

## FINANCIAL STATEMENT FOR RCBC

### 1. INTRODUCTION

The Agreement No. 590'17A N/EF between CERN and the Rutherford Laboratory defines the financial procedures to be followed in calculating the sum of money to be paid by CERN, to Rutherford Lab., for the Rapid Cycling Bubble Chamber.

Amendments 1 and 2 to the above agreement modify the total sum available by transferring responsibility for some items back to CERN personnel.

Invoices have been submitted to CERN by the Rutherford Lab. Accounts Department on approximately a quarterly basis.

This statement presents the official inflation indices and the correction factor calculated from them using the agreed formula, the commitment of the Rutherford Lab. part of the project on a quarterly basis and the inflation corrected remaining funds, and a summary of the "quarterly" accounts submitted by Rutherford Lab.

### 2. COMMITMENT

The commitment of funds for those contracts made with firm prices (i.e. no price variation) is shown in Table 1 on a quarterly basis throughout the duration of the project.

For those contracts placed for a fixed price (i.e. with price variation) the sums are debited from the available funds for the quarter in which they were delivered.

### 3. INFLATION INDICES

The agreed inflation indices are:

- 3.1. The index for materials and fuels purchased by Mechanical Engineering Industries (Order VII excluding MLH 342) published regularly in Trade and Industry until 1979 when it was transferred to British Business. Also during the course of the contract in 1978 the reference base was changed from 100 in 1970 to 100 in 1975. In Table 2 the values of the index are shown corrected to reference base 1975 equal to 100.
- 3.2. The index of average earnings for all Manufacturing Industries are published monthly in Employment Gazette. The values being used are those which have been seasonally adjusted. The reference base is January 1976 = 100.
- 3.3. The indices are valid for the end of each months so to generate the values for 15 February 1977 the averages for January and February 1977 have been used.

The values of the indices are shown in Table 2 with the quarterly values for the correction factor. These values for the correction factors are also shown in Table 1.

The correction factor is calculated from the formula:

$$P = P_o (0.15 + 0.35M/M_o + 0.5L/L_o)$$

Contained in the Agreement, where:

P is the revised value of the budget

P<sub>o</sub> is the original value of the budget

M is the index for Mechanical Engineering Materials

M<sub>o</sub> is the value of the above index at 15 February 1977

L is the index of labour costs for all manufacturing industries

L<sub>o</sub> is the value of the above index at 15 February 1977.

The initial sum available to the Rutherford Lab. has been corrected to take account of the sum of £ 129,250.- transferred to the responsibility of CERN by amendments 1 and 2 to the Agreement and further enhanced by a sum equivalent to 12% from the contingency making a total of £ 145,000 so that the sum available for commitment and spend by the Rutherford Lab. becomes £ 670,000.- + 15% (contingency) - £ 145,000, i.e. £ 625,000. (The full use of the contingency was recommended by the Construction Committee at its meeting on 16 March 1981 and later agreed by the Steering Committee).

4.

To correct the available funds for inflation the sum not committed on firm price items and spent on fixed price items at the end of each quarter is then corrected for inflation during the next quarter by multiplying it by the correction factor for that quarter before deducting the new commitments and expenditure for that quarter.

- 4.1. Correction for additional expenditure on the iron structure. Because a requirement anticipated for the benefit of another experiment was requested, a further £ 9,500.- was requested and agreed. This has been added to the available funds at the time of commitment of the funds for the iron structure.

5.

As can be seen in column 6 of Table 1 the available funds were reduced to zero during the quarter ending October 1980, after the chamber had been delivered to CERN, and after which further commitments were made to correct commitments to fixed price contracts and to provide small items necessary during the final assembly, so that the available budget was exceeded. In his letter of 8 July 1981, I. Mannelli recommended to R.F. Heyn that Rutherford Lab. be allowed to charge up to a total of £ 25,000.- in excess of the ceiling calculated via the inflation indexing formula. From Table I this ceiling is £ 789,627 which makes the total sum available of £ 814,627.-.

6.

