

EUROPEAN HYBRID SPECTROMETER (EHS)

Minutes of the Fifth Meeting of the Construction Committee (CC)
on 1st February 1977

Present: H. Desportes, P. Falk-Vairant, D. Güsewell, A. Minten (Chairman),
L. Montanet, R. Newport, F. Schmeissner, H.-O. Wüster

I. APPROVAL OF THE MINUTES OF THE FOURTH MEETING

The Minutes of the fourth meeting of CC are approved after an amendment in section 4.8 of page 4, where "contingencies" should be read as "contingencies on these items".

II. SITUATION OF EHS BUDGET

P. Falk-Vairant and H.-O. Wüster report on the decisions of the CERN Directorate concerning the availability of CERN funds for EHS, Part A. Including a contribution of 1.5 MSF from Spain, CERN will consider the sum of the cost estimates presented at CC4 (total of 9.35 MSF, as established on 15th November, 1976; 2.8 for the RL share, 2.5 for the Saclay share and 4.05 for the CERN share) as an absolute ceiling, for which no revision will be admitted apart from adjustments due to varying exchange rates and price indices. The increase in the last cost estimate is interpreted as a result of more detailed studies with the consequences that contingencies foreseen in earlier estimates had been used up.

The three laboratories to which CERN funds will be allocated must manage their work in such a way that at least the basic specifications for EHS, Part A, are met within the now definitively fixed financial framework. Additional funds for estimate errors, technical problems or modifications and changing market situations will not be made available. Each laboratory must itself cover the budgetary risks of its proper share in the project. On the other hand, the CERN Directorate agrees that the expenses for the EHS infrastructure are borne by SPS Division in the same way as for other projects, and that these expenses will not be counted on the EHS budget.

P. Falk-Vairant reminds that CERN is now obliged to spend more money on Part A of EHS than was originally envisaged; however, it expects that the equipment for Part B and C will entirely be provided by the external groups participating in experiments with EHS.

III. REVIEW OF TIMETABLE AND PROCEDURE

The timetable given at CC4 establishing the official agreements between the collaborating laboratories is confirmed. As soon as official offers are received from CEA and RL, EF Division will request the Project Authorization for EHS, Part A, and prepare the necessary papers for the Finance Committee of 28 April, 1977. Probably before the end of March, CERN will send letters to the 4 collaborating laboratories confirming its participation in and its contributions to EHS under the condition that the Finance Committee will approve the proposed commitments. The approval can then be notified by telex before 1st May 1977, thus making the agreements or contracts effective.

IV. DISCUSSION ON DRAFT OFFERS FROM CEA AND RL

H.-O. Wüster apologizes in his introductory remarks for some ambiguities in the invitation to tender sent by the CERN Supply Services to CEA and RL. CERN will in particular not insist that contracts are based on Swiss Francs; they can also be in French Francs or £ Sterling.

4.1 H. Desportes confirms that CEA will reply to the CERN letter by an offer being widely identical to the terms quoted at CC4. The cost to CERN of the Saclay share will be 2.43 MSF. The CEA will probably give preference to a price in French Francs and price revision based on French indices. CEA considers the risk of costs for M1 higher than estimated as limited and is willing to bear this risk by its own.

As the procurement of the conductor determines the critical path in the construction of M1 and as it can only be ordered after the CEA/CERN contract has been concluded, the delivery of the two M1 coils will be delayed by 2 months with respect to dates given earlier: arrival at CERN of the first coil in February 1979, arrival of the second coil in May 1979.

4.2 R. Newport reports on the negative reaction of the RL Directorate to the formal invitation to tender. This also is the subject of a letter addressed by J. Valentine, senior administrator of RL, to H.-O. Wüster. As the RL contribution to RCBC, in particular cost of staff and some specific developments, is probably higher than the material cost covered by CERN, RL insists in officializing this collaboration in terms of an "agreement" and not of a "contract".

