PO - CH/NL/0164

PART A

Part A.

CONFIDENTIAL

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Begins: 15/6/87.
Ends: 23/6/88.

COMMERCIAL-IN-CONFIDENCE.

Chancellor's (Lawson) Papers:

NEW COMPUTER FACILITIES AND DATA PROTECTION FOR CENTRAL TREASURY

Disposal Direction: 25 Years

4/9/95.

.15

COMMERCIAL IN CONFIDENCE

HMT 08

From: SIR PETER ~~MIDDLETON~~

Date: 15 June 1987

1. Mr Peter Brooke

2. CHANCELLOR

cc Chief Secretary
Financial Secretary
Economic Secretary
~~Minister of State~~
Sir G Littler
Sir T Burns
Mr F E R Butler
Mr C D Butler
Mr Scholar
Mr Melliss
Mrs R Butler
Mr I P Wilson

NEW COMPUTER FACILITIES FOR CENTRAL TREASURY

You endorsed last year's Treasury PES submission (my minute of 7 April 1986 attached). This included proposals for the replacement of existing computer facilities for our economic analysis and public expenditure control work. The financial provision was to be found from within the existing Treasury PES baseline and provision was made in the Treasury's 1987/88 Supply Estimates. As the potential project cost was above the agreed EC and GATT limits the full EC/GATT competitive tender rules were followed.

2. Exploratory discussions were held with a considerable number of companies and an operational requirement was issued last Summer. In the Autumn last year, a shortlist of three companies was agreed - Digital Equipment Corporation (UK) Ltd (DEC), International Business Machines (UK) Ltd (IBM) and Prime Computer (UK) Ltd. Both ICL, the major potential British supplier, and Sperry - the suppliers of the existing equipment - received copies of the operational requirement. Neither chose to bid.

3. After further technical discussions Prime withdrew from the competition. Memoranda of Agreement were signed with DEC and IBM and formal invitations to tender were issued in March. Both solutions offered major improvements on our existing facilities, giving considerably more computer power, better software facilities, and greater flexibility to adapt for change and growth. Having now received and evaluated the tenders, we find IBM have come out the clear winners. On procurement costs IBM is considerably cheaper and the solution is appraised as offering greater potential benefits than that of DEC.

4. We want to place the order as soon as possible to enable us to take delivery of the equipment in early August. This timetable, which is now very tight, will permit a smooth and complete transfer of our economic analysis work to the new machine in May or June of next year, in time for the next annual cycle of work. It will also ensure that we can begin to transfer our public expenditure control work on the planned timetable. Delay in placing the order would lead to a significant risk to these plans, with the possibility that the old machine would have to be retained longer than planned. This would be expensive. We need therefore to press ahead urgently to order and install the new equipment. I should be grateful for confirmation that you are content.

P E MIDDLETON

Mr Brooke might like to be sure that he is content.

MANAGEMENT IN CONFIDENCE

From: SIR PETER MIDDLETON

Date: 7 April 1986

CHANCELLOR

cc Chief Secretary
Financial Secretary
Economic Secretary
Minister of State
Sir G Littler
Sir T Burns
Mr F E R Butler
Mr A Wilson
Mr Anson
Mr Cassell
Mr Monck
Mr Kemp
Mr Byatt
Mr Lavelle
Mr Scholar
Miss Kelley
Mr Burgner
Dr Freeman
Mr C D Butler
Mr Turnbull
Mr Peretz
Mr Fox
Mr J Dixon
Mr I Wilson
Mr Mathews
Mr Needle
Mr J M G Taylor

TREASURY PUBLIC EXPENDITURE PROGRAMME

In my minute to you of 26 November 1985, reporting on the Treasury's internal budgetting exercise, I said that I would be taking a close look at the major components of the Treasury's own PES. This minute reports on the outcome.

Treasury expenditure: background and prospects

2. The current PES baseline for the Treasury is as follows:

	1986-87	1987-88	1988-89	1989-90*
Main Treasury [illegible] (excluding NEDO	36.6	36.6	36.7	40.6
CCTA	17.3	16.0	16.4	16.8
NEDO	7.1	7.3	7.5	7.7
Bank of England current expenditure	82.7	86.5	88.6	90.9
UK coinage	23.6	26.8	27.5	28.2
Other (Civil List etc	5.7	5.8	5.9	6.0
TOTAL	175.3	181.0	185.6	190.2

* Figures for 1989-90 assume that the baseline will be revalued by 2.5 per cent on 1988-89.

3. Last year's discussion showed that we could balance the books for 1986-87 without too much difficulty because savings on the coinage side would provide headroom for higher expenditure on telecoms particularly on the Whitehall telephone system. But the position looked much tighter in 1987-88 and beyond. I wanted to be satisfied on three points:

(a) whether the balance of expenditure within the Treasury programme was right;

(b) whether we were getting equal value for money from different parts of the organisation;

(c) whether the expenditure programme was under proper control and resilient enough to cope with changes in the economic and institutional scene, as well as policy changes.

General approach

4. I start from the assumption that it is a matter of the highest priority to stick within our baseline. The Treasury's efforts to get other departments to meet needs by redistributing resources

within a given, or falling total are more likely to be successful if we do the same thing ourselves.

The Bank

5. The purchase of services from the Bank dwarfs other components of the Treasury's PES. It falls into three main areas: the note issue (some £47 million in 1986-87), the management of the Exchange Equalisation Account (some £3 million in 1986-87) and debt management (some £32 million in 1986-87). In truth we know very little about the scope for increased efficiency or savings in this part of the programme. There have in the past been suggestions for independent investigations, efficiency audits and the like, but these have never been pressed on the Bank. So this part of our programme cannot be said to be managed by us at all.

6. The main pressure for increased efficiency - and I think it has been a real though unquantifiable pressure - has come from the cash limiting of the Bank's current expenditure. The Bank has so far managed to live within its cash limit. Capital expenditure by the Bank is not however part of the Treasury PES.

7. Looking at the three services we purchase:

(a) The possibility of making savings on the **note issue** is limited by the Bank's statutory position as the monopoly supplier. The obvious question is whether we should get a better service if the note issue was privatised. This would clearly be a massive task. And there must be doubts about the ability of an organisation other than a Central Bank to undertake the tasks of printing, distribution and counter-forgery work. But we still feel that we should test the market, if only to put pressure on the Bank to increase its efficiency and reduce its charges to us.

The Bank's management of the exchange equalisation account has recently been the subject of a management audit. They are now conducting their own management review. Some minor economies may emerge. In principle, contracting out the investment of part of the reserves might be possible, provided that they were at a high enough level. But [illegible] not really a serious option. The need for liquidity is usually the paramount consideration rather than profit maximisation; and there could be problems of confidentiality if it was necessary to draw heavily on the reserves for intervention purposes. I doubt whether there is much to be done here.

(c The costs of debt management are largely determined by the weight of past issues and turnover in the market. The registration of change of ownership provided by the Bank is very fast compared to that provided by other registers, and we are concerned that pressure on costs could rise with increased turnover in gilts following "big bang". So we think it would be worth examining in detail the cost components of the Bank's charges to us perhaps using the registration departments of commercial banks as a basis of comparison, though none of them handle operations approaching the scale of that of the Bank. I doubt however whether there are likely to be any easy savings, but a close examination would at least enable us to prepare the ground against this.

8. This amounts to asking the Bank for more information on their two main programmes and subjecting it to whatever comparisons we can find. The Bank is however sensitive to any suggestion that it provides a less than perfectly cost-effective service, so we may need Ministerial backing even for this limited move. But we

must apply the same stringent criteria to expenditure by the Bank as to other areas of Treasury expenditure.

Coinage

9. I am not happy about the extent to which expenditure on the coinage front has varied so significantly from the provision made for it in recent years, though the underspend has in fact given useful headroom for higher than expected expenditure elsewhere in the Treasury area. There are two lessons I draw from this. First, we need to build further on the work we have already done on forecasting, though this has proved to be a very difficult area. Mr Mathews' submission of 25 March to the Economic Secretary has identified substantial savings from the PES baseline, but we must see what can be done to refine those figures. Secondly, experience with the £1 coin convinces me that we need to think carefully about the handling of any further new coins, with the possibility of a new 5 or 10p coin being considered. The case for this needs to be examined both on coinage and public expenditure grounds. Before introducing any new coin, we need to ensure that this is essential and that it offers as good value for money for Treasury PES in 1987-88 and 1988-89 as investment in new Treasury computing facilities and better telecom facilities for central government as a whole. I am not convinced that it does.

NEDO

10. Expenditure on NEDO is financed by a grant-in-aid which falls on the Treasury Vote. NEDO finances have been controlled in recent years through Estimates and PES to maintain expenditure constant in cost terms **ex ante**, on the basis of the PES revaluation factor. In practice this has usually meant a squeeze, since increases in wages and other costs have exceeded the PES assumptions. There have also been manpower cuts (from 247 in July 1979 to 211) although it is not automatically covered by manpower or running cost controls.

11. I have looked at the scope for further reductions in NEDO's provision. The extent to which these are pursued is largely a matter of taste. Some of NEDO's activities clearly contribute

very little to its principal objectives; others could be cut, but with some (if not serious) effects on its ability to perform its function. It is also clear that any attempt to reduce NEDO's expenditure will bring about a disproportionate amount of complaint from the CBI, TUC and NEDO itself.

12. This said, I consider that we could reasonably aim for savings of £400,000 by 1988-89. These could be found from a combination of: reducing research expenditure, reducing NEDO's communication activities, abolishing the Committee on Finance for Industry, and reducing posts (to 191 by 1990) possibly through a reduction in the number of EDCs. Once the maximum savings had been achieved, I should also want to try to get DTI to take over the financing of their EDCs (and the other departments those EDCs they sponsor), even if a full PES transfer were required. I have no doubt that tough negotiation would be required to meet any or all of these objectives and that, given the nature of NEDO, Treasury Ministers may get drawn in before long. But I consider that it is well worth making the effort. I should be grateful for your agreement that negotiations should begin with NEDO on this basis.

13. This brings me to expenditure - 32% of the total - which is under Treasury management control.

CCTA

14. The balance of the CCTA's work is changing following the Freeman Review. The highest priority is now being given to creating and managing the communications infrastructure needed to support departments' requirements for all forms of electronic data transmission - voice, data, text and image. There is an urgent need for modernisation and improvement. Investment can be expected to yield a high rate of returnin terms of greater efficiency and lower running costs. Another priority is to promote the adoption of standards for information technology in Government. This will create savings through the use of common systems and procedures. The nature of the Agency's work makes it difficult to compare the relative value of their activities with those elsewhere in the Treasury. To a large extent the benefitis toWhitehall as a whole,

[illegible] the other benefits accrue to other departments through cost savings and increased efficiency.

15. The Agency calculate that additional capital expenditure of about £2 million in both 1987-88 and 1988-89 on telecommunications would provide a high rate of return, in terms of cost savings. This extra investment would be recouped over a period in the charges made to departments. But the Treasury has to fund the initial investment from its own PES provision. We believe that it makes good sense, in value for money terms, to undertake investment of this sort, especially as the Agency's running costs are hard hit by the increase in size and coverage of ADP allowances. What is not clear at the moment is the extent to which it could be covered by savings in other Agency activities. To the extent that it cannot be met this way I would regard it as justified to earmark part of the savings elsewhere in our PES to finance this expenditure.

CCC and CISCO

16. The work of Chessington Computer Centre is going well. They are meeting the rigorous performance standards we set. CISCO is improving the management of staff restaurants. Departments are charged with assessing the competitiveness of CISCO and private sector suppliers by March 1988. Both businesses can expect to reduce the manpower they require as a result of changing demands and increasing efficiency. I am well satisfied with the progress being made.

Treasury

17. The central Treasury is tightly manned. The running cost target for 1987-88 is in line with the GDP deflators. Living within this will put pressure on us. I see no scope for savings beyond what is required to keep us there: indeed we can only stay within our 1986-87 target by virtue of maintaining our current high level of vacancies. This in turn means long hours and times of great pressure on staff. On the capital side, substantial investment in new computing facilities is essential. Economic analysis and public expenditure control work are currently done on a CSO operated

[illegible] overloaded and inefficient. It is in [illegible] nearing the end of its useful life. It must be replaced [illegible].

18. We have decided that it should be replaced by separate computing facilities for central Treasury and the CSO. This makes sense on resource allocation, management and operational grounds. To cover the introduction of, and transition to, the new equipment will require additional Treasury expenditure of around £3.5 million in 1987-88 and £1.5 million in 1988-89. This replacement of essential facilities can be funded from within the existing Treasury baseline only if other expenditure of the same amount, and timing, is deferred, or dropped. The only way in which this can be done in practice is to defer substantive expenditure on the introduction of a new coin until 1988-89 or later, and using the savings already identified on the coinage vote. I hope Ministers will agree that we should work on this assumption which is set out in the minute by Mr Mathews to which I have referred.

Conclusion

19. I propose that we should aim to live within our existing baseline, and accommodate the purchase of new computing facilities for the central Treasury, and better telecommunications for the central government as a whole from some of the savings which will accrue from deferring work on the introduction of a new coin. We should press the Bank further on the cost effectiveness of their expenditure and attempt to make some modest savings from NEDO. This would be put into effect in the Public Expenditure Survey for 1986 which has just started.

P E MIDDLETON

BANK OF ENGLAND

The Bank's PES entry for recoverable charges scores in Treasury PES. Cmnd 9702 provision is:

			£m
1986-87	1987-88	1988-89	1989-90
82.7	86.5	88.6	90.9

It accounts for about 50% of Treasury PES. The Bank's provision is cash limited.

Services

2. The Bank undertakes three activites for the Treasury for which we are charged full costs. In return we get:-

(a) for debt management, the work which has to be done by law eg registering the stock, paying dividends etc on gilts. The bulk of the cost relates to past issues of gilts, and is effectively demand - determined.

(b) for note issue, the supply of new bank notes, examination and destruction of old notes, experimental work on the currency, and prosecution of forgery cases.

(c) under EEA management, the work involved in operating exchange market intervention, managing the reserves, and foreign currency borrowing.

The great bulk of expenditure falls on functions (a) and (b).

Additional bids

3. No additional bids have (yet) been made for PES 1986 and the Bank has so far undertaken to live within its 1986-87 cash limit. However, it is probable that the Bank's provision will be under pressure on at least three

fronts: increased turnover in gilts, associated with "Big Bang" heavy redemptions of gilts in 1987 and 1988; and increasing costs in prosecuting bank note forgeries. It is difficult to estimate the cost of any increase in turnover from October 1986 from these changes already in the pipeline; bids for forgery prosecution might be as much as £0.5 million; but the extra costs associated with 1987 and 1988 redemptions may be as little as £0.050 million.

Savings

4. The most obvious saving in the Bank's programme (abolition of £1 note) has been taken. There are no easy options. But certain areas can be probed to aim to contain the expected pressure:

(a) on debt management to see if stock transfers need to be effected in 2-3 days, rather than the 10 days required by law; whether overhead charges could be cut by moving the clerical operations on the Register out of London; and by increasing some Register charges to cover full costs for services for which it is possible to make a charge.

(b) On the note issue to see if the clearing banks could pay more for clean notes and to test the market for outside printing of bank notes (and to do the same on registration); and if the quality of bank notes could be allowed to fall from existing levels.

Consequences of Abandoned Bids

5. There is little room for manoeuvre. The Bank cannot easily drop functions, most of which are imposed by statute. While in theory it may be possible on the note issue note to prosecute forgeries, the consequences, both on the Government's line on fraud generally and on confidence in the currency, would be unpalatable.

PES Prospect 1987-88 - CCTA

CCTA PES Structure

The structure of CCTA's expenditure and the approximate expenditure/receipts in 1986-87 are broadly as follows:

		£,000
(i)	Running costs (incl. consultants)	13,900
	Capital for projects for CCTA's own internal use	1,100
	Research and development ("development studies")	3,100
	offset in part by receipts for:	
	Procurement services	(3,500)
	Other repayment services (eg Small System Applications Unit, specialist consultancy and technical services)	(1,300)
	Deductible input VAT	(700)
(ii)	Interdepartmental telecommunications expenditure - capital and current	23,600
	largely offset by receipts for operation and management of telecommunications services. (Receipts do not match expenditure because capital is amortised and recovered over a period of years.)	(19,400)
(iii)	Purchase of IT equipment on an allied service basis for the Houses of Parliament	800

Potential bids

These are based on a January submission to the Planning Board and are preliminary and 'worst case' figures.

(a) Running costs - £500,000

To cover effect of increases in ADP allowances and pay realism bid (5% rather than 3%). Also £200,000 for more floor space in Riverwalk House - to provide more room for the operation and demonstration of equipment.

(b) Capital equipment - £400,000

CCTA is planning to introduce the first phase of office automation and internal computing facilities in 1987. This bid is for the start of the second phase, which will be spread over several years. A detailed case will need to be prepared in the usual way in due course.

(c) Research and development - £600,000

This part of the programme consists of a large number of separate studies. These fall into four main areas - telecommunications, development of computerised tools for producing software, development of tools for measuring and managing computer systems, and appraisal of new hardware and software. Wherever possible individual studies are subject to investment appraisal. The programme for 1986-87 was cut back due to financial pressures: this bid is to restore it to the level of recent years.

(d) Telecommunications capital - £1,900,000

This covers two elements. £600,000 is for the approved £30 million voice communication programme: review has shown the need for some rephasing of expenditure within the programme. The balance is to create a non-voice network. Total cost is some £4 million, and the expenditure has a rate of return of some 48%. All this expenditure will be recovered in due course through charges.

Off-setting savings

No attempt was made at the time of the January submission to identify possible off-setting savings or decide which bids should be dropped - both because they were preliminary and 'worst case' figures, and because review of the receipts side of the budget could well lead to some offsetting savings to the bids. The scope for such savings is currently being considered in the light of the 1985-86 outturn.

Houses of Parliament

Computer requirements for the House of Lords and House of Commons are funded from the CCTA Vote on an allied service basis. This is an anomaly: the former Speaker resisted an earlier proposal by Treasury Ministers that Parliament should take over responsibility for its own computer expenditure. The issue will come to a head this year if, as expected, there are bids for substantial expenditure in excess of the baseline. Although no firm figures have been produced, there are suggestions that the additional bid could be well over £1 million. In this event we may need to advise Treasury Ministers to take up the issue with the House authorities again.

NATIONAL ECONOMIC DEVELOPMENT OFFICE (NEDO)

Main Activities Covered by the PES Provision

The Office has two main roles. First, it provides the Secretariat for the centre NEDC organisation - the Council, the EDCs and other committees. Second, it undertakes independent analyses of industrial and economic problems which form the basis for discussion by the Council and committees. To perform these functions the Office has a complement of 211 staff (209½ staff in post at 31 March 1986). The main functional divisions are Industry (108½ staff), Administration (54 staff) and Economics and Statistics (19½ staff) and Manpower and Industrial Relations (10½ staff).

2. The grant in aid for 1986-87 is £7.115 million. The main expenditure heads are as follows:

Salaries & Superannuation	£3.8m
Communications - mainly communicating the results of EDC work to companies and plants.	£715,000
NEDO contribution to commissioned research, mainly field work etc for the EDCs. (Contributions are also received from industry and other Govt. Departments).	£370,000
Administrative expenditure: about half of this for accommodation charges.	£2.25m

Possible savings

3. A reasonable aim might be for savings of £400,000 by 1988-89, from a combination of:

- reducing provision for research and communications expenditure by £100,000 each over a two year period;

- abolishing the Committee on Finance for industry and reduce staff by 20 by 1990.

4. On research, the office would of course have the option of seeking to make up some of the reduction in the grant-in-aid by seeking increased contributions from others (particularly the private sector).

5. On communications, expenditure has grown rapidly, by nearly 75 per cent between 1981-82 and 1986-87 in cost terms, at the behest of the Council. But the £100,000 cut we are suggesting would still leave it higher by around £175,000 in 1986-87 prices than it was before the Council approved an increase in activity. The cost would largely be achievable if NEDO's were able to ensure that its exhibitions and conferences, were made fully self financing.

6. Reducing staff by 20 posts Up to four of these posts would follow from the abolition of the CFI. It would be for the Office to determine how to save the rest. To the extent that they could not be made by performing existing tasks more efficiently (eg in the 54-strong Administrative Division), then some activities would have to be cut. It might be necessary, for example, to reduce the total number of EDCs by abolishing some of the least effective (which would be desirable in any case) and/or to cut back the work of the 19½-strong Economics and Statistics division, or the 10½-strong Manpower and Industrial Relations divisions.

7. Staff cuts take time to build up, and of course some redundancy costs might be incurred. However, assuming the cuts in research and communications were spread evenly over the two years 1987-88 and 1988-89, the total savings over the survey period would be of the order of £160,000 in 1987-88, £400,000 in 1988-89, and £480,000 in 1989-90.

21 MARCH 1986

COMMERCIAL IN CONFIDENCE

FROM: S P JUDGE
DATE: 16 June 1987

PAYMASTER GENERAL

APS/CHANCELLOR OF THE EXCHEQUER

cc PS/Chief Secretary
PS/Financial Secretary
PS/Economic Secretary
Sir Peter Middleton
Sir Geoffrey Littler
Sir Terence Burns
Mr F E R Butler
Mr C D Butler
Mr Scholar
Mr Melliss
Mrs R Butler
Mr I P Wilson

NEW COMPUTER FACILITIES FOR CENTRAL TREASURY

The Paymaster General has seen Sir Peter Middleton's submission of 15 June, and has commented that this seems straightforward. He adds that the nationality of the sourcing became irrelevant once ICL chose not to bid: Digital are of course also American. IBM have sensible "good citizen" policies.

S P JUDGE
Private Secretary

ps2/35R

COMMERCIAL IN CONFIDENCE

FROM: CATHY RYDING
DATE: 17 June 1987

PS/ SIR P MIDDLETON

cc Chief Secretary
Financial Secretary
Paymaster General
Economic Secretary
Sir G Littler
Sir T Burns
Mr F E R Butler
Mr C D Butler
Mr Scholar
Mr Mellis
Mrs R Butler
Mr I P Wilson

NEW COMPUTER FACILITIES FOR CENTRAL TREASURY

The Chancellor has seen Sir P Middleton's minute of 15 June and your minute of 16 June. The Chancellor is content for the order to be placed with IBM.

CR

CATHY RYDING

Mr I P Wilson

TREASURY COMPUTER PURCHASE FROM IBM

The Chancellor has made a few changes to the letter and Q and A briefing. Could you please confirm that you are content.

Cathy Rydings

24/6

Mrs Rydings

S am content. Note one small correction to letter.

24/6

PS On a separate topic. Have you had a recent letter from DTI Private Office about a feasibility study for electronic mail between Ministerial offices? If so, S have an interest and would be grateful for a copy.

CR
OUR TOPS NOWHERE
TO BE FOUND COPIES
ONLY I'M AFRAID
TL
23/6

15/16

From: I P WILSON
Date: 17 June 1987

1. MR C D BUTLER 22/6

2. PS/CHANCELLOR

cc: Paymaster General
Sir P Middleton
Sir T Burns
Sir G Littler
Mr F E R Butler
Mr Anson
Mr Scholar
Mr Pickford - Press Office
Mr Monaghan - CCTA

C/OK for PS letter to issue?
CR 22/6

TREASURY COMPUTER PURCHASE FROM IBM

There are standing arrangements for informing No 10 about public sector purchasing decisions which could be potentially controversial. Strictly, the contract with IBM for Treasury computing facilities does not fall into that category, since no British firm chose too bid and the decision was taken on value for money grounds following open competition. But IBM are involved and Treasury is a new customer for the company so there is likely to be some publicity in the computer press. It would be advisable therefore to keep No 10 in the picture.

2. I attach a draft PS letter giving the background to the decision and the line we suggest the Press Office should take if any enquiries are received.

I P WILSON

DRAFT LETTER

FROM: PS/CHANCELLOR
TO: MR NORGROVE, No 10

NEW COMPUTER FACILITIES FOR CENTRAL TREASURY

You will wish to be aware that the Treasury is about to place an order with IBM for computing equipment. The order is not particularly large (under £1½ million), but because the Treasury is involved, the project may attract some attention in the computer press and it is just possible (although unlikely) that Parliamentary interest might be aroused.

Background

The equipment is needed to replace the existing computer which was bought from Sperry (now merged with Burroughs to form Unisys). As you know, the Sperry is used for our economic forecasting and modelling work and for public expenditure monitoring and control. The plan is to keep the Sperry running in parallel until March 1989 while we redevelop and migrate these applications.

The Treasury was keen to explore the full range of facilities available in the market so the procurement followed the full competitive tender rules required by EC and GATT regulations and by the CCTA. Over fifty copies of the operational requirement were issued by CCTA, including to ICL and Sperry. Neither of these companies made a proposal. The short list was IBM(UK) Ltd, DEC(UK) Ltd and Prime Computer (UK) Ltd, with Prime subsequently withdrawing. Memoranda of Agreement were signed with DEC and IBM and formal invitations to tender were issued in March. The tenders have now been evaluated and IBM is the clear winner. On procurement costs IBM is considerably cheaper and their solution is appraised as offering greater potential benefits than that of DEC.

I have thought it worthwhile to set out the background in some detail. I attach some brief Q and A notes which have been prepared for our Press Office and which you might find useful.

Treasury Computer Purchase from IBM

Q Why is the Treasury buying equipment from IBM rather than supporting indigenous information technology companies such as ICL?

A The recent Treasury decision was taken following a full competitive tender exercise. Competition is not only essential to achieve value for money, it is also required by European Community and GATT rules which this Government fully supports. In any event, ICL chose not to bid for this contract.

NS.

Q How much is the contract worth?

A Not prepared to give detailed information on individual contracts.

Q Why does the Treasury not set an example by buying its computer equipment from ICL?

A The Treasury does buy computer equipment from ICL. In fact, as the House was informed on 25 February (W.A. Hansard Vol III No 62 Cols 305-308), in the last two financial years ICL was by far the largest supplier of computer equipment to Treasury.

Mr I P Wilson

TREASURY COMPUTER PURCHASE FROM IBM

The Chancellor has made a few changes to the letter and Q and A briefing. Could you please confirm that you are content.

Cathy Rydings

2416

ps2/72R

Treasury Chambers, Parliament Street, SW1P 3AG
01-270 3000

24 June 1987

D Norgrove Esq
10 Downing Street
LONDON SW1

NEW COMPUTER FACILITIES FOR CENTRAL TREASURY

The Prime Minister will wish to be aware that the Treasury is about to place an order with IBM for computing equipment. The order is worth less than £1½ million, but since IBM is American-owned it may attract some attention. No British-owned company (of which ICL was the only possible contender) bid for the contract.

Background

The equipment replaces the existing computer which was bought from Sperry (now merged with Burroughs to form Unisys). The Sperry is used for our economic forecasting and modelling work and for public expenditure monitoring and control. The plan is to keep the Sperry running in parallel until March 1989.

The Treasury followed the full competitive tender rules required by EC and GATT regulations and by the CCTA. Over fifty copies of the operational requirement were issued by CCTA, including to ICL and Sperry. Neither of these companies made a proposal. The short list consisted of three US-owned companies: IBM (UK) Ltd., DEC (UK) Ltd and Prime Computer (UK) Ltd, with Prime subsequently withdrawing. Memoranda of Agreement were signed with DEC and IBM and form invitations to tender were issued in March. The tenders have now been evaluated and IBM is the clear winner. On procurement costs IBM is considerably cheaper and they offer greater potential benefits than DEC.

I attach some brief Q and A notes which have been prepared for our Press Office and which you might find useful.

CATHY RYDING

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Departmental Computers

Dr. Hampson asked the Chancellor of the Exchequer to which firms his Department has awarded contracts for computer hardware for each year since 1984; and what was the value of each contract.

Mr. Brooke: The following list contains the names of companies with which the Treasury has spent more than £10,000 on computer hardware, in either of the years 1985-86 or 1986-87, with a broad indication of the amounts involved. For reasons of commercial confidentiality, I am not prepared to give details of individual contracts.

Amounts spent				
1985-86				
Over	£1,500,000			ICL
Between	£50,000	and	£150,000	Apollo Computers Limited Comart Computers Limited IBM UK Limited Systime Limited
Between	£25,000	and	£50,000	British Telecom
Between	£10,000	and	£25,000	Apricot UK Limited Casu Electronics Harrison Comp Serv. Lexi Systems Logica ROCC Computers Winslow Zygal Dynamics plc
1986-87				
Between	£500,000	and	£1,000,000	ICL
Between	£50,000	and	£150,000	Compel plc Systime Limited
Between	£25,000	and	£50,000	British Telecom IBM UK Limited Logica Micronology Limited
Between	£10,000	and	£25,000	Apollo Computers Limited Cooper Armer Limited Harrison Comp Serv. Sensory INF Systems Winslow

The Treasury also purchased computer hardware worth between £25,000 and £50,000 from HMSO in 1986-87.

VRD8BM05

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The Rt Hon Viscount Whitelaw PC CH MC
Lord President of the Council
68 Whitehall
LONDON SW1

24 June 1987

Dear Willie,

INFORMATION TECHNOLOGY ADVISORY PANEL (ITAP) REPORT "LEARNING TO LIVE WITH IT": GOVERNMENT RESPONSE

When ITAP reported last year, the Prime Minister asked me to prepare a draft co-ordinated Government response. I attach a draft response and I should be grateful for your agreement and that of colleagues that this be submitted to the Prime Minister.

The draft response includes a description of the Government's achievements thus far in this area - particularly necessary, I think in responding to a report which evidently overlooks many of them. It then deals with the report's four formal recommendations which are addressed primarily to the Government. Of these, the most significant - and the one which attracted most attention at the time of publication - is the call for a Commission of Enquiry into Education and Training. In my judgement this recommendation - for what would be an overblown Royal Commission - is not acceptable. The reasoning is set out at paragraphs 33-36 of the draft.

I should be grateful for colleagues' responses to the draft by 8 July. Once the Prime Minister has cleared a final text, the Government response will be delivered to the Advisory Body on Applied Research and Development (ACARD), which has absorbed the functions of the now defunct ITAP. I shall thereafter arrange for the response to be published.

Copies go to the Chancellor of the Exchequer, the Secretaries of State for Employment, Trade and Industry, Environment, Social Services, Scotland, Wales and Northern Ireland.

Yours

Draft 16.6.87

GOVERNMENT RESPONSE TO THE ITAP REPORT ON "LEARNING TO LIVE WITH IT"

Introduction

1. The Government welcomes the report by the Information Technology Advisory Panel (ITAP) on "Learning to live with IT". The report rightly calls attention to the profound implications of IT for education and training, as well as to the crucial role of education and training in enabling people to benefit from IT.

2. The Government wholeheartedly endorses much of the analysis in the report, including:

its emphasis on the potential of IT for enhancing training and education across the curriculum;

its acknowledgement of the "innovative and exciting work" in schools, and the "high calibre and knowledge" of many teachers and lecturers;

its warning about some of the difficulties which can attend the incorporation of IT into teaching and learning;

and its insistence that, while IT offers the prospect of a significant enhancement of education and training, the role of the teacher and the lecturer will remain central.

3. Government policies and programmes

Government shares with a number of other agencies responsibility for the education and training systems, and for the development of IT within them. In the case of education, the managers of institutions, the local education authorities and the higher education planning bodies all have major

responsibilities. In the case of training, the MSC has an important role; but employers have the major responsibility for ensuring that their employees are properly trained to meet the challenge of rapidly changing technology. Within this context, the Government has developed programmes, at all levels of the education and training system, designed to increase the emphasis on IT.

4. The Government policy on IT in schools in England and Wales has to be seen in the context of its policies for the whole curriculum. These were set out in broad terms in "Better Schools" (Cmnd 9469, 1985). This White Paper recognised that the new technologies are exciting and challenging; they can enrich the learning process in various ways and will increasingly affect what pupils need to learn. In particular, in the primary schools, the content of the curriculum should introduce pupils to the nature and use in school and in society of new technology and in secondary schools all pupils should be introduced to new technology and how it is affecting people's lives and work. Curricular policies in Scotland are also giving positive encouragement to the study and application of the new technologies in both primary and secondary schools.

5. The Government has recently announced proposals for a national school curriculum, which would give statutory backing to age-related attainment targets linked with programmes of study and assessment (including testing) over a range of subjects which would represent a broad, balanced and relevant foundation curriculum. Working groups are to be established for each of these subjects; and the first two, for mathematics and science, [have already been]/[will shortly be] set up. As part of their remit each of the groups will need to take proper account of the extent to which new technology is relevant to their discipline in both primary and secondary schools.

6. In support of its policies, the Government has initiated a range of programmes to support and develop IT activity in schools. The Micros in Schools scheme helped to provide a computer in every school in the UK. In England, Wales and Northern Ireland, the Microelectronics in Education Programme (MEP), as well as raising the general level of interest and debate in the topic, created materials, including some 2,000 computer programs, designed to extend the use of new technology across the curriculum; provided training at various levels for up to 100,000 teachers; and stimulated the LEAs to open up their computer centres and appoint their own advisers.

7. In Scotland, the Scottish Microelectronics Development Programme (SMDP), now incorporated within the Scottish Council for Educational Technology (SCET), has provided a software development and information service. The provision of training in the applications of the new technologies in education is an area of priority activity for the Colleges of Education and is supported by the SED specific grants scheme. Also in Scotland, the Government has enhanced local authority capital allocations in 1987/88 by £2m in order to encourage the purchase of equipment associated with Standard Grade scientific and technological subjects, including Computing Studies. The scheme will continue in future years.

8. On average there were by 1985 1.7 micro computers per primary school, and 13.4 and 17 micros respectively per secondary school in England and Wales. A survey that year showed that in primary schools younger pupils were using the micro mainly to develop keyboard and mathematical skills, while for older pupils the emphasis was on mathematics and problem solving. (In Scotland, where levels of provision are slightly higher, the computer in the primary school tends to be integrated into number work, language and environmental studies). The main use of computers in secondary schools was in computer studies departments, though they were being used in other subjects, in particular science, geography and CDT. However, outside computer studies and specific familiarity courses, the use of IT was found to be sporadic. Schools thus had a considerable way to go in exploiting the contribution IT can make across the curriculum.

9. Current Government initiatives are designed to assist the LEAs and schools in this task of integration. Proposals for a new Education Support Grant in England, from 1988/89, are designed to increase both the availability of hardware and the provision of cross-disciplinary advisory support. [Subject to the necessary statutory consultations] the grants should cover some £8.5m under the hardware heading and £10.5m for advisory support in 1988/89; and they are envisaged as the first phase in a continuing programme. This is complemented by grants for in-service teacher training in the field of IT in schools - classified as a national priority under the new INSET grant arrangements - for which some £4m are available in the current year. In Scotland assistance with in-service teacher training is available to Education Authorities through the specific grants scheme and a range of award bearing and shorter courses is provided by the Colleges of Education.

10. The Microelectronics Support Unit (MESU), set up in 1986 under grants from the Education Departments, is now providing a central source of information for LEAs, support for their advisers and development of curriculum materials targetted at classroom use of new technology. In Wales, the Microelectronics Education Unit (MEU (Cymru)), has been retained by the LEAs and performs a co-ordinating role in close co-operation with MESU. The DTI continues to make available occasional sums intended to give amodest boost to the provision of computer hardware in schools, and its £3.5m software in schools scheme is helping schools to purchase software. The reconstituted Council for Educational Technology, funded by DES and other departments, is now well placed to perform a crucial evaluative role as new technological developments become available.

11. In the non-advanced further education NAFE sector, central agencies have been assisting college managements and their maintaining LEAs to increase their IT provision across the curriculum. The MSC has a central fund to help LEAs finance IT related activities in NAFE. In 1986/87 £290,000 was committed to activities such as staff development, curriculum development and the promotion of IT awareness. The DES has concentrated its efforts particularly through the Education Support Grant (ESG) programme which meets 70% of the cost of approved LEA expenditure on computer hardware; development of courseware materials; and staff training. In the first three years of the scheme, to March 1988, £30m of expenditure -including £18m on computing equipment - is being supported in this way. A similar scheme is operating in Wales, where the comparable figure for expenditure is just over £2 million. In Scotland the local authority capital expenditure programmes for 1986/87 and 1987/88 have been increased by £1.5m per annum to enable further education colleges to purchase micro electronic equipment and new technology in support of the Government's 16+ Action Plan.

12. There has thus far been limited use of IT across all NAFE subject areas. But as a result in particular of the ESG programmes in England and Wales and support for the Action Plan in Scotland, local authorities across the country are beginning to adopt more positive, generous and coherent policies for the development of IT in NAFE.

13. In higher education also, the use of IT is increasing in most subject areas. Central initiatives to expand the role of IT include:

- the Engineering and Technology Programme, launched in 1985, provides a further 5,000 places on first degree and masters' courses in new technology disciplines. One-third of the £43m budget for the first three years of the Programme is allocated for the purchase of equipment. Industry has also provided £24m worth of assistance for institutions included in the Programme, much of it in the form of high-tech equipment.

- The Scottish 'Switch to Engineering' programme will similarly provide £14m over 3 years from 1985 to create over 1,000 additional places on first degree and postgraduate courses in engineering and technology in the Scottish Central Institutions. More than half that budget has been allocated for equipment and additional accommodation.

- a UGC scheme - supported by additional grant of £4.5m in 1985-86 - to enable universities to enhance facilities for computer-aided design in the teaching of engineering and architecture;

- a scheme, complementary to the UGC's, in the polytechnics and colleges sector - supported by £3m of DTI funding in 1986 - for the purchase of electronic computer-aided design (ECAD) equipment for degree - level courses in electrical and electronic engineering;

- the Computer Board for Universities and Research Councils' recent establishment of a networked information service to provide information on software packages for teaching and research.

- the Government's and the UGC's support for a total of 150 demonstrator projects, covering all academic disciplines, on the use of computers for university teaching.

14. There have been some striking developments in distance learning, including the linkage of Open University study centres to the University's central

computing system, and the development of home computing provision for Open University students. The MSC's Open Tech programme has produced a wide range of vocational distance learning training packages, and the DTI provides grants to firms and education institutions for the production of distance learning video courses in subjects broadly related to microelectronics. The Open College, scheduled to start broadcasting in September 1987, will also be an important step in increasing access to vocational education and training through the distance learning media.

15. Government Departments and Agencies are also concerned to promote the use of IT in training. The MSC's 'New Technologies in Training' programme has encouraged the development of cost-effective solutions to identified learning needs through the use of demonstration projects in, and advice on, the application of computer based training and interactive video, and through a £3.2m project to develop artificial intelligence learning systems. Other MSC work includes the development of an IT workbench in conjunction with a private sector firm.

16. The Government is using pump-priming funding to stimulate further and higher education institutions to provide more, and better quality, adult training through such programmes as the Education Departments' PICKUP (Professional, Industrial and Commercial Updating) programme. PICKUP includes action-research projects to evaluate various IT-based methods of delivering adult training. IT is also being used as a means of delivering information about training opportunities to employers and potential trainees. A computerised directory of short courses has been funded as part of the PICKUP programme. Both this and the Educational Counselling and Credit Transfer Information Service (ECCTIS), which aims to provide information on all further and higher education courses in the UK, can be accessed via Prestel and TTNS. Possible applications of CD-ROM technology for database management are also being considered by the ECCTIS project. The DES is also seeking, through its funding of a computer-assisted careers guidance system, to apply IT to the process of careers counselling and guidance.

17. The Government is also encouraging the development of IT as a tool for the management of institutions. For example, Education Support Grant funding of £11.7m is being provided between 1985 and 1991 to enable the majority of English and Welsh LEAs to purchase management information systems for FE colleges. And the government is providing £2.5m over the years 1986/87 to 1989/90 to enable the OU to make extensive use of computer based technologies to improve the efficiency of its operation.

18. The Panel's Recommendations

The Government is, therefore, already doing much - in association with others - to increase the emphasis on IT within education and training at all levels. The Panel, in the course of its report, calls for further action, in particular by Government. The four recommendations included in the report are dealt with below.

19. Recommendation 1: "Government funding should be made available for a programme of research into the use of IT in education and training, and into IT's effect on teaching and learning. This research should examine the opportunities and limitations of IT-aided learning and should identify the most effective way of applying IT within the formal educational system and elsewhere, in support of both student and teacher".

20. The Government entirely accepts the principle that the use of IT in education and training should be based on a thorough understanding of its current and potential contribution. It is not, however, persuaded that the Panel's recommendation represents the best way forward. The Government believes that there are two major problems with the approach proposed in the report. First, it fails to allow for the pace of change in IT. The report emerging from the large - and inevitably lengthy - research programme envisaged would probably be out-of-date before it was published. Secondly, ITAP appears to assume that there is one best way of applying IT in education and training, which it would be the objective of such a programme to identify. The Government, on the contrary, believes there is no single best way of effectively applying IT. The appropriate method of application will vary according to the particular educational or training context.

21. The Government considers that the right approach is to combine regular examinations of the educational and training implications of developing technology, with more precisely targetted and in-depth work on the value of specific techniques in particular contexts. That is why the Government last year asked the Council for Educational Technology (CET) to undertake regular assessments of the impact, actual and potential, of the whole range of technology - including IT - on education, both to help determine what should be introduced into educational practice and to provide the basis on which further development work could take place.

22. And Government is also supporting work in particular areas of education and training. For example, the MESU (described at paragraph 10 above) will be carefully evaluating the impact in the classroom of the materials which it develops. And the Government is funding a review by the CET into the contribution IT, in the context of open or distance learning materials, may be able to make to the problem of shortage of maths, physics and technology teachers by enabling more independent study by pupils. On a broader level, the Government intends to commission a rigorous evaluation of its strategy for investment in IT in schools; this, whilst not pretending to offer a definitive analysis of the potential in this field, should give a useful assessment of what is being achieved in practice. In Scotland, investigations by HM Inspectorate into the use of microcomputers in Further and Higher Education and into the use of microcomputers in learning and teaching in secondary and primary schools are contributing to a comprehensive evaluation of the impact of information technology in the classroom.

23. Recommendation 2: "There should be an additional budget, on a continuing basis, for IT-based applications in schools, colleges, universities, etc, to maintain the momentum of the investment already made in IT. In addition, demonstrator projects should be set up, to establish what can be done with IT and to stimulate innovation within both the educational system and the IT industry, including the development of a set of software tools to enable teachers to develop educational software and courseware more easily than at present. As well as the general support for IT, a small number of educational establishments, at all levels, should be sufficiently funded to develop applications of IT beyond that possible with the limited resources available generally."

24. Paragraphs 6 to 17 above describe some of the important IT programmes which Government has initiated, in collaboration with its partners in education and training. These are helping to furnish a sound basis for the cost-effective development of IT in education and training by the relevant authorities. In view of the importance which it attaches to this matter, however, the Government keeps under continual review the need for further initiatives on its part. For example, in the recent Higher Education White Paper (Cmnd 114), the Government said it would "take advantage of the potential of new technology to facilitate the extension and development of distance learning provision across a wide range of institutions, covering both learning materials and delivery systems".

25. Further Government initiatives could include demonstrator projects and other types of developmental work. There are already a number of centrally funded demonstrator projects, including the projects on the use of computers, in university teaching (vide paragraph 13 above) and the MSC's work in the application of artificial intelligence to training. In addition, the MESU will help LEAs and schools to decide whether they might suitably mount demonstrator projects. And the TVEI pilot projects - which have devised a range of ways of helping to bring IT into pupils' lives -provide a good example of the type of scheme for concentrating resources at the developmental phase which the Panel favours. (From later this year, TVEI will be progressively extended to 14-18 year olds in all maintained secondary schools and colleges).

26. Industry, too, can usefully contribute to initiatives in this area, including those led by Government; and under the proposed new Education Support Grant arrangements for IT in the schools, local authorities will be encouraged to seek contributions in cash or kind from industry to enhance the investment from public funds. The support given by companies to institutions included in the Engineering and Technology Programme (see paragraph 13) is an excellent example of what can be achieved through collaboration between education, industry and government.

27. At a European level, the Community's COMETT programme, whose operational stage begins later this year, offers a further source of support for developmental work on applications of IT to education and training. Of particular relevance is the COMETT scheme for "multilateral multi-media training

initiatives", which will provide Community funding for training projects based on the new information and communication technologies.

28. The Government was interested to see the Panel's proposal on teacher production of education software and courseware. In the Government's view, while software production is likely to remain a complex process involving programmers, systems analysts and other specialists, as well as teachers, programs may increasingly become sufficiently flexible to allow teachers to input their own material. The Government would wish to encourage such widening of opportunities for teacher input.

29. Recommendation 3: "The need to back up the provision of IT equipment and services with adequate support must be recognised. Training, retraining, consultancy, etc, must be regarded as essential elements in the realistic introduction and use of IT in education, and continuing Government funding must be available for these aspects. At the same time, teachers themselves must take a positive attitude to the use of IT in education, through involvement in updating skills and in identifying areas in which IT is useful and relevant (or, indeed, in which it is a hindrance) to their work".

30. The Government entirely agrees that appropriate training programmes for teachers and lecturers are vital, if additional IT provision in education is to be effective. Criteria laid down by the Government in 1984 require that all students on initial teacher training courses gain an understanding and experience of the contribution of new technologies to all aspects of children's learning. Training of serving teachers was an important part of the MEP, and the MESU includes provision for support of teacher trainers. Lecturer training has a similarly important place in the IT in NAFE ESG programmes in England and Wales. And microelectronics has been designated a priority area in the new Local Education Authority Training Grants Scheme in England and Wales, which began in April 1987. Grant is being provided to promote training for schoolteachers and further education lecturers at a cost of £5m in England (and almost £300,000 in Wales) in 1987-88, and on that basis English LEAs have reported that they will undertake further training costing £2.6m, from grant set aside to meet locally determined priorities In the Scottish Colleges of Education, in addition to the creation of new BEd courses in Technology, all

pre-service courses are expected to address the contribution of new technology to learning. The colleges also provide a range of in-service courses and these are supplemented, in the further and higher education sectors, by courses provided by the Microelectronics Education and Development Centre (MEDC). And the PICKUP programme has helped to develop over 250 in-service courses - of which a majority are in IT -to train polytechnic and college lecturers in the skills required to provide updating courses.

31. The Government agrees with the Panel's emphasis on the importance of teachers being positive about IT. Positive attitudes are, in turn, more likely to be fostered if IT is introduced after the necessary groundwork, including training, has been carried out. Government policies are designed to encourage adequate preparation for the introduction of IT.

32. Recommendation 4: "A Commission of Enquiry should be appointed with a remit to consider the educational system which this country will need for the next century".

More specifically the commission should be asked

- to examine the changes which are taking place in our society and in the light of those changes (and those taking place in other countries) to determine the future education and training needs of the UK;

- to consider how those needs can best be met, recommending where necessary changes:

    - to our current institutional structures;

    - to the locus of policy formulation for education and training;

    - to level and sources of funding;

    - to the collaboration between academia and industry and commerce, the professions and Government in the determination of requirements, in research and in the deployment of knowledgeable people to the teaching role;

- to consider how the establishment of a sound domestic education and training policy can support UK activities overseas in terms of both cultural influence and commercial exports;

- to recommend any new legislation or changes to existing legislation necessary to implement the policies which are proposed;

- to consider the need for a permanent body to keep national education and training policies under review in the light of the now ever-increasing pace of technological and societal changes."

33. The Government agrees with much of the analysis underpinning this recommendation. In particular, issues surrounding IT's role in education and training cannot be divorced from wider questions about the future direction of education and training in a rapidly changing society. Policy should clearly be developed on the basis of the best possible assessment of social and economic trends.

34. The Government is not, however, persuaded by the Panel's recommendation that a Commission of Enquiry be established. In the first place, Government and its partners in the education and training services already have access to authoritative sources of advice on social and economic trends. Of course, projection of such trends into the future is a necessarily difficult undertaking, subject to wide margins of error. But it is not clear that the proposed Commission could provide significantly more reliable predictions than existing agencies, nor that, more generally, such a body would make a distinctive contribution to the stock of information on social change.

35. The Government also sees significant difficulty attaching to the proposed Commission's role in recommending action to meet perceived education and training needs. The Panel acknowledges the complexity of the system for developing education and training policy, which involves, inter alia, a variety of agencies and interests; provision at a number of levels, from primary school to postgraduate research; and different arrangements in the constituent countries of the United Kingdom. But this very complexity calls into question the ability of a single body - acting only in an advisory capacity - effectively to encompass the range of issues and interests involved.

36. The Government's policy is to encourage maximum co-operation and co-ordination between the various partners in developing education and training policy, including policy for IT. At the level of Government itself, co-operation between a number of Departments in the IT area has borne fruit in the related initiatives for developing IT in the schools, and, in higher education, the Engineering and Technology Programme. These Government-led initiatives have also involved other agencies in the education system and illustrate the progress being made as a result of co-ordinated and co-operative endeavour. Further reforms now planned, such as the move towards an agreed national curriculum in the schools, will also have a significant part to play in ensuring that the education service continues to develop appropriate policies for the use and understanding of IT.

RP

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Secretary of State for Trade and Industry

2 July 1987

The Rt Hon Kenneth Baker MP
Secretary of State for Education
& Science
Elizabeth House
York Road
London SE1 7PH

Dear Kenneth,

INFORMATION TECHNOLOGY ADVISORY PANEL (ITAP) REPORT "LEARNING TO LIVE WITH IT" : GOVERNMENT RESPONSE

Thank you for sending me a copy of the draft co-ordinated Government response to the ITAP report "Learning to live with IT". I am content for my part with the draft in its present form and agree that this should now be submitted to the Prime Minister.

I am copying this letter to the Lord President of the Council, the Chancellor of the Exchequer, the Secretaries of State for Employment, Environment, Social Services, Scotland, Wales and Northern Ireland.

Yours

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jvp/iii/16

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The Rt Hon Kenneth Baker
Secretary of State for Education
and Science
Elizabeth House
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8 July 1987

Dear Ken.

INFORMATION TECHNOLOGY ADVISORY PANEL (ITAP) REPORT "LEARNING TO LIVE WITH IT": GOVERNMENT RESPONSE

Your letter of 24 June sought comments on the draft Government response to the ITAP report on "Learning to Live with IT"

I am quite content with the overall thrust of the draft, but given your intention to publish it I think we also need to be sure that we have got all the nuances right - particularly on the respective roles of Government and industry. I am ... therefore attaching a number of suggestions for detailed amendments.

Copies of this letter go to recipients of yours.

Yours

NORMAN FOWLER

AMENDMENTS TO DRAFT GOVERNMENT RESPONSE

Paragraph 2 final indent

The Government would surely not accept this point in such cut-and-dried terms. Amend to read: "and its view while IT offers the prospect of a significant enhancement of education and training, the role of the teacher and the lecturer is also likely to remain important."

Paragraph 3

It is important here to emphasise the need for industry to train its own employees; and the absolute distinction between education and training is not helpful. Amend to read: "Government together with a number of other agencies has a major role to play in the education and training system, and in the development of IT within it. Higher education planning bodies, local education authorities, the managers of institutions, the MSC and industry itself all have important parts to play. In particular, it is employers who must take the major responsibility for ensuring that their employees are properly trained to meet the challenge of rapdily changing technology. Within this context, however, Government .....

Paragraph 9

This should include early in the paragraph a reference to TVEI, as follows:- "IT in some form is included in all pilot projects of the Technical and Vocational Education Initiative (TVEI), and will form an integral part of the extension phase of the Initiative, to be introduced progressively in schools and collges throughout Great Britain from autumn this year." The final sentence of paragraph 25 may then be deleted.

Paragraphs 14-17

Some mention should be made here of the role of industry, in training its own employees, forming links with the education service etc; and of the fact that most of the programmes listed are directed at helping industry to help itself.

Paragraphs 16

MSC's major MARIS and TAPS databases should also be mentioned.

Paragraphs 33-34

The suggestion here seems to be that the Government does, or should, carry out detailed social and economic planning. This is not acceptable as worded. Amend to a more general: "assessment of future needs."

SP

PRIME MINISTER

INFORMATION TECHNOLOGY ADVISORY PANEL (ITAP) REPORT "LEARNING TO LIVE WITH IT": GOVERNMENT RESPONSE

When ITAP reported last year, you asked me to prepare, in consultation with colleagues, a draft co-ordinated Government response for your approval.

The draft response is attached. It includes a description of the Government's achievements thus far in this area. We consider this to be particularly necessary in responding to a report which evidently overlooks many of them. The response then proceeds to deal with the report's four formal recommendations which are addressed primarily to the Government.

The most significant of the Panel's recommendations is the call for a Commission of Enquiry into Education and Training. In our judgment this recommendation - for what would be an overblown Royal Commission - is not acceptable. Our reasoning is set out at paragraphs 34-37 of the draft.

I should be grateful for your clearance of this draft. The response as approved by you would then be delivered to the Advisory Body on Applied Research and Development (ACARD), which