All invoices have been examined and corrected lists compiled to take account of items not eventually delivered or wrongly charged. The corrected value of the invoices rendered to 10.06.1981 is £ 767,728.-. So the value of any further invoices is limited to £ 46,899.- under the conditions discussed in Item 5. A final invoice will be sent to cover the following items:

Chamber Body = £ 38,429.-; Inflatable gasket = £ 7,500.-;  
Small Items = £ 700.- (estimate)

R.W. Newport

TABLE 1

COMMITMENT AND INFLATION CORRECTION  
FOR THE CEILING CALCULATION.

Quarter Funding	Quarterly Commitment	Cumulative Commitment	Fixed Price Costs	Available Funds		Inflation Correction Factor
				Before Quarterly	After Deduction	
(15.277	-	-	-	625,000	625,000	1.000)
1.5.77	-	-	-	632,500	632,500	1.012
1.8.77	-	-	-	643,125	643,125	1.029
1.11.77	7,858	7,858	-	669,500*	661,642	1.056
1.2.78	87,903	95,761	-	678,559	590,656	1.083
1.5.78	39,299	135,060	-	612,472	573,173	1.123
1.8.78	33,006	168,066	-	584,401	551,395	1.145
1.11.78	20,435	188,501	-	566,806	546,370	1.177
1.2.79	67,117	255,618	139,491 <sup>1</sup>	550,549	343,940	1.186
1.5.79	36,542	292,160	44,330 <sup>2</sup>	359,890	279,018	1.241
1.8.79	58,672	350,832	-	289,585	230,913	1.288
1.11.79	45,094	395,926	-	238,622	193,528	1.331
1.2.80	30,799	426,725	-	197,745	166,946	1.360
1.5.80	25,008	451,733	-	173,575	148,567	1.414
1.8.80	12,973	464,706	136,529 <sup>3</sup>	154,030	4,528	1.466
1.11.80	9,967	474,673	7,500 <sup>4</sup>	4,571	-12,896	1.480
1.2.81	4,733	479,406	-	-	-17,628	-
1.5.81	3,627	483,033	-	-	-21,256	-

Notes \* £9,500 added for the iron structure

<sup>1</sup> Iron Structure

<sup>2</sup> Main Chamber Window

<sup>3</sup> Chamber Body

<sup>4</sup> Inflatable Gasket

Ceiling: £464,706

£139,491

£ 44,330

£136,529

£ 4,571

£789,627

Table 2 Inflation Indices and Quarterly Correction Factors

<u>Date</u>	Materials Index M	Labour Index L	Correction Factor
January 1977	135.9	112.6	1.00
February	135.7	113.2	
March	137.8	114.3	
April	138.9	114.1	1.012
May	139.6	115.2	
June	139.7	115.3	
July	141.1	116.6	1.029
August	142.3	117.6	
September	142.4	119.0	
October	145.3	120.4	1.056
November	145.4	123.1	
December	145.7	123.8	
January 1978	147.1	125.3	1.083
February	147.7	126.8	
March	149.5	127.9	
April	151.6	131.8	1.123
May	152.5	131.7	
June	153.3	134.1	
July	154.3	135.1	1.145
August	156.0	135.8	
September	157.1	137.8	
October	158.5	140.0	1.177
November	159.5	139.8	
December	160.0	142.1	
January 1979	161.1	140.6	1.186
February	163.2	145.4	
March	164.4	149.9	
April	167.6	149.1	1.241
May	168.7	152.1	
June	169.7	157.4	
July	172.0	157.2	1.288
August	173.3	154.2	
September	-	154.1	
October	179.0	162.9	1.331
November	180.0	166.2	
December	180.3	169.5	
January 1980	183.0	167.1	1.360
February	185.5	169.7	
March	186.6	174.1	
April	188.5	176.2	1.414
May	188.4	178.8	
June	188.9	185.3	
July	189.9	187.0	1.466
August	190.9	188.7	
September	191.4	189.6	
October	191.8	189.1	1.480
November	192.3	191.5	
December	192.5	193.1	
January 1981	193.1	193.9	1.505
February	193.6	197.2	
March	(194.6)	(198.4)	
April	(196.4)	-	-