

July 29th, 1960

GPC
NI/GP/60/30

NATIONAL INSTITUTE FOR RESEARCH IN NUCLEAR SCIENCE

GENERAL PURPOSES COMMITTEE

Nimrod Project Quarterly Statement No. 11

Covering Note by the Secretary

The enclosed statement is circulated for information.
If possible, the next statement (No. 12) will be circulated before
the next G.P.C. meeting on October 7th.

.....

NIMROD PROJECT

Quarterly Statement No. 11

1. This report shows in Appendix I the Nimrod Capital Estimate to 30th June, 1960 compared with the original estimate and the present Treasury approval.
2. The previous statement was to the 31st December, 1959; no statement was issued to the 31st March, since at that time the plant estimate was under review.
3. The Plant Estimate, excluding contingency, has been increased since the last statement by £0.868M from £5.798M to £6.666M. The Plant Estimate including contingency has been increased since the last statement by £1.637M from £5.798M to £7.435M. This increase is part of the increase awaiting Treasury approval.
4. The Building Estimate remains unchanged since the last statement, at £3.101M. including contingency.
5. Appendix II shows the actual and predicted rate of expenditure by years to the end of the Project.
6. Appendix III shows the expenditure and commitments up to 31st March, 1960, which is the end of the last financial year.
7. Appendix IV shows known and anticipated contract action from the 1st April, 1960, to the 30th September, 1960.
8. Appendix V shows the rate of expenditure and commitments in a graphical form.

F. A. Vick
Chairman, Project Committee

NIMROD PROJECTRevised Cost Estimates - 30th June, 1960

Item	£ Million		
	Original Estimate approved by Treasury	Present Treasury Approval	Revised Cost Estimates at 30.6.60.
1. <u>Magnet</u>	2.60	2.823	3.224
2. <u>Injector</u>	0.30	0.450	0.485
3. <u>R. F. Equipment</u>	0.15	0.150	0.164
4. <u>Vacuum Equipment</u>	0.40	0.905	1.249
5. <u>Power Supply</u>	1.30	1.320	1.394
6. <u>Controls</u>	0.15	0.150	0.150
<u>Cooling System</u>	0.10	-	-
<u>Contingency on above plant items.</u>	-	-	0.769
	<u>5.00</u>	<u>5.798</u>	<u>7.435*</u>
7. <u>Buildings</u>			
Main and Ancillary Building Works	1.40	1.888	1.888
Engineering and Services	0.40	.701	.701
Fees	0.10	.303	.303
Contingency on above Building items	-	.179	.179
Furniture and Fittings	-	.030	.030
	<u>1.90</u>	<u>3.101</u>	<u>3.101*</u>
<u>TOTAL</u>	<u>6.90</u>	<u>8.899</u>	<u>10.536</u>

* These figures do not include the estimated effect of the cost variation clauses (CVC.2).

Appendix II

NIMROD PROJECT

Actual and Predicted Rate of Expenditure as at 30.6.60.

Item	1957-8 Actual £	1958-9 Actual £	1959-60 Actual £	1960-61 Predicted £	1961-62 Predicted £	1962-63 Predicted £	1963-64 Predicted £	Total Predicted £
Plant	68,575	381,047	2,096,941	2,200,000	1,900,000	700,000	88,437	7,435,000
Buildings	265,187	858,578	958,416	500,000	500,000	18,584	-	3,101,000
Total	333,762	1,239,625	3,055,357	2,700,000	2,400,000	718,584	88,437	10,536,000

NIMROD PROJECTRecorded Commitments and Expenditure up to 31st March, 1960

Item	Commitment £	Expenditure £	Remarks
<u>Plant</u>			
<u>Magnet</u>			
Sectors	1,600,556	1,423,388	
Coils	516,520	-	
Pole Pieces	248,173	340	
Pole Face Windings	-	-	
Installation	11,941	11,231	
	2,377,190	1,434,959	
<u>Injector</u>			
D. C. Gun Supplies	37,228	25,489	
D. C. Gun	20,357	19,512	
Low Energy Drift Space	8,934	1,774	
Linear Accelerator	176,774	56,069	
R. F. Drive Power	37,743	30,320	
High Energy Drift Space	7,973	2,588	
Inflector	5,610	10	
Local Control System	4,306	3,543	
Miscellaneous Equipment and Installation	13,048	11,096	
	311,973	150,401	
<u>R. F. System</u>			
Accelerator Unit	71,948	51,789	
Bias Supply	3,599	3,544	
Drive Chain	2,757	2,757	
Primary Frequency Generator	4,085	2,900	
Beam Control Unit	17,136	6,610	
Local Controls	-	-	
Installation	-	-	
	99,525	67,600	
<u>Vacuum System</u>			
Curved Sections	236,359	158,204	
Straight Sections	-	-	
Pumping Units	178,884	112,454	
Connections	-	-	
Ancillaries	2,022	2,021	
Installation	207	-	
	417,472	272,679	
<u>Power Supplies</u>			
Rotating Machinery	536,195	299,897	
Converter Equipment	603,827	313,200	
Miscellaneous	516	516	
Ripple Filtering Equipment	-	-	
Installation	-	-	
	1,140,538	613,613	

Appendix III

Continued:- Recorded Commitments and Expenditure up to 31st March, 1960.

Item	Commitment £	Expenditure £	Remarks
<u>Control System</u>			
Control Equipment	7,984	2,561	
Control Cabling	1,175	819	
Remote Control Panels	1,176	1,176	
Components for Advance Ordering	3,200	2,750	
Installation	5	5	
	13,540	7,311	
<u>Plant - Grand Total</u>	<u>4,360,238</u>	<u>2,546,563</u>	
<u>Buildings</u>			
Architects Services	1,678,530	1,497,140	
M. and E. Services	661,434	458,506	
Fees	303,000	116,148	
Furniture	10,387	10,387	
<u>Buildings - Grand Total</u>	<u>2,653,351</u>	<u>2,082,181</u>	

Appendix III

New Commitments entered into since previous Quarterly Statement

Valued at £500 and over

Item	Value £	Firm	Remarks
<u>Buildings</u>			
Consultant's Fees	30,000	Merz & McLlellan	Extn of contract
Quantity Surveyor's Fees	10,000	Faulkners & Partners	" " "
Construction Team Fees	30,000	D. & E. Group U.K.A.E.A.	
Main Civil Contracts	302,800	W. E. Chivers.	Amendt. of contract
Misc. Increases	67,235	Various M. & E. Contractors	" " "
<u>Plant</u>			
<u>Magnet</u>			
Octant End Brackets	42,462	Newburgh Engr. Co. Ltd.,	
Extrusion of Copper Bar	804	James Booth	Amendt. of contract
Coil Clamp support brackets	14,000	Hall Engineering Co.	
Coil Clamps	14,000	J. W. Roberts Ltd.	
Sector Side Brackets	8,786	Ferranti Ltd.	
Coil Clamp Beams	13,000	J. W. Roberts Ltd.	
Trays etc. for Clamping Pads	5,500	Marston Excelsior Ltd.	
Clamping Beams	18,000	Marston Excelsior Ltd.	
Pole Piece Bushes & Bolts	5,000	J. & R. Rose Ltd.	
Packing Blocks & Strips for Lip conductors	9,500	Insulating Components & Materials Ltd.	
Side Sealing Studs	1,067	J. & R. Rose Ltd.	
Jack Assemblies & Brackets	8,077	Vickers Armstrong Ltd.	
Pole tip clamp blocks	2,600	J. W. Roberts Ltd.	
<u>Injector</u>			
Conductor tubes for Drift			
Tube Assemblies	1,788	T. Ryder & Co. Ltd.	
Tuner & Field Control Assembly	753	N. Taylor (Engineering) Ltd.	
Drift Tube Assemblies	1,488	B. O. Morris Ltd.	Amendt. of contract
Buncher Assembly	1,470	Smith's (Harlow) Ltd.	
R. F. Liner for Injector Linac	1,700	London Aluminium Co.	Amendt. of contract
Line stretcher assembly	1,483	Western Detail Manuf's Ltd.	
E.H.T. Shorting bar assembly	648	Portsmouth Aviation Ltd.	
<u>Vacuum System</u>			
Tie Plates	1,722	Robert Jenkins & Co.	
Support Brackets	3,500	Firth Vicker Stainless Steel Ltd.	
<u>Power Supplies</u>			
Rotating Machinery	2,929	English Electric Co.	Amendt. of contract
Converter Equipment	4,525	British Brown Boveri Ltd	" " "

NIMROD PROJECT

Known and Anticipated Contract Action From 1.4.60 - 30.9.60.

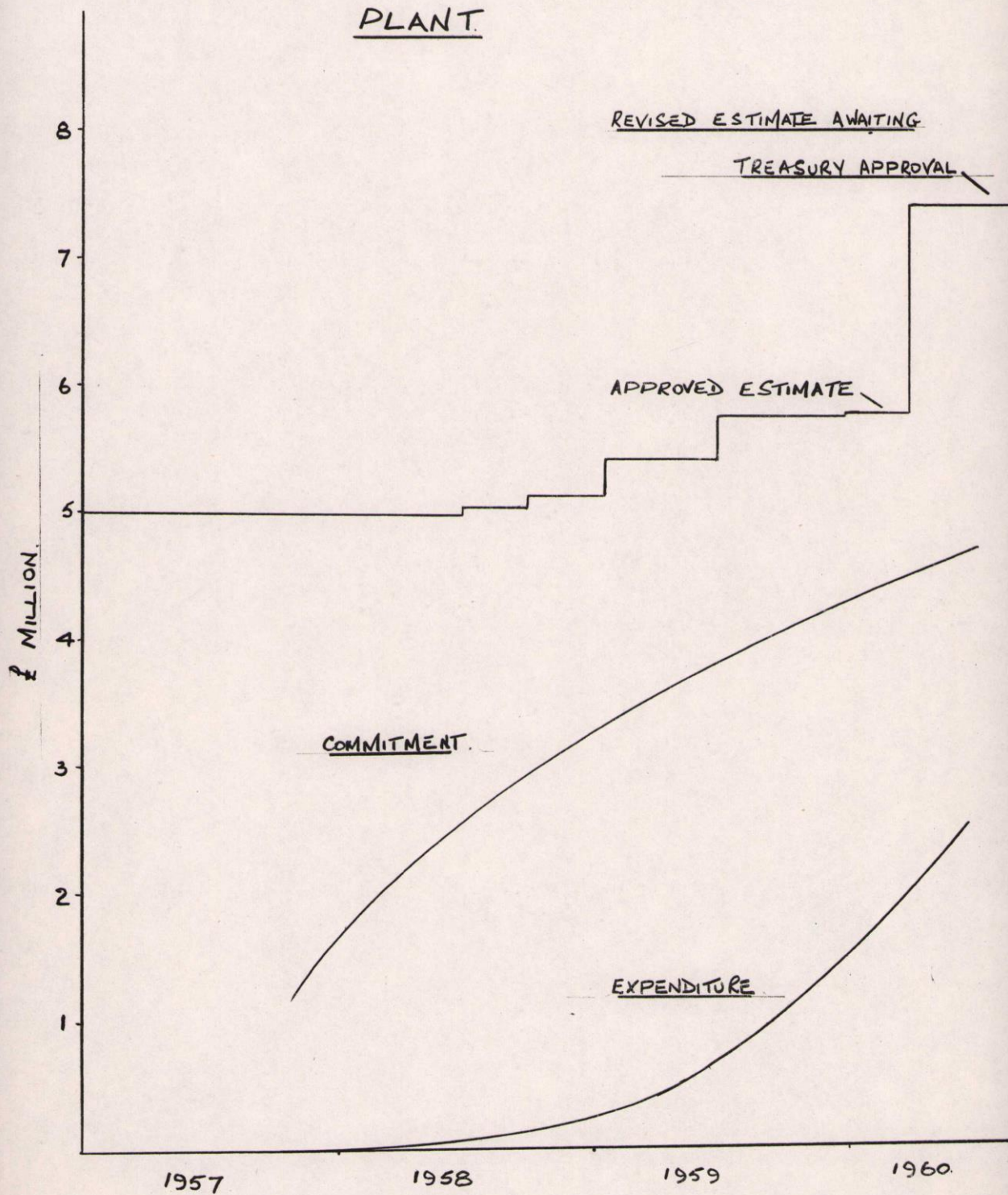
Item	Estimate Value £	Firm	Remarks
Gate Valves for Vacuum Chamber	25,000	Competitive Tender	Redesigned to reduce cost. Tender action shortly.
Jacking Assemblies	8,076	Vickers Armstrongs (Aircraft) Limited	Contract placed 7th April, 1960.
Seven Way Flowmeters	7,104	Rotameter Manufacturing Co, Limited	Contract placed 26th April, 1960
End Coil Structures	13,371	Weldall and Assembly Limited	Contract placed 20th May, 1960.
Pole Piece Trunnion	5,729	Fairy Aviation Limited	Contract placed 9th May, 1960
Rotary Plant (Supervisory Gear)	14,744	English Electric Limited	Amendment to existing contract placed 28th June, 1960.
Pre Heating & Barring Gear	6,500	English Electric Limited	Amendment to existing contract to be placed shortly.
Foundation Block for Rotary Plant.	Additional 29,646	English Electric Limited	Reference PS PC/P 69
Magnet Coils - Insulation Boots	6,640	A.E.I. Limited	Amendment to existing contract placed 31st May, 1960.

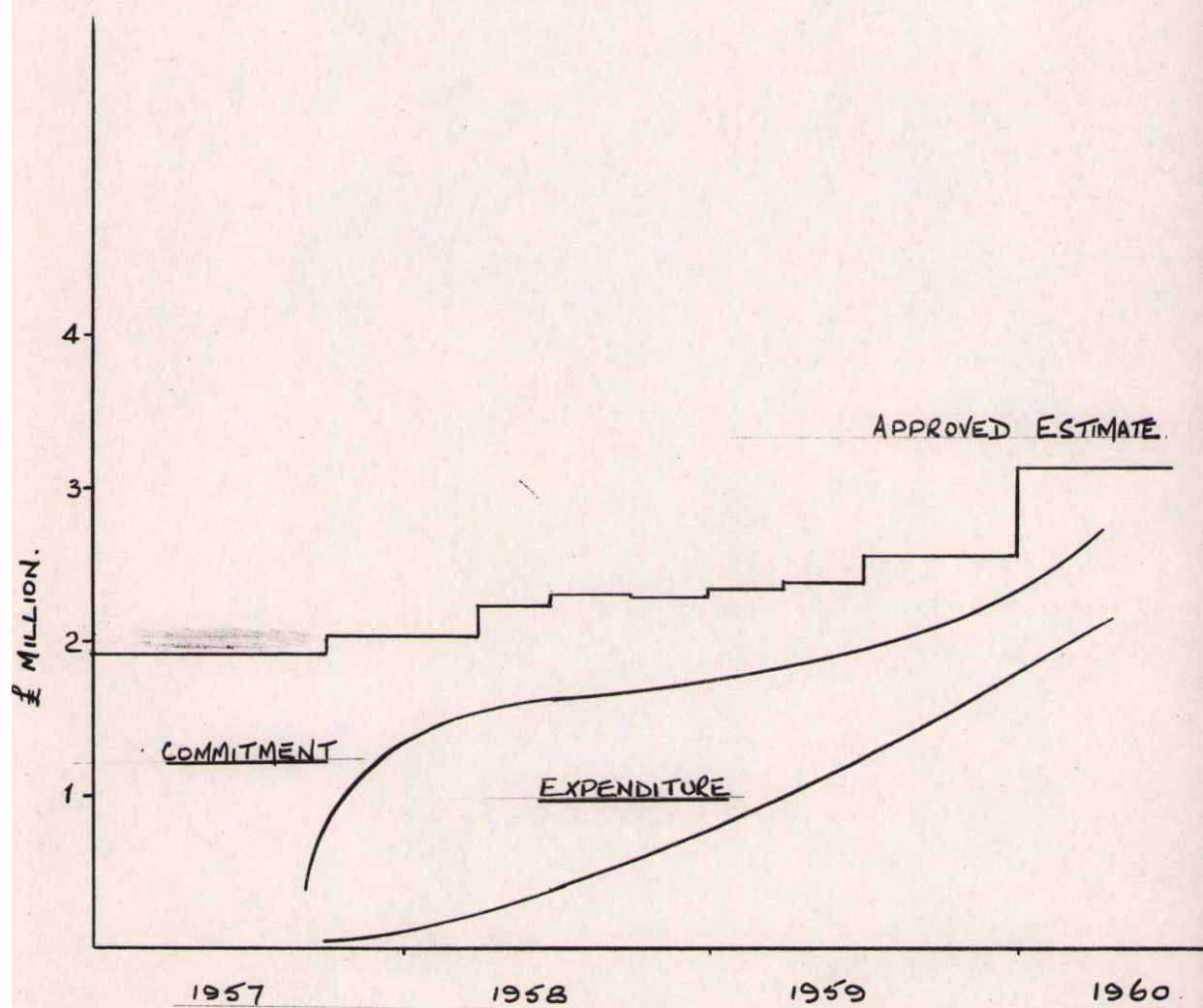
Continued:-

Appendix IV

Item	Estimate Value £	Firm	Remarks
Straight Section Beams	11,500	W. E. Chivers Limited	Contract to be placed shortly.
Control Equipment	9,000	Camper Nicholson (Electrical) Limited	Increase of limit of liability
Stainless Steel - Pump Headers	5,000	Brown Bayley	Contract to be placed shortly
Ripple Filter Transformers	52,300	A.E.I. Limited	Contract to be placed shortly
Vacuum Chamber Development	118,000	Marston Excelsior Limited	Reference No. Paper NI(gp)(60)20
Vacuum Chamber Manufacture	50,000	Marston Excelsior Limited	Reference PS/PC/P.70
Flexible Bellows Units for Vacuum Chamber.	40,000	Competitive Tender Action	Redesigned to reduce cost. Tenders due 18th July, 1960.
Main Pole Face Windings	57,200	Marston Excelsior Limited	Reference paper PS/PC/P.67 Contract to be placed shortly.
Additional Roughing Pumps	10,000	Competitive Tender	Tender action within 2 months
Pole Piece Jacks	11,000	Competitive Tender	Tender due in shortly
Vacuum Pump Headers	21,500	Competitive Tender	Tenders due in Mid August
Bolsters for End Pole Pieces	13,000	Competitive Tender	Tenders due on 3rd August
R. F. Drive Chain	35,000	Pye Limited	Reference PS/PC/P.68

APPENDIX V.



BUILDINGS

APPENDIX V

