

NATIONAL INSTITUTE FOR RESEARCH IN NUCLEAR SCIENCEGENERAL PURPOSES COMMITTEEQuarterly General Financial Statement

- 1) Introduction Quarterly financial statements on the 7 GeV proton synchrotron capital project have been submitted regularly by the Project Committee. These do not cover other capital projects nor any recurrent expenditure. It is considered therefore that a comprehensive quarterly statement is also required.
- 2) Expenditure in 1958/59 The Institute's expenditure to date has been wholly disbursed by the A.E.A. Statements of this expenditure by the A.E.A. on behalf of the Institute for the first two quarters of 1958/59 are attached. (Appendices I and II). The statements are provisional, because the question of the inclusion in the overheads of interest charges on A.E.R.E. capital is still under discussion. A summary of the expenditure is given in Table I, including approximate figures for the third quarter, which have not yet been given officially, and a forecast for the whole year.

Table I Expenditure in 1958/59 £			
	7 GeV Proton Synchrotron Capital Project	Recurrent Direct	Expenditure AERE Expenditure
First Quarter (6)	142,380 (1)	2426 (2)	134,465 (3)
Second Quarter	306,157 (1)	2634 (2)	105,471 (3)
Third Quarter (provisional)	265,298	3500	153,738
Year 1958/59 (Forecast)	1,240,000 (4)	12,000 (5)	545,000 (5)
Approved Estimates 1958/59	2,415,000	360,000	
Predicted out-turn reported in Dec. 1958.		550,000	

Notes to Table I.

- (1) 1(b) plus 2(b) of the A.E.R.E. statements at Appendices I and II
- (2) 1(a) of the A.E.R.E. statements
- (3) 2(a) of the A.E.R.E. statements
- (4) Taken from N.I.(G.P.)(59) 2.
- (5) Obtained by assuming expenditure in the fourth quarter (12 weeks) equal to that in the third quarter (16 weeks).
- (6) The A.E.R.E. expenditure in the first quarter includes £46,114 representing interest on A.E.R.E. capital during 1957/8, not included in the statement for 1957/8 previously received (N.I. (GP)(53) 12).
3. Expenditure in 1959/60. Present proposals for expenditure in 1959/60 are tabulated in Table II, including some proposals which have arisen since the preparation of the 1959/60 estimate, and some which are being submitted to the Committee in paper N.I. (G.P.)(59)4~~5~~

TABLE II

Category and Items	Latest estimate of total cost	EXPENDITURE 1959/60	
		In Estimate	Latest forecast
<u>CAPITAL PROJECTS</u>			
a) <u>APPROVED</u>			
1. 7 GeV proton synchrotron.	1,757,773	3,440,000	3,235,000
2. Extension to P.L.A. building	16,000	Nil (Note 1)	16,000
b) <u>NOT YET APPROVED</u>			
1. Engineering and Physics Buildings	290,000	Nil (Note 2)	30,000 (Note 3)
2. Bubble chamber test house	25,000	18,000	4,500 (Note 4)
3. Bubble chamber plant building (Note 5)	55,000	Nil (Note 6)	20,000 (Note 3)
4. Telephone exchange	15,000	5,000	Nil
5. Modifications to Cosensers House	7,500 (Note 7)	2,000	7,500
6. Research reactors (Nominal)	-	Nominal sum on only	Nil
7. Bubble chamber etc. Projects at Universities (Note 8)	-	Nil (Note 6)	15,000 (Note 3)
c) <u>MINOR CAPITAL ITEMS AND PROVISION FOR REGULAR CAPITAL EXPENDITURE</u>			
1. Analysing magnet for P.L.A.	30,000	10,000	30,000
2. Beam handling and detecting plant for Proton synchrotron	2,000,000	100,000	100,000
3. Plant spares for proton synchrotron	200,000	10,000	10,000
4. Minor modifications to the P.L.A. and its building	-	8,000	8,000
5. Small capital items drawn from stores, made in workshops or bought.	-	55,000	55,000
6. Expenditure on small capital items under University agreements	-	Nil	10,000 (Note 3)
7. Minor works at the Rutherford Laboratory	-	Nil	10,000
TOTAL CAPITAL		3,648,000	3,601,000

Table II - continued

	EXPENDITURE 1959/60	
	In Estimate	Latest forecast
a) <u>DIRECT</u>		
1. Salaries	28,000	28,000
2. Normal travelling	5,000	5,000
3. Special foreign travel (for work on foreign accelerators)	5,000	5,000
4. University agreements	20,000	40,000(Notes 3 & 9)
5. General administration expenditure	4,900	4,900
6. Entertainment	100	100
7. Research in Industry	Nil	10,000(Notes 3 & 10)
b) SERVICES PROVIDED BY THE A.E.A.	930,000	930,000
c) LOANS FOR HOUSING	1,000	1,000
TOTAL RECURRENT	994,000	1,024,000

Notes to Table II.

