantity. The project had been subjected to financial and technical cuts.

Proposer : INIEX

Total cost : FB 15 000 000, of which 9 320 000 contracted

Aid : 60% of FB 5 680 000 = 74 700 ECU

3. Shield support - simpler, lighter, more effective

This is a supplement to a project aimed at complementary developments to work already undertaken towards the reduction of the weight of shield supports

Proposer : StBV

Total cost : DM 1 090 000

Aid : 60% of DM 1 090 000 = 278 000 ECU

4. Utilization of high voltage (5kV) on coal faces

The project is aimed at specifying the supply voltage for high-powered coal winning and clearing machines and at developing electrical equipemnt adapted to the network voltage.

Proposer : CERCHAR

Total cost : FF 2 500 000

Aid : 60% of FF 2 500 000 = 225 900 ECU

5. Underground use of power semi-conductor devices to control AC motors

Replacement of problematic hydrostatic drive by electronic control of AC motors using new semi-conductors.

Proposer : NCB

Total cost : UK£ 395 000

Aid : 60% of UK£ 395 000 = 432 000 ECU

6. Improvement of conveying and transport techniques II

Complement to a project aimed at achieving further optimization and increased throughput of underground conveying, material transport and transfer equipment

Proposer : StBV

Total cost : DM 2 800 000, of which DM 2 309 000 contracted

Aid : 65% of DM 491 000 = 125 400 ECU

(This project was subjected to financial and technical reductions)

7. Improvement of operating results through reliable knowledge of seam properties

Continuation of work begun under the project " Prediction of rock properties of importance in mining" on the improvement of the reconnaissance of seams through qualified knowledge of their properties, particularly weak zones in rock formations, and stability of workings in relation to rock type and temperature.

Proposer : StBV

Total cost : DM 1 100 000

Aid : 60% of DM 1 100 000 = 280 500 ECU

8. Utilization of localised microinformation for the development of high-performance equipment designed to improve production and safety

Improvement of the performance of existing equipment by the use of localised microcomputation with particular application to the automatic control of a group of conveyors.

Proposer : CERCHAR

Total cost : FF 1 600 000

Aid : 60% of FF 1 600 000 = 144 600 ECU

9. Improved dewatering of small coal and fines

Complement to a project aimed at improving the dewatering of fine material to obtain products with the desired moisture content without resorting to costly thermal drying.

Proposer : StBV

Total cost : DM 1 200 000, of which DM 843 000 contracted

Aid : 60% of DM 375 000 = 91 200 ECU

(Project originally subject to financial and technical reduction)

10. Fundamental studies of the formation, structure and reactivity of metallurgical cokes as related to blast furnace operation

Study of the structure and mechanism of formation of cokes and correlation of microstructure with coke strength and reactivity. The overall aim of the research is to gain improved understanding of the carbonization process as an aid to optimizing the choice of raw materials for coke manufacture.

Proposer : University of Newcastle

Total cost : UK£ 153 409

Aid : 60% of UK£ 153 409 = 167 700 ECU

11. The influence of intensified charging gas removal on tar separation

Improvement of by-product treatment and tar quality by studying means of combating the increase in the coal dust content of tar, brought about by the use of higher rates of suction during coke oven charging to reduce atmospheric pollution.

Proposer : StBV

Total cost : DM 1 500 000

Aid : 60% of DM 1 500 000 = 382 500 ECU

12. Preparation and injection into the blast furnace of coal-water mixtures

Complement to a project aimed at investigating the possibility of replacing fuel oil injection into blast-furnace tuyères by injection of mixtures of water and coal.

Proposer : CSM

Total cost : LIT 1 130 000 000, of which LIT 870 000 000 contracted

Aid : 60% of LIT 260 000 000 = 117 900 ECU

(This project was subjected to financial and technical reductions)

13. Improvement of coal transport methods

Complement to a project on the improvement of the acceptability of coal for industrial use, particularly for combustion equipment below 30 MW (thermal) capacity, by developing new and improved methods of coal delivery and improved reception facilities. Emphasis will be placed on automation, convenience and environmental acceptability. This project was subjected to financial and technical reductions.

Proposer : NCB

Total cost : UK £ 637 000, of which UK £ 398 600 contracted

Aid : 60% of UK£ 238 400 = 260 400 ECU

14. Synthesis of chemical feedstocks and intermediates

Complement to a project aimed at establishing technically feasible methods for manufacturing certain important organic chemicals (starting materials for plastics, resins, synthetic rubber and textiles) from coal via synthesis gas and methanol instead of from naphtha and natural gas. The project was subjected to financial and technical reductions.

Proposer : NCB

Total cost : UK£ 680 000, of which UK£ 421 000 contracted

Aid : 60% of UK£ 259 000 = 282 000 ECU

A summary list is annexed. The rates of conversion of national currencies into ECU are those of 30 ^{September} November 1982. The duration of the projects is not more than 4 years.

III. RESEARCH RESULTS

The E.C.S.C. Expert's Committee which are already concerned with all research work in these fields will also supervise and keep under review the execution of research work that forms the subject of the requests.

The agreements to be concluded with the beneficiaries of the aid will define the rights and obligations of the contracting parties. They will be designed primarily to ensure that the research results will be made available to all concerned in the Community, in accordance with Art. 55 of the E.C.S.C. Treaty.

IV. CONCLUSIONS

In view of the importance and interest of the 14 research projects envisaged, the granting of financial aid by the ECSC for the realisation of the work is judged to be appropriate and justified.

The total cost of the projects is 4 923 300 ECU and the Commission proposes to grant aid totalling 2 954 000 ECU to cover a part of the research costs; 46 000 ECU are earmarked for the cost of dissemination of results and associated charges. This brings the total financial commitment for the research to 3 000 000 ECU.

LIST OF PROJECTS

ANNEXE

No.	Project title	Beneficiary, total cost		Financial aid	
		Proposer	Cost (ECU)	%	Aid (ECU)
1.	Actuated boring II *)	StBV	150 500	60	90 300
2.	Automated management of methane drainage *)	INIEX	124 500	60	74 700
3.	Shield support-simpler, lighter, more effective	StBV	463 300	60	278 000
4.	Utilization of high voltage (5 kV) on coal faces	CERCHAR	376 500	60	225 900
5.	Underground use of power semi-conductor devices to control AC motors	NCB	720 000	60	432 000
6.	Improvement of conveying and transport techniques II *)	StBV	209 000	60	125 400
7.	Improvement of operation results through reliable knowledge of seam properties	StBV	476 500	60	280 500
8.	Utilization of localised microinformation for the development of high-performance equipment	CERCHAR	241 000	60	144 600
9.	Improved dewatering small coal and fines *)	StBV	152 000	60	97 200
10.	Fundamental studies of the formation, structure and reactivity of metallurgical cokes	Univ. N'castle	279 500	60	167 700
11.	The influence of intensified charging gas removal on tar separation	StBV	637 500	60	382 500
12.	Preparation and injection of coal-water mixtures *)	CSM	196 500	60	117 900
13.	Improvement of coal transport methods *)	NCB	434 000	60	260 400
14.	Synthesis of chemical feedstocks and intermediates *)	NCB	471 500	60	282 900
	Dissemination of results		46 000	100	46 000
	TOTAL		4 969 300		3 000 000

*) Complements to projects selected for the 1st. train of research 1982