RL will therefore not submit a formal tender to the CERN Supply Services, but will give the required information on price, price revision and time schedule in an official letter, confirming the RL/CERN collaboration on RCBC. J. Thresher and J. Valentine will be at CERN on 21st February, 1977 for discussion with the CERN Directorate.

R. Newport then reviews the key elements of the RL offer. The price will invariably be based on the cost estimate made on 15 November, 1976 in £ (equivalent to 2.8 MSF at a £/SF = 4:1 exchange

rate). As for the time schedule, a more detailed study, taking into account the different tests on RCBC before shipment and the delayed conclusion of an official RL/CERN agreement, revealed that the main components of RCBC would not be ready for shipment to CERN before end of July 1979, that is approximately 5 months later than indicated in the preceding time schedule.

Several members of CC expressed their concern about this late arrival of RCBC, making impossible to start physics with EHS early 1980. RL is asked to give high priority to the constitution of the construction team for RCBC. R. Newport hopes that RCBC will be transported to CERN in a state of advanced assembly permitting straightforward installation and shortening the preparations for the first cool-down.

4.3 A controversy arises on the statement of R. Newport that the RL cost estimate includes no contingency, but that in his opinion a complex apparatus of the type of RCBC would require at least a 15% contingency which cannot be covered by RL.

P. Falk-Vairant excludes again the idea that CERN would cover such contingencies beyond the ceiling figure fixed for Part A of EHS.

D. Güsewell proposes to create a contingency fund within the ceiling limit by identifying on the list of items used for the present cost estimates those items which are not essential, at a first stage, for the physics requirements of Part A of EHS, or which can be recovered from installations already shut-down. This proposal is accepted and the meeting interrupted in order to allow the experts to prepare a reduced budget complemented by a contingency fund.

At the resumption of the meeting, the following distribution of the CERN funds for EHS, Part A, is proposed (in MSF):

	RL share	CEA share	CERN share	Total
Basic programme	2.6	2.43	3.45	8.48
Optional items retained for covering of contingencies	0.4	0.07	0.4	0.87
Ceiling	3.0	2.5	3.85	9.35

The programme of RL is reduced from 2.8 to 2.6 MSF by suppressing provisionally some spare parts and instruments (1 main window, 10 cassettes, 2 pilot valves, 1 oscilloscope, 1 chart recorder).

The CERN share of the EHS budget is reduced from 4.05 to 3.45 MSF by eliminating items which can be obtained from SPS Division as assistance to experiments (battery backed power supply for computers and alarms; power supply for M2) and by identifying optional items (stainless steel buffer volume for deuterium; instrumentation

for RCBC and M1; computer terminals). In this way, for RL and CERN contingencies of up to 0.4 MSF can be covered within the established ceiling amount, which will be 3.0 MSF for RL and 3.85 MSF for CERN. In addition, CEA will contribute 0.07 MSF to the contingency fund.

The CC accepts the proposed budget distribution. The total contingency fund of 0.87 MSF will be managed by the CC and made available if clear evidence of uncompensated extra cost is given by the laboratory concerned. On the request of P. Falk-Vairant it is decided not to use the fund before 1978.

V. PROGRESS IN DESIGN OF M1 AND BEBC

At Saclay, a draft specification for the M1 conductor was prepared and is ready for discussion with CERN. It is hoped to receive offers for this conductor in mid April so that the order can be placed immediately after signature of the CEA/CERN contract.

At RL, in particular the study of the lenses and the RCBC cooling system was advanced.

VI. SPECIFICATIONS FOR THE DRIFT CHAMBERS

The modifications as requested in CC4 have been incorporated by G. Neuhofer (CERN/EF/EHS-CC/76-18 and 76-19). He was however unable to present a more favourable time-scale for the NIKHEF chambers, since their construction is dependent on the completion of a building.

VII. NEXT MEETINGS

In addition to CC6, a date is fixed for CC7:

CC6: Tuesday, March 15, 1977 at 9.30 a.m.
CC7: Tuesday, May 3, 1977 at 9.30 a.m.

D. Güsewell