1. The G.P.C. (1958 4th Meeting Action 3) approved this item, but did not increase the Estimate.
2. This was included in "forecast for future years" in the 1959/60 estimate, partly in the N.I.R.N.S. subhead and partly in an A.E.R.L. sub-head. It is now desired to advance the start of this project, if money is found to be available.
3. On all the items marked (Note 3), it is desired to start work in 1959/60 if money is found to be available by savings or delays elsewhere.
4. Now to be accommodated in an extension of the Experimental Area costing £4,500. This cost has been included in the latest 7 GeV proton synchrotron building estimate N.I.(GP)(59) 2.
5. The bubble chamber plant was formerly to be housed in the "bubble chamber test house". However, the plant has grown in size on account of design changes, and furthermore a second large bubble chamber project is now contemplated. (capital item (b) 7). More ambitious provision for plant for both chambers is therefore required - hence the new item for £55,000.
6. Requirement unknown when estimates were prepared.
7. Including furniture and linoleum £3,500.
8. E.g. the proposed U.C.L. heavy liquid chamber and the proposed Birmingham small hydrogen chamber.
9. The estimate of £20,000 related to University experimental work on the proton linear accelerator. New types of university work (a) on equipment such as bubble chambers for use with the proton synchrotron and (b) on Institute projects such as a study of production of meson beams are now included.
10. The £10,000 is a shot estimate of the cost of possible support for linear accelerator design study and development work.

A.E.R.E. HARWELL

STATEMENT OF EXPENDITURE BY U.K.A.E.A. ON BEHALF OF THE NATIONAL
INSTITUTE FOR RESEARCH IN NUCLEAR SCIENCE - FROM 1st APRIL 1953
TO 21st JUNE 1958.

	£	S.	D.
<u>1. DIRECT EXPENDITURE</u>			
(a) Recurrent	2,426		
(b) Capital - 7 GeV Proton Synchrotron			
Construction			
(i) Building Works Services	136,402		
(ii) Plant & Machinery	<u>6,362</u>	<u>142,764</u>	
TOTAL DIRECT EXPENDI-			
TURE		145,190	
<u>2. A.E.R.E. EXPENDITURE</u>			
(a) Recurrent			
(i) Research Design and Develop-	132,952		
ment			
(ii) Admin. Services to			
National Institute	<u>1,513</u>		
	134,465		
(b) Capital Construction Expen-			
diture for 7 GeV Proton			
Synchrotron			
(i) Building Works Services	116		
(ii) Plant and Machinery	<u>-1</u>		
TOTAL A.E.R.E. EXPENDITURE		<u>134,581</u>	
<u>GRAND TOTAL</u>		279,771	

DIRECT EXPENDITURE

Description	Amount £
(a) <u>Recurrent Expenditure</u>	
Salaries and Wages (incl. Superannuation & N.I.).	2,426
Travel and Subsistence etc.	
(b) <u>Capital Construction 7 GeV Proton Synchrotron</u>	
(i) <u>Building Works Services</u>	
Building 470	107,902
Arcon Type ancillary Building	<u>28,500</u>
	136,402
(ii) <u>Plant and Machinery</u>	
Injectors	<u>5,574</u>
Control system	<u>788</u>
	6,362
GRAND TOTAL	<u>145,190</u>

A.E.H.E. EXPENDITURE

Description	Amount £
(a) <u>Recurrent Expenditure</u>	
(i) 7 GeV Proton Synchrotron	
Accelerator Division	100,907
Engineering Division - Design	23,760
" " Maintenance	
" " and Operation	1,270
" " Estimates and	
" " Sanctions	274
Theoretical Physics Division	3,832
Admin. Services to Construction	
Supervision	<u>2,909</u>
	132,952
(ii) Admin. Services to National Institute	21,513
(b) <u>Capital Construction Expenditure</u>	
7 GeV Proton Synchrotron	
(i) Building Works Services	116
(ii) Plant and Machinery	<u>116</u>
	<u>134,581</u>

A.E.R.L. HARNELL

STATEMENT OF EXPENDITURE BY U.K.A.E.A. ON BEHALF OF
THE NATIONAL INSTITUTE FOR RESEARCH IN NUCLEAR SCIENCE
FROM 22nd JUNE 1958 TO 13th SEPTEMBER 1958

	£	s.	d.
1. <u>DIRECT EXPENDITURE</u>			
(a) Recurrent	2,633	11	8
(b) Capital - 7 GeV Proton Synchrotron Construction			
(i) Building Works Services	226,564.	4.	11.
(ii) Plant and Machinery	77,701.	16.	5.
	304,266	1	4
<u>TOTAL DIRECT EXPENDITURE</u>	<u>306,899</u>	<u>13</u>	<u>0</u>
2. <u>A.E.R.E. EXPENDITURE</u>			
(a) Recurrent			
(i) Research, Design & Development of 7 GeV Proton Synchrotron	103,122	10.	8
(ii) Admin. Services to National Institute	2,348	8.	4
	<u>105,470</u>	<u>19.</u>	<u>0</u>
(b) Capital Construction Expenditure for 7 GeV Proton Synchrotron			
(i) Building Works Services	276	19.	9
(ii) Plant and Machinery	<u>1,614</u>	<u>10.</u>	<u>7</u>
<u>TOTAL A.E.R.E. EXPENDITURE</u>	<u>107,362</u>	<u>9</u>	<u>4</u>
<u>GRAND TOTAL</u>	<u><u>414,262</u></u>	<u><u>2</u></u>	<u><u>4</u></u>

DIRECT EXPENDITURE

Description	Cash Booked to Vote Sub-Head	Increase in Creditors since 21/6/58	TOTAL
Col. 1	Col. 2	Col. 3	Col. 4 (Col. 2 + Col. 3)
	£	£ s. d.	£ s. d.
(a) <u>Recurrent Expenditure</u>			
Salaries & Wages (incl. Superannuation & National Insurance Travel and Subsistence etc.	2,503 0 0 130 11 8	- -	2,503 11 8
	2,633 11 8	-	2,633 11 8
(b) <u>Capital Construction 7 GeV Proton Synchrotron</u>			
(i) <u>Building Works Services</u>			
Exploratory Bore Holes	-	-	-
Magnet Testing Facilities	204,211 0 8	11,857 9 3	216,068 9 11
Building 470	9,992 15 0	503 0 0	10,495 15 0
Arcon Type ancillary Building	214,203 15 8	12,360 9 3	226,564 4 11
(ii) <u>Plant & Machinery</u>			
Supply of Magnet Sectors - Progress payments to J. Sankey	14,876 19 1	-	14,876 19 1
R.F. Drive Power, Valve Circuits - J.G. Meakes	65 0 4	-	65 0 4
Drive Chain, L.P. Amplifier - Mullard Ltd.	199 15 0	-	199 15 0
Pumping Units - Pumps, Controls & Support Frames - Edwards High Vacuum	61,718 0 0	-	61,718 0 0
C.R. Desk & Racks, Oscilloscopes - Livingstone Laboratories.	842 2 0	-	842 2 0
	77,701 16 5	-	77,701 16 5
<u>GRAND TOTALS</u>	294,539 3 9	12,360 9 3	306,899 13 0

A.E.R.E. EXPENDITURE

	Materials	Salaries & Wages	Miscellaneous	Extra Mural Research	Workshops & Design Office	General Engineering Services	Overheads including Interest on Capital	TOTAL
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
(a) <u>Recurrent Expenditure</u>								
(1) 7 GeV Proton Synchrotron Accel. Division	10,494 8, 11.	13,456 0. 0	422 2 5	-	5,002 13 4	1,085 15 3	36,751 14 4	67,212 14 3
Engineering Div.	12 7 0	9,991 0. 0	5,211 14 11	-	4,109 0 2	7 5 0	9,592 11 1	28,923 18 2
Design Div.								
Engineering Div.								
Maintenance & Operation	113 13 7	-	-	-	61 15 0	34 7 6	47 4 1	257 0 2
Theoretical Physics Division	-	1,366 0 0	-	-	-	-	2,585 17 0	3,951 17 0
Admin. Services to Construction Super-vision Teams.	34 8 7	1,333 0 0	2 4 1	-	4 15 0	1 12 0	1,401 1 5	2,777 1 1
Sub Total (2)(1)	10,654 18 1	26,146 0 0	5,636 1 5	-	9,178 3 6	1,128 3 6	20,378 7 11	103,122 10 8
(ii) Admin. Services to National Institute	-	-	-	-	-	-	-	-
Capital Construction Expenditure - 7 GeV Proton Synchrotron								
(1) Building works								
(ii) Services	233 2 2	-	-	-	-	Gr. 6 19 11	50 17 6	276 19 9
(ii) Plant and Machinery	86 11 5	-	-	-	1,231 8 3	-	296 10 11	1,614 10 7
TOTAL APPENDIX 2	10,974 11 8	26,146 0 0	5,734 2 11	-	10,409 11 9	1,121 19 10	52,586 3 2	107,362 9 4