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THE ROYAL MINT CORPORATE
PLAN 1987

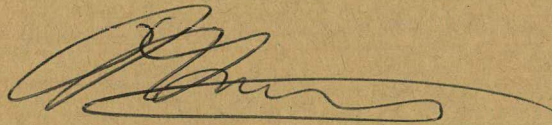
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Royal Mint



CORPORATE PLAN

1987

ROYAL MINT CORPORATE PLAN 1987

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ROYAL MINT CORPORATE PLAN 1987

1. INTRODUCTION

This Plan covers the period 1 April 1986 to 31 March 1990. Financial years are referred to in the Plan as those in which the year ends ie 1986/87 as 1987.

- 1.1. Firm forecasts are provided for 1987; provisional forecasts for 1988, while the figures for 1989 and 90 are mainly concerned with trends and any quantified forecasts are purely indicative.

2. AIMS AND OBJECTIVES

- 2.1. The current financial objective covering the period 1985 to 1987 is to achieve at least a 12% current cost return on net assets.

- 2.2. The Board has also established the following additional objective:

the growth of both capital and income in real terms maximising the rate of return on assets over a period of years.

The target recognises that large fluctuations occur in the minting business and it is proper to assess the Mint's performance over a period of years rather than on an annual basis. The financial objective was set on the assumption that a 'new' 10p coin would be issued.

3. REVIEW OF KEY OBJECTIVES

Three key aims/objectives were referred to in the 1986 Plan.

- (1) **To achieve a current cost return on net assets over the period 1985 to 1987 of not less than 12%.**

The financial target of 12% was set against the background of a Plan which forecast an average rate of return of 10%, assuming a "new" 10p will be introduced.

An average rate of 6.3% is now forecast for the 3 year period to 1987 and 5.8% for the period 1988 to 1990. The 5.8% assumes a new 5p or 10p coin will be introduced (in 1988).

Current cost adjustments were again higher than forecast (£m1.6 in 1986 following the £m2.0 in 1985) which is the prime factor in our failure to meet the 12% target while the further postponement of a new 10p (or 5p) and the exceptionally low level of UK coinage issues - 1792m over the period 1985 to 1987 against 2483 million in the 3 preceeding years has aggravated the situation. As illustrated in the Review of Operations, the efforts made to obtain overseas work to fill the gap left by the shortfall in UK coin was successful in volume terms, but due to the severe competition margins were exceedingly small.

In view of the Mint's lack of control over the current cost adjustment, particularly in regard to metal price movement, it is important that urgent consideration be given to revising the basis of the target at least to exclude adjustments for metal. This point was raised by the Deputy Master in the 1985 Annual Report.

In historic terms the return on capital employed between 1985 to 1987 is forecast to be 12.5%. This compares favourably with the historic return on capital employed for Metals and Metal forming companies of 11.4% for the period 1982/84 as shown in the latest Bank of England's quarterly Bulletin. It is interesting to note that current cost figures for metal forming companies are not provided for 1984 as there are so few large companies now complying with SSAP 16 -down from 70% in 1981 to 15% in 1984.

- (2) **To review the method of producing cupro-nickel blanks in the MRB with the aim of improving output by 30%.**

As stated in last years Plan a 19% improvement has already been secured. A further 12% improvement has been identified which will require major plant modification and hence loss of production during the transition. The recent acquisition of a large coin order from India with deliveries throughout the autumn of 1986 has delayed the modification and it is now expected to take place in the summer of 1987.

- (3) **To achieve a 'minimum' contribution from overseas standard coin of £m1.4 required to support the 1680m coin capacity with a 'target' contribution of £m3.4.**

The latest forecast contribution from overseas standard coin in 1986 will exceed both the minimum and target contribution figures. Turning to 1987 the new minimum and target contributions required will be £m1.8 and £m4.9 respectively and the forecast for 1987 suggests a contribution of £m4.6.

4. REVIEW OF OPERATIONS

4.1. The tables below provide the planned financial outturn for 1986 and the latest forecast for that year. The final column for each product group shows the variance between the two sets of figures.

	1986 PLAN (£m)		1986 FORECAST OUTTURN (£m)		VARIANCE (£m)	
	UK	O/SEAS	UK	O/SEAS	UK	O/SEAS
STANDARD COIN						
Sales Value	23.2	19.5	17.0	26.1	(6.2)	6.6
Variable Cost	14.9	15.8	9.8	22.2	5.1	6.4
	<u>8.3</u>	<u>3.7</u>	<u>7.2</u>	<u>3.9</u>	<u>(1.1)</u>	<u>0.2</u>
Contribution	12.0		11.1		(0.9)	
Fixed Cost	11.0		11.0		-	
	<u>1.0</u>		<u>0.1</u>		<u>(0.9)</u>	
Operating Surplus	1.0		0.1		(0.9)	
Variable Cost as a % of Sales Value:	64	81	58	85		
<hr/> COLLECTORS COIN						
Sales Value	20.5	5.8	16.2	8.8	(4.3)	3.0
Variable Cost	16.3	5.0	13.4	7.7	2.9	2.7
	<u>4.2</u>	<u>0.8</u>	<u>2.8</u>	<u>1.1</u>	<u>(1.4)</u>	<u>0.3</u>
Contribution	5.0		3.9		(1.1)	
Fixed Cost	1.9		2.2		0.3	
	<u>3.1</u>		<u>1.7</u>		<u>(1.4)</u>	
Operating Surplus	3.1		1.7		(1.4)	
Variable Cost as a % of Sales Value:	80	86	83	88		
<hr/> MEDALS						
Sales Value	0.8		1.4		0.6	
Variable Cost	0.4		0.9		0.5	
	<u>0.4</u>		<u>0.5</u>		<u>0.1</u>	
Contribution	0.4		0.5		0.1	
Fixed Cost	0.3		0.3		-	
	<u>0.1</u>		<u>0.2</u>		<u>0.1</u>	
Operating Surplus	0.1		0.2		0.1	
Variable Cost as a % of Sales Value:	50		64			
TOTAL Operating Surplus	4.2		2.0		(2.2)	

As shown above, there is likely to be a shortfall of £m2.2 on the planned profit of £m4.2. Variations between Plan and forecast outturn are considered overleaf.

1986 has been a poor year, the worst since the Mint became a Trading Fund in 1976. Operating surplus was well down on Plan, both for standard and collector coin and only in the Medal Department were results good.

STANDARD COIN

United Kingdom

- 4.2. Forecast issues to 31 March 1986 at 778m are again well below the Treasury's forecast of 1100 million. The major difference was on the £1 coin where issues were 437 million pieces against the planned 595 million. The overall effect on sales value and contribution was a decrease of £m6.2 and £m1.1 respectively.

Overseas

- 4.3. Forecast issues of coin and blanks at 1246m are only 10m short of the Plan and the 'target' contribution of £m3.4 is likely to be exceeded by 15%. The Plan included orders for clad and other low cost coinage materials whereas actual orders obtained were mainly for cupro-nickel. In this context the order from India was significant both from a sales value and contribution viewpoint and this order alone accounted for 38% (£m9.9) of total sales value and 31% (£m1.2) of total contribution. Unfortunately the order was obtained at a very competitive price, and the contribution to sales ratio was only 15% overall against the planned 19% return. The importance of this order, coming when it did, cannot be over-emphasised given the poor state of our order book at that time and since then a further order has been obtained at better terms.
- 4.4. To illustrate the competitiveness of the overseas market particularly for the supply of blanks, the following data from a recent tender for Philippines blanks gives an interesting insight, into the pricing policy of Poongsan (Korea). Prices quoted ranged from £2,845 to £3,685 per tonne for this order. Of the 8 competing Mints the Royal Mint came second yet we were 20% up on the Poongsan quote with other Mints all within 8% of each other. The tender was further complicated by the insistence of the customer that the metal to be used in their blanks should be mined in the Philippines. When it is considered that the metal element and metal premiums would have amounted to about £2,400 per tonne the Korean conversion price amounted to £445/tonne which suggests they took the order on at a loss and perhaps obtaining foreign exchange (payment was in US \$s) was their prime requirement! It may be of interest to note that in another recent competitive tender situation where the 'low price' tenderers (Korea and Japan) were not invited to quote, the winning bid was £940/tonne for conversion.

COLLECTOR COIN

United Kingdom

- 4.5. Forecast contribution of £m2.8 is again poor compared to the planned level of £m4.2. However the £m2.8 is after payment of £m1.6 to the Treasury as commission on sales of UK collector coin which would normally be regarded as profit to the business. Lower issue level was the major cause and in particular only 6,400 gold sets (with high profit margins) were issued instead of the planned 10,000 sets. This reduced revenue by £m3.2. Furthermore sales of the £2 silver coin to commemorate the Commonwealth Games with a sales value of £m1 were deferred to early in the new Financial Year.

- 4.6. The decision to maintain 1984/5 prices for proof sovereigns and half-sovereigns made it difficult to market these products at a time of falling gold prices. As a consequence sales of gold products in the current year are forecast to be lower than planned.

Overseas

- 4.7. Sales are up by 50% on Plan which is attributed to the higher volume of orders sold directly to countries. The Libya medallion order and a Kuwait coinage order were important in this context, increasing sales values by £m2.5 and contribution by £m0.3.

MEDALS

- 4.8. This was one of our few success stories of 1986. Sales values were 75% up on Plan and profit virtually doubled.
- 4.9. A large gold medal order from the Hindu Mission valued at £m0.4 played a major part in this improvement.

A REVIEW OF THE MAJOR CAPITAL INVESTMENT PROJECTS INCLUDED IN THE 1986 PLAN

4.10. PRECIOUS METAL UNIT

The new building was completed on schedule and plant installation is virtually complete. The unit will be fully operational by the target date of 1st April 1986.

4.11. HIGH SPEED BLANKING PRESS

The press is on order and is due to be delivered in August 1986, a few months behind schedule. The delay was deliberate pending a further evaluation of the existing press.

4.12. NICKEL PLATING LINE

Following the success on a laboratory scale plant specifications will be drawn up for a production scale unit subject to a satisfactory financial case.

4.13. EFCO REPLACEMENT

Tenders are being evaluated and the project is due for completion by August 1986.

4.14. STORAGE AREA

The project was completed during the year and will result in a saving of £16,000 pa in rent and substantial savings in transport costs.

A REVIEW OF THE MAJOR RESEARCH & DEVELOPMENT PROJECTS INCLUDED IN THE 1986 PLAN

4.15. ELECTROPLATING

A major success in the R&D programme was the development of a new range of processes to produce a "white" electroplate on a mild steel substrate at an economic and competitive cost. A programme of trials at production scale is to be completed during the year and, subject to satisfactory results, the procedure for purchasing plant will then proceed. A second laboratory scale plating plant to facilitate investigation of a range of electroplates (including yellow-plated material) was delivered in January 1986 and is now operational.

4.16. COINAGE DEVELOPMENT - DESIGN

Nottingham University have presented a report of their first year's work on the discrimination of coins. The findings suggest that no major problem is likely to arise in the event that any of the proposed coinage options is selected. However, a fourth option has emerged which suggests that the introduction of a 5p piece first may be more acceptable.

4.17. CASTING DIES

The use of boron nitride inserts on the graphite faces proved not to be cost effective. A contract was therefore placed with consultants to investigate the application of ion plating graphite with refractory materials.

4.18. COINAGE DEVELOPMENT - MATERIALS

Good quality blanks have been manufactured from BSC stainless iron strip and the results of coining trials are awaited. Attractive possibilities have also been reported in the field of powder metallurgy.

4.19. ROBOTICS

A robot and associated equipment was identified which would pack collectors' coins. However the cost of such sophisticated equipment was far higher than envisaged and potential savings were insufficient to meet our investment criteria. This project is now postponed until prices for such equipment are reduced.

5. MARKET PROSPECTS

CIRCULATING COIN

- 5.1. The forecast volume to be processed at Llantrisant during 1987 is 1620 million coin/end product blanks. One third of this quantity represents UK coin, and the remainder overseas work.

UK CIRCULATING COIN

- 5.2. Demand for UK coin remains notoriously difficult to forecast. However, given the recent fall in demand for the £1 coin (with 724 million now in circulation), the banks' high stocks of other denominations, and the decision to defer the introduction of a new 10p/5p coin, forecast demand in 1987 is a pessimistic 515 million. This compares with a forecast in the 1986 Plan of 1,642 million which included 1,000 million new 10p coins. It is clear therefore that unless capacity can be filled with overseas work (which is uncertain) the implications of deferring indefinitely the issue of a new coin would be particularly serious in the context of the Mint's capacity utilisation.
- 5.3. It is the intention to produce UK coin at or below standard cost and meet the demands of the clearing banks.

OVERSEAS CIRCULATING COIN

- 5.4. The outlook for overseas circulating coin is more optimistic, with forecast issues of 1,300 million coins/blanks which include 195 million sub-contracted to the Birmingham mints. Two-thirds of this quantity represents firm orders (including a follow up order from India for 500 million cupro nickel coins) and the remainder are fairly confident forecasts. In addition a few very large enquiries for coins and blanks are on the horizon, and if these materialise, the volume of overseas work will more than compensate for the trough in UK demand.
- 5.5. Although the available overseas coin market (ie countries without mints of their own) is effectively covered by the sales force, from time to time substantial orders can be obtained from countries who have their own mints but are temporarily short of coin. It is most important, but extremely difficult, to be aware of these requirements, and the sales team have demonstrated their ability in this field by obtaining sizeable orders over recent years from Australia, Holland, India and the Philippines.
- 5.6. The Royal Mint's major competitors continue to be VDM of Germany and the Royal Canadian Mint. However, increasing competition is being met from others such as Korea, Australia, Brazil, Mexico and Singapore. Competition for coinage blanks is particularly fierce with Korea being the most formidable opponent.
- 5.7. So far as new products are concerned, the Sales Division is eager to be able to offer low cost alternatives to coins made of homogeneous materials. In particular the demand is for 'yellow' and 'white' plated 'look-alike' coins, but recently interest has revived in copper-plated steel with some potentially large enquiries in the pipeline and two, albeit small, orders having been received from Iceland and Swaziland. All these plated materials offer significant savings in production costs over the traditional coinage alloys, but it is difficult for sales staff to convince overseas customers of the advantages of changing to look-alike coins when the UK coinage authority is itself reluctant to undertake such a change.

- 5.8. While the overseas coin and, in particular, the 'end product' blanks market seems likely to remain fiercely competitive with margins correspondingly low, the sales objective will be to utilise the capacity of the Mint to the full and achieve the maximum possible contribution from overseas sales.

COLLECTOR COIN

- 5.9. The total forecast contribution from sales of collector coin in 1987 is £m5.1 after payment of £m1.7 to the Treasury. Forecasts for 1988 and beyond are indicative and are based on the assumption that there will be continuing reverse design changes for £2 and £1 coins.
- 5.10. Sales in the UK during the main part of the year will concentrate on the Commonwealth Games £2 commemorative coins. The initial launch of the base metal proof and uncirculated sets will have taken place in the last quarter of 1985/6 but these products will continue to be offered through the medium of Bulletins and media campaigns throughout 1986/87. Both these sets will contain 8 coins, ie 1p - £2.
- 5.11. The £2 brilliant uncirculated coin is also being offered singly in its own presentation pack. The product provides an ideal vehicle for promotion and incentive schemes and this corner of the market is being energetically pursued.
- 5.12. The 925 silver proof versions of the UK £2 coin will be offered individually, and also as part of a Commonwealth Games 12 coin collection, along with 11 coins from overseas countries. The sets will be promoted in advance of the individual coins.
- 5.13. We are also issuing a 500 silver (ie 50% silver) uncirculated version of the coin. Again, these will be offered individually and as part of a 12 coin collection. Significantly, this is the first issue of a UK commemorative coin in this alloy for almost 50 years.
- 5.14. The 1986 dated £2 gold coin will bear the new Commonwealth Games design and will be offered individually as well as in the 3-coin gold proof set. It will be interesting to see if sales of gold coins are stimulated by the change in design which, for the first time in the history of modern proof coins has moved away from the traditional St George and Dragon by Pistrucci.
- 5.15. The 1986 calendar year will also see a new design for the £1 coin representing Northern Ireland. This coin will be offered in the base metal sets and in silver proof and silver piedfort versions.
- 5.16. We continue to suffer generally from a lack of design changes in the UK coinage, and this is particularly evident in the USA market. Buying patterns have shown that the majority are attracted by a new type of coin or a new design. They are not normally influenced by a mere change of date. This has long been recognised by our competitors who, in most cases, issue interesting design changes each year. Unless we are prepared to follow suit it is unlikely that sales will expand to any great extent.

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- 5.17. There has been a noticeable increase in enquiries from retail customers concerning the difficulties they are experiencing in selling their sets on the secondary market. Action has been taken to introduce secondary market support in North America and the UK retail market is also likely to benefit from this activity.
- 5.18. In the United States, our second largest market, problems encountered in 1985 with regard to the undercutting of official retail prices have significantly eased. Since last year the strengthening of the £ against the US \$ has made it less attractive for dealers to market in the United States coins which were bought in the UK at discounted prices. Additionally, the inclusion of numbered certificates bearing the warning 'Not for Sale in the USA' acted as a further deterrent to opportunist dealers.
- 5.19. Although our marketing strategy emphasises the high quality and limited issue levels of proof coins, and indeed collectors do recognise and are willing to pay a premium for these aspects, it is a simple matter to relate the coin price to the daily bullion price and make a comparison with the (generally lower) premiums charged by our competitors. It is against this background that the pricing strategy and forecast sales volume in 1986/7 must be assessed.
- 5.20. In order to maintain the satisfaction of customers who purchased 1985 dated sovereigns and half sovereigns we do not intend to reduce prices of these products dated 1986 in spite of the fall in gold price. However, the new Commonwealth Games £2 gold coin and the 1986 3 coin gold set will be more attractively priced to achieve the desired level of sales.
- 5.21. Proposals to advertise on US television in 1985 were abandoned on the grounds of not being cost-effective. Consequently the retail marketing effort will continue to be channeled towards increasing the active mailing list by direct outside solicitations.
- 5.22. In terms of the profitability on sales in the USA, the stronger £ against the \$ now forecast for 1987 compared to that forecast last year has a significant effect. To date, 50% of our forecast \$ revenue for 1987 has been sold forward. The combination of the exchange rate obtained for these sales coupled with our forecast rate of exchange (\$1.45/£) for the remaining 50% gives an overall rate of \$1.40 for 1987. In 1986 a rate of \$1.25 was forecast for 1987 and when the difference in rates is applied to the forecast \$ revenue of \$m4.4 the sterling profit reduces by £380,000.
- 5.23. In our third largest market (countries other than UK and USA) frequent contact continues to be made with all our agents and dealers, and this policy has borne fruit in most areas, notably Italy and Japan. All our agents also promote and sell the products of competing mints and it is therefore essential to maintain contact and ensure that Royal Mint products are promoted in preference to those of our competitors.
- 5.24. This market however remains erratic, and most countries still need encouragement to issue commemorative coins. However, in the short term prospects look fairly optimistic with production being dominated by the Commonwealth Games programme and Hong Kong Lunar issue (unfortunately the last in this series). In addition there is an order from Japan for gold and silver coins to commemorate the visit of the Prince and Princess of Wales, and there will more than likely be an issue to commemorate the Queen's visit to Hong Kong.

- 5.25. A highly competitive bid will be submitted to regain the New Zealand collector coin order which was lost in 1985 to the Australian Mint. If we are successful the production area will gain useful work during a customary trough in the programme, but contribution is likely to be minimal.
- 5.26. Competition for collector coin orders continues to be exceptionally keen, our major rivals being the Australian, and Canadian mints. However, it is hoped that with our new Precious Metal Unit due to commence operating in March/April this year our products can be even more competitively priced and the forecast contribution of £1.1 million achieved or even improved upon.
- 5.27. In terms of medal sales, apart from the Centenary medal, of which 1,100 silver and 1,100 bronze are to be produced, the programme for 1987 will be normal at approximately 2,000 medals per week and a contribution of £0.4 million should be achieved.

6. MEANS ANALYSIS

PRODUCTION CAPACITY

Royal Mint production capacities are considered below under our 3 product groups.

Standard Coin/Blanks
Collectors Coin
Medals

STANDARD COIN/BLANKS

6.1. (1) Melting, Rolling and Blanking (MRB)

The capacity of the MRB is 10,000 Bronze equivalent tonnes per annum. Previous plans referred to the problems associated with the high cost of casting cupro-nickel in the MRB which is particularly relevant given the shift in customer demand towards that alloy. Recent improvement in casting cupro-nickel increased productivity by 19% and last years plan (paragraph 3.7.(2) identified improvements which would increase output by a further 12% (may be as much as 15%). However, given the high level of overseas demand coupled with tight delivery schedules the modification has had to be delayed until 1988, (see paragraph 3. (2)). This Plan assumes the modification will now take place in the summer of 1987 unless an opportunity arises later this year and forecasts for 1988/89 onwards assumes an increased output in the MRB of 11,200 tonnes.

6.2. (2) Blank Treatment/Coining/Packing

The Coin Press Room (CPR) works a two shift pattern with a capacity of 1680 million standard units per annum. Output in this area can be varied by either overtime working or changes in shift pattern. The latter will be subject to manpower availability.

COLLECTORS COIN

6.3. (1) Precious Metal Unit

This unit is now virtually complete and extensive trials have been conducted whereby large quantities of precious metal blanks have been successfully produced. The facility has a capacity of 5,000 ounces of gold blanks per shift (or 3,000 ounces of silver blanks per shift) giving an annual production output of 1.2 million ounces (single shift).

6.4. (2) Proof Coin Unit (PCU)

The PCU has a production capacity of 17 million standard units per annum when operating on dayshift. The mixture of coin size, alloy and standard of finish is of paramount importance in this area.

6.5. Within the maximum capacity of this unit there are five constraints which limit weekly output to the following levels:

Precious metal proof buffed blanks	-	8,000
Proof coins of 36mm diameter or higher	-	8,000
Base metal coins	-	60,000
Packing uncirculating coins	-	140,000
Lacquering per single shift	-	25,000

Output levels can be varied by overtime working or changes in shift pattern.

MEDALS

6.6. The Plan assumes the provision of resources to produce a standard mix of 2,000 medals per week. This capacity level is based on the actual amount of mounted and unmounted medals produced over the past 3 years but any large increase in the level of demand for mounted medals would reduce the output level.

CAPITAL INVESTMENT

6.7. Forecast investment over the 4 year period of Plan, is again high at £m12.9 due to the number of major projects planned for completion in 1986 being carried over into 1987.

6.8. The spend for 1987 is forecast to be £m4.2 and a breakdown into the various sponsoring departments is provided at Appendix 7. Projects involving expenditure in excess of £100,000 in the early years of the Plan are summarised below:

AREA	PROJECT	TOTAL COST (£'000)
BLANK MANUFACTURE	High Speed Blanking Press	370
	Plant Modification to cast 19mm material	482
	Annealing Capacity	200
	Nickel Plating Line	683
	EFCO (Replacement)	450
COIN CONVERSION	Boxing Line Automation	CPR 150
	Mezzanine Floor	CPR 165
DIES & MASTER TOOLS	Heat Treatment Furnace	100
PRECIOUS METAL UNIT	Carry over of 1986 Contracts	400
SITE DEVELOPMENT	Office Building	400
	Warehouse	509
COMPUTER SYSTEMS	(Production application Phase II	175
	(Management Information	250
	Integrated Accounting	260

6.9. HIGH SPEED BLANKING PRESS £370,000 (CARRIED OVER FROM 1986)

A contract has been placed for a new press which is due to be delivered in August 1986. Manning will be reduced by one (not 2 as stated in 1986) which coupled with the significant saving from improved yield rates meets the financial criteria.

6.10. PLANT MODIFICATIONS FOR CASTING 19MM STRIP £482,000 (CARRIED OVER FROM 1986)

Tender action is now imminent but given our healthy order book, with deliveries running well into the Autumn, it is unlikely we will be able to proceed with the project until the summer of 1987.

6.11. ANNEALING CAPACITY £200,000 (CARRIED OVER FROM 1986)

Last years forecast annealing requirements would have exceeded existing capacity and there was a danger of the Mint having to turn away overseas work. In the event annealing demand fortunately fell within our existing capacity and hence the purchase was delayed for further evaluation. Quotes have now been received for a "bell type" annealer and they are far higher than expected. Potential savings are currently being evaluated.

6.12. NICKEL PLATING LINE £683,000 (CARRIED OVER FROM 1986)

Research and Development work is virtually complete and the project is now ready for financial evaluation. However, the current lack of space will dictate the precise time of installation. See below.

6.13. EFCO (PICKLING PLANT) £450,000 (CARRIED OVER FROM 1986)

This replaces an existing plant and it is hoped that the space realised can be used for the Nickel Plating Line above. When all the EFCO plant is replaced manning should be reduced by six.

6.14. BOXING LINE AUTOMATION £150,000

This project is part of the automation of the Telling Area where 2 plastic bag packing robot lines are already in operation. There has already been one abortive tender action for the boxing Line where the prices were higher than expected. Modified specifications have now been drawn up which will allow the purchase of individual items of plant which can then be linked up using in-house expertise. Full automation of this area will not be practical until there is a total change to plastic bags.

6.15. MEZZANINE FLOOR IN THE CPR £165,000

Overall work flow space considerations require a new layout of the CPR with a Mezzanine Floor.

6.16. HEAT TREATMENT FURNACE £100,000

This furnace will replace the 2 existing furnaces currently used to stress relieve coining dies and will be capable of heat treating special steels.

6.17. PRECIOUS METAL UNIT £400,000 (CARRIED OVER FROM 1986)

The building of the new unit and the transfer of plant will be substantially completed by the end of March. However, it is estimated that £400,000 will be carried over for payment into 1987.

6.18. OFFICE BUILDING £400,000

This scheme will replace a temporary office building. Extensive discussions with architects would indicate costs will be significantly higher than the initial estimate.

6.19. WAREHOUSE £509,000

The building would house all stocks of virgin and scrap base metal, together with certain general stores which are currently housed in external rented accommodation. It is our intention to pursue a policy of purchasing large quantities of scrap material which become available from time to time. This will give us substantial savings against virgin metal prices.

6.20. COMPUTER SYSTEMS

The Royal Mint's policy is to apply computer systems as widely as possible throughout our operations and micro processors have been installed in a number of areas; Finance Production Control, Assay & Scientific Services. In addition there are a number of departments which have computer systems linked to the ICL mainframe. Two major projects included in the capital expenditure programme are:

(1) PRODUCTION APPLICATIONS PHASES I AND II £425,000
(CARRIED OVER FROM 1986)

This is a major innovation which we are advised has not been attempted previously and involves the interfacing of production equipment to a computer. The project is progressing steadily and although the new estimating function is now operational it is reliant on a manual feed until the completion of computerisation of machine monitoring. Phase II which includes a monitoring system for dies and tools, production planning (specification complete) and proof coin system (being tested) now includes the monitoring of the precious metal unit output. Following successful completion of the above systems a central processing unit will be purchased in 1989 to collate and analyse the data to meet the need for accurate and speedier management information. It is estimated the unit will cost £250,000.

Manning will be reduced by 6 when Phase I is completed. Further saving will follow and will be evaluated next year.

(2) INTEGRATED ACCOUNTING SYSTEM £260,000

A review by Coopers & Lybrand has identified the need for an integrated accounting system. The project will include the purchase of hardware and software.

PRODUCTIVITY AND MANNING

- 6.21. The last 12 months has been a difficult period in which to obtain standard coin and end product blank business, but the orders obtained were large which assisted in increasing output per employee. The indicator used in the last 5 years as a measure of productivity is output per industrial employee in the standard coin area and for circulating coin and blanks this is expressed in standard units.

Performance levels since 1982 are as follows:-

	PRODUCTION IN STANDARD UNITS MILL/PCS	NO. OF EMPLOYEES	OUTPUT PER HEAD MILL/PCS
1982	1500	481	3.12
1983	1573	417	3.77
1984	1251	361	3.47
1985	1207	331	3.65
1986	1355	346	3.92

- 6.22. The above figures illustrate both the importance of long production runs and improvements in the output of the workforce. Since 1982 output has increased by 25%, including an increase of 7% over the past 12 months.

- 6.23. The Royal Mint's manpower 'targets' were re-affirmed in January 1986 by the Treasury's Joint Committee on Manpower which reduced the 'target' from 955 employees as at the 1 April 1986 to 943 by 1987. Dispensation was granted to increase the 955 figure by 74 (to 1029) to enable the Mint to meet its order book, particularly for overseas customers. The importance of the 'targets' have been stressed and to this end the Mint submits monthly reports to the Centre advising of the continuing necessity to remain above the targets to meet demand. The order book for 1987 would indicate a programme that would support a manning figure of 1,029 and, consistent with established policy, it is our intention to expand export business particularly given the low levels of UK demand.

RESEARCH & DEVELOPMENT:

- 6.24. Building upon the success of developing copper and white electroplates on a steel substrate, the emphasis this year is given to extending the range of plated material available to promote sales of blanks and coins. Of first priority is the continuing need to supply the market with a low cost yellow material.
- 6.25. The budget for R&D is £210,000 (Appendix 8). Areas of particular importance are:-

MATERIALS

- 6.26. It did not prove possible to commence the development of a yellow electroplate last year. Resources will be devoted to investigate and test a number of ideas for yellow materials aimed separately at the market for low and high denomination coins. A project to produce a stainless steel electroplate will proceed at low priority.

- 6.27. Research into materials suitable for use in vending machines will continue. This year will see the conclusion of the project undertaken on our behalf by Cardiff University concerning the anisotropic properties of cupro nickels. Attention is directed to building an ultrasonic sensing mechanism suitable for incorporation in a coin validator.
- 6.28. Today's technology in powder metallurgy, also offers the Mint an opportunity of making coins of high face value which incorporate features recognisable to electronic validators, thus providing a significant degree of protection against counterfeiting. The work of BNF Metals Technology Centre in characterising the properties of blanks made from powder will be continued by Mint researchers. In addition the process to produce blanks from powder will be developed in a tarnish resistant, homogeneous yellow material, identified by Mint funded research at IMI.

BLANK MANUFACTURE

- 6.29. To complement the capital project to reduce costs in the MRB, research continues to improve die design and materials used in the casting dies. Although the replacement of graphite is not envisaged, it is expected that costs can be reduced by surface treatment of the working faces of the die, thus extending die life. Along these lines the research by Electrical Research Association (ERA Technology) and BNF Metals Technology Centre is commissioned as part of group sponsored projects at low cost to each participating organisation.
- 6.30. Work with small quantities of ferritic stainless steel from British Steel Corporation, as part-rolled strip, has shown the possibility for the Mint to complete manufacture of coins to a satisfactory standard at Llantrisant. The process is to be proved in conjunction with the purchase of new blank finishing equipment.

CIRCULATING COINS

- 6.31. Nottingham University will complete their main task of examining the general public's ability to discriminate between coins composing a series of possible options for further changes in the UK coinage system. A market research survey of public opinion of the available options will be undertaken at modest cost.
- 6.32. The project for producing defect-free blanks ready for coining progresses to the stage of building a prototype sorting machine for attaching to the press.
- 6.33. Improved methods of die manufacture are seen as possible and desirable for substantial cost savings.

ROBOTICS

- 6.34. The concept of a development robot for simple production processes eg the packing collectors' coins did not prove economically viable. Therefore the application of robotics will now be directed towards the more complex production operations such as the automatic weighing of precious metal blanks which will be considered in the context of normal capital expenditure procedures.

NEW PROJECTS

- 6.35. The wastage rate in circulation, by region, of a range of UK denominations will be researched.
- 6.36. The packaging of all product types in plastic is to be investigated.
- 6.37. A project to save energy in melting/casting by computerised control is planned.

7. FINANCIAL POLICY, ECONOMIC ASSUMPTIONS AND FORECASTS

7.1. The 1987 figures, presented at forecast actual prices, have been arrived at in the following manner.

1. WAGES AND SALARY COSTS:

Basic rates applicable at 31 March 1986 plus 6% in respect of both wages and salaries.

2. INDIRECT MATERIALS AND SERVICES:

The average 1986 price levels increased by 5% have been applied to:

Indirect Materials
Gas
Electricity
Water
Rates
Miscellaneous items

3. METAL PRICES (Actual prices have been used where available)

Gold £245 per troy ounce
Silver £5 per troy ounce
Nickel £3800 per tonne
Copper £1100 per tonne

4. EXCHANGE RATES (Actual rates have been used where available)

1.45 US \$ to the £1 Sterling

The 1988 to 1990 figures have been calculated using an average annual domestic inflation rate of 6%.

Interest calculations have been based on an average rate of 10% where actual rates are not available.

7.2. STOCK LEVELS

These are related to the forecast levels of production.

7.3. BORROWINGS

The Plan assumes that the National Loans Fund borrowing facilities which exist will not be called upon on a long term basis. Short term borrowing facilities will be used for limited periods. Interest calculations have been based on an average rate of 10% where actual rates are not available.

7.4. RESERVES

The Plan assumes that subject to maintaining an adequate level of reserves over the 4 year period, the dividends paid will be based on the net current cost surpluses.

7.5. REPAYMENT OF CAPITAL

It has been assumed that the repayment of capital is in accordance with the approved schedule.

7.6. INVESTMENTS

Liquidity levels will continue to be adjusted by investing in Treasury Bills, NLF temporary deposit facility and British Government Stocks.

7.7. Using the market assumptions given in Section 4 the forecast performance over the four year period at actual prices is:

	1987	1988	1989	1990
Sales £ (Mill)	65.0	67.2	64.7	68.3
Current Cost Surplus £ (Mill)	4.1	1.9	3.3	3.4
Current Cost Surplus as a % of Average Current Cost Capital	9.3	4.1	6.7	6.5

7.8. Profit forecasts together with a forecast balance sheet and funds and resources statement, are given in Appendices 2, 3 and 4. The figures are presented at forecast actual prices and include details appropriate to each product group.

8. SENSITIVITY ANALYSIS

Last years Corporate Plan included under this section a series of scenarios which examined the financial implications of a number of unlikely, but possible events which if they occurred would have a significant effect on our forecasts. This year we have again considered this aspect in the short term and have concluded that in 1987 there are no likely events which would have a significant adverse effect, as:

- (1) Issues of UK standard coin in 1987 are already forecast to remain at a low level.
- (2) The overseas standard coinage orders already secured are in excess of 50% of our capacity,
- (3) Approximately 50% of our US \$ revenue has already been sold forward so unless the \$ collapses, the effect of exchange rate movement on our forecasts has been considerably diluted ie for every 10 cent movement in \$/£ exchange rate our profit would increase/decrease by £100,000.
- (4) 50% of our gold requirement has been purchased and the sales value of the main product for which gold has not been purchased (ie the £5 BU) can be varied dependent on the gold price.

FINANCIAL RESULTS 1983-1986

ACTUAL PRICES

APPENDIX 1(i)

	STANDARD COIN		COLLECTORS COIN		MEDALS & MISC	TOTAL
	UK	OVERSEAS	UK	OVERSEAS		
	(inc std sovereigns)					
	£m	£m	£m	£m	£m	£m
1983						
Sales Value	18.8	10.1	7.2	13.4	1.0	50.5
Var Costs	<u>11.0</u>	<u>7.9</u>	<u>5.0</u>	<u>11.6</u>	<u>0.5</u>	<u>36.0</u>
	7.8	2.2	2.2	1.8		
Contribution	10.0		4.0		0.5	14.5
Fixed Costs	6.9		2.4		0.3	9.6
Op Surplus	<u>3.1</u>		<u>1.6</u>		<u>0.2</u>	<u>4.9</u>
	====		====		====	====
1984						
Sales Value	15.3	9.9	10.6	10.2	0.9	46.9
Var Costs	<u>7.2</u>	<u>7.7</u>	<u>6.8</u>	<u>9.4</u>	<u>0.5</u>	<u>31.6</u>
	8.1	2.2	3.8	0.8		
Contribution	10.3		4.6		0.4	15.3
Fixed Costs	6.0		2.0		0.3	8.3
Op Surplus	<u>4.3</u>		<u>2.6</u>		<u>0.1</u>	<u>7.0</u>
	====		====		====	====
1985						
Sales Value	14.9	20.1	15.1	6.2	1.1	57.4
Var Costs	<u>7.3</u>	<u>16.2</u>	<u>12.1</u>	<u>5.5</u>	<u>0.5</u>	<u>41.6</u>
	7.6	3.9	3.0	0.7		
Contribution	11.5		3.7		0.6	15.8
Fixed Costs	8.0		1.9		0.3	10.2
Op Surplus	<u>3.5</u>		<u>1.8</u>		<u>0.3</u>	<u>5.6</u>
	====		====		====	====
1986 (Forecast)						
Sales Value	17.0	26.1	16.2	8.8	1.4	69.5
Var Costs	<u>9.8</u>	<u>22.2</u>	<u>13.4</u>	<u>7.7</u>	<u>0.9</u>	<u>54.0</u>
	7.2	3.9	2.8	1.1		
Contribution	11.1		3.9		0.5	15.5
Fixed Costs	11.0		2.2		0.3	13.5
Op Surplus	<u>0.1</u>		<u>1.7</u>		<u>0.2</u>	<u>2.0</u>
	====		====		====	====

FINANCIAL PERFORMANCE 1983-1986

APPENDIX 1(ii)

	1983	1984	1985	Forecast 1986
SALES (£m)	57.9	47.5	58.6	72.5
OP SURPLUS (£m)	4.9	7.0	5.6	2.0
CURRENT COST ADJUSTMENTS (£m)	(1.9)	(0.8)	(2.0)	(1.6)
CURRENT COST SURPLUS (£m)	3.0	6.2	3.6	0.4
NET INTEREST (£m)	0.3	0.4	0.1	0.3
DIVIDEND (£m)	3.5	6.5	4.0	0.5
TRANSFER TO RESERVE (£m)	(0.2)	0.1	(0.3)	0.2
OPERATING SURPLUS AS % ON SALES	8.5	14.7	9.6	2.8
CURRENT COST OPERATING SURPLUS AS A % OF AVERAGE CURRENT COST CAPITAL EMPLOYED	7.8	15.4	8.7	0.9
CURRENT COST SURPLUS AS % ON PUBLIC DIVIDEND CAPITAL (PDC)	42.9	88.6	51.4	5.7
SALES AS A MULTIPLE OF AVERAGE CURRENT COST CAPITAL EMPLOYED	1.5	1.2	1.4	1.7
CURRENT COST OPERATING SURPLUS AFTER INTEREST AS % OF AVERAGE PDC PLUS CURRENT COST RESERVES	9.3	17.4	9.2	1.7

FINANCIAL FORECASTS 1987-1990

ACTUAL PRICES

APPENDIX 2(i)

	STANDARD COIN		COLLECTORS COIN		MEDALS & MISC £m	TOTAL £m
	UK £m	OVERSEAS £m	UK £m	OVERSEAS £m		
<hr/>						
1987 (Forecast)						
Sales Value	13.5	24.8	16.9	8.8	1.0	65.0
Var Costs	6.0	20.2	12.9	7.7	0.6	47.4
	7.5	4.6	4.0	1.1	—	—
Contribution	12.1		5.1		0.4	17.6
Fixed Costs	10.1		2.0		0.3	12.4
Op Surplus	2.0		3.1		0.1	5.2
	—		—		—	—
<hr/>						
1988 (Provisional Forecast)						
Sales Value	23.9	24.1	15.5	2.7	1.0	67.2
67.2Costs	15.3	20.8	12.6	2.2	0.6	51.5
	8.6	3.3	2.9	0.5	—	—
Contribution	11.9		3.4		0.4	15.7
Fixed Costs	10.1		2.3		0.3	12.7
Op Surplus	1.8		1.1		0.1	3.0
	—		—		—	—
<hr/>						
1989 (Indicative Forecast)						
Sales Value	15.4	29.1	19.1		1.1	64.7
Contribution	13.2		4.1		0.4	17.7
Op Surplus	2.6		1.8		0.1	4.5
	—		—		—	—
<hr/>						
1990 (Indicative Forecast)						
Sales Value	16.6	30.5	20.1		1.1	68.3
Contribution	13.9		4.3		0.4	18.6
Op Surplus	2.7		1.9		0.1	4.7
	—		—		—	—

NOTE: The variation in fixed costs from year to year is mainly attributed to changes in the level of finished coin stocks.

FINANCIAL PERFORMANCE 1987-1990

APPENDIX 2(ii)

	1987	1988	1989	1990
SALES (£m)	65.0	72.1	64.7	68.3
OP SURPLUS (£m)	5.1	4.6	5.0	5.3
C.O.S.A. & M.W.C.A. CURRENT COST ADJUSTMENTS (£m)	(1.1)	(1.1)	(1.2)	(1.3)
CURRENT COST SURPLUS (£m)	4.0	3.5	3.8	4.0
NET INTEREST (£m)	0.3	0.3	0.4	0.4
DIVIDEND (£m)	4.0	3.5	4.0	4.0
TRANSFER TO RESERVE (£m)	0.3	0.3	0.2	0.4
OPERATING SURPLUS AS % ON SALES	7.8	6.4	7.7	7.8
CURRENT COST OPERATING SURPLUS AS A % OF AVERAGE CURRENT COST CAPITAL EMPLOYED	9.0	7.4	7.7	7.7
CURRENT COST SURPLUS AS % ON PUBLIC DIVIDEND CAPITAL (PDC)	57.1	50.0	54.3	57.1
SALES AS A MULTIPLE OF AVERAGE CURRENT COST CAPITAL EMPLOYED	1.5	1.5	1.3	1.3
CURRENT COST OPERATING SURPLUS AFTER INTEREST AS % OF AVERAGE PDC PLUS CURRENT COST RESERVES	9.8	8.1	8.5	8.5

FORECAST FUNDS AND RESOURCES STATEMENT

ACTUAL PRICES

APPENDIX 3

	1986 Forecast Outturn £M	1987 £M	1988 £M	1989 £M	1990 £M
CASH AND INVESTMENTS AT 1 APRIL	10.5	9.2	10.8	7.8	8.6
OPERATING SURPLUS	2.0	5.2	3.0	4.5	4.7
NET INTEREST RECEIVED	0.3	0.3	0.3	0.4	0.4
DEPRECIATION	1.4	1.7	1.8	1.9	2.0
INSURANCE	-	0.1	0.1	0.1	0.1
REDUCTION IN WORKING CAPITAL	2.2				
	16.4	16.5	16.0	14.7	15.8
LESS:					
DIVIDEND PAYMENTS	4.0	0.5	4.0	2.0	3.5
NET INTEREST PAID	-	-	-	-	-
CAPITAL EXPENDITURE	2.5	4.2	2.9	2.9	2.9
REPAYMENT OF LOANS	0.7	0.2	0.2	0.2	0.2
INCREASE IN WORKING CAPITAL (excludes proposed dividend)	-	0.8	1.1	1.0	1.1
CASH AND INVESTMENTS AT 31 MARCH	9.2	10.8	7.8	8.6	8.1

FORECAST BALANCE SHEETS

ACTUAL PRICES

APPENDIX 4

	1.4.86	31.3.87	31.3.88	31.3.89	31.3.90
	£M	£M	£M	£M	£M
NET FIXED ASSETS					
Land & Bldgs.	7.9	9.9	10.5	11.1	11.7
Plant & Machy.	11.4	13.2	15.0	16.7	18.1
	19.3	23.1	25.5	27.8	29.8
CURRENT ASSETS					
Stocks	49.1	52.0	55.2	58.5	62.0
Debtors & Pre-payments	5.2	5.5	5.8	6.2	6.6
Cash & Investments	9.2	10.8	7.8	8.6	8.1
	63.5	68.3	68.8	73.3	76.7
Less:					
CURRENT LIABILITIES					
Proposed Dividend	0.5	4.0	2.0	3.5	3.5
Creditors Advances And Provisions	39.4	41.8	44.2	46.9	49.6
	23.6	22.5	22.6	22.9	23.6
NET CURRENT ASSETS					
TOTAL ASSETS	42.9	45.6	48.1	50.7	53.4
Financed By:					
Public Dividend Capital Reserves:	7.0	7.0	7.0	7.0	7.0
General Insurance	34.2	37.0	39.6	42.3	45.0
	1.0	1.1	1.2	1.3	1.4
NLF Advances					
11% 1975-1990	0.5	0.3	0.2	0.1	-
12 1/8% 1975-1990	0.2	0.2	0.1	-	-
	42.9	45.6	48.1	50.7	53.4
	42.9	45.6	48.1	50.7	53.4
Av C/E	42.695	44.25	46.85	49.4	52.05
Av PDC + Reserves	41.91	43.65	46.45	49.2	52.0

APPENDIX 5(i)

SALES VOLUME BY PRODUCT GROUP 1983-1986

	1983	1984	1985	1986	
				Forecast	Outturn
1. STANDARD COIN: all figures are in MILLIONS of pieces					
a. Llantrisant produced					
UK	1163	744	607	778	
Overseas (incl blanks)	358	369	771	940	
	1521	1113	1378	1718	
b. Sub-contracted					
Overseas (incl blanks)	388	253	311	306	
	1909	1366	1689	2024	
2. COMMEMORATIVE COIN: all figures are in THOUSANDS of coins (a)					
UK base proof (b)	1050	1161	856	678	
UK base uncs (b)(c)	2020	4882	1289	1237	
UK silver proof (d)	32	69	53	67	
UK silver unc	-	-	-	-	
UK gold proof (c)(e)	51	54	74	70	
UK gold unc	-	-	10	13	
Overseas base proof	330	265	75	214	
Overseas base uncs	-	545	458	209	
Overseas gold proof	20	15	11	23	
Overseas gold uncs	39	42	13	40	
Overseas silver proof	199	131	301	97	
Overseas silver uncs	167	35	25	15	
Overseas Gold Ingots	94	-	-	-	
<u>Sub-contracted included in above Overseas Coin</u>					
3. SOVEREIGNS: all figures are in MILLIONS of pieces					
Bank standard					
sovereigns	1.85	1.10	-	-	
half sovereigns	2.25	0.25	-	-	
4. MEDALS: all figures are in THOUSANDS of pieces					
Medals	148	65	90	83	

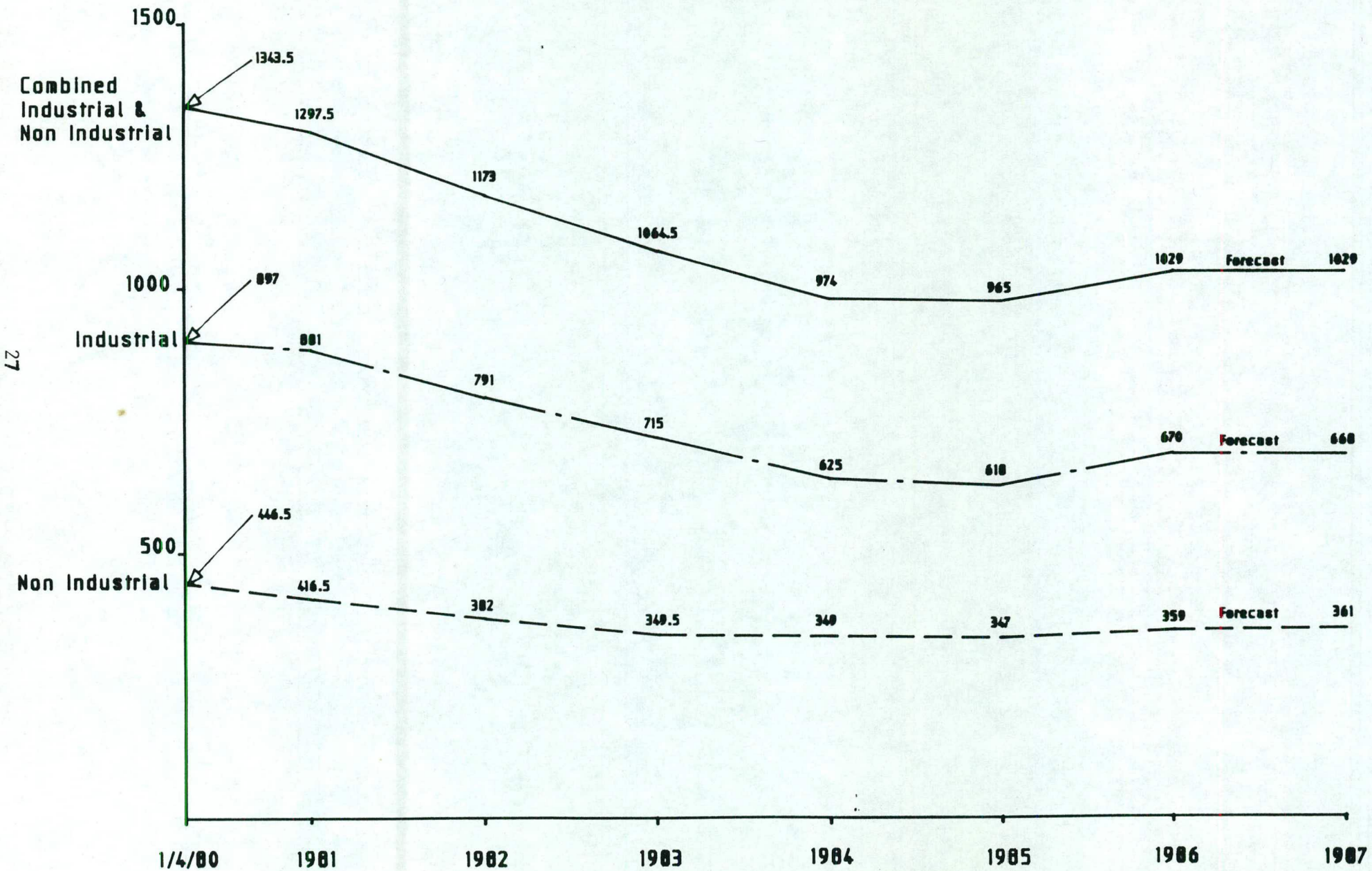
- a) Includes both Direct and Marketed Sales
 b) Assumes 7 coin Sets in 1986;
 c) Includes Coins sold both individually and in sets
 d) Includes ordinary and piedforte size coins
 e) Given in sovereign equivalents

SALES VOLUME BY PRODUCT GROUP 1987-1990

	1987	1988	1989	1990
1. STANDARD COIN: all figures are in MILLIONS of pieces				
a. Llantrisant produced				
UK	515	1570	572	585
Overseas (incl blanks)	1105	893	1169	1149
	1620	2463	1741	1734
b. Sub-contracted				
Overseas (incl blanks)	195	457	457	457
	1815	2920	2198	2191
2. COMMEMORATIVE COIN: all figures are in THOUSANDS of coins (a)				
UK base proof (b)	111	100		
UK base uncs (b)(c)	424	210		
UK silver proof (d)	133	60		
UK silver uncs	61	-		
UK gold proof (c)(e)	40	40		
UK gold unc	14	18	See Text	See Text
Overseas base proof	20	23		
Overseas base uncs	72	74		
Overseas gold proof	20	4		
Overseas gold uncs	24	4		
Overseas silver proof	153	54		
Overseas silver uncs	45	14		
Overseas Gold Ingots	-	-		
3. SOVEREIGNS: all figures are in MILLIONS of pieces				
Bank standard				
sovereigns	-	-	-	-
half sovereigns	-	-	-	-
4. MEDALS: all figures are in THOUSANDS of pieces				
Medals	90	90	90	90

- a) Includes both Direct and Marketed Sales
b) Assumes 8 coin Sets in 1987; 7 coin Sets in 1988
c) Includes Coins sold both individually and in sets
d) Includes ordinary and piedforte size coins
e) Given in sovereign equivalents

MANPOWER



CAPITAL EXPENDITURE PROGRAMME 1987

DEPARTMENT	BUILDING £'000	PLANT £'000	TOTAL £'000
Administration and Finance (see Precious Metal Unit below)	501	27	528
Assay and Scientific Services	-	69	69
Coin Press Room	148	296	444
Tools	-	253	253
Medal Unit	-	11	11
Melting Rolling and Blanking	27	866	893
Annealing and Pickling	-	189	189
Procurement	519	12	531
Proof Coin Unit	-	53	53
Quality Assurance	-	13	13
Precious Metal Unit	400	214	614
Technical Services	-	23	23
Engraving Section	-	7	7
Works Engineering	-	14	14
Receipt and Despatch	-	21	21
Computer Bureau	-	517	517
	<hr/>	<hr/>	<hr/>
TOTAL	1595	2585	4180
	<hr/>	<hr/>	<hr/>

APPENDIX 8

RESEARCH AND DEVELOPMENT PROGRAMME 1987

	£	
1. Circulation coins	82,000	
2. Collectors coins and medals	11,000	
3. Materials	102,000	
4. Robotics	2,000	
5. Information gathering	3,000	
6. Contingency	10,000	
	<hr/>	£210,000

The in-house cost is £141,000 and £69,000 is budgeted for all external work eg Consultancies, R&D Contracts, Services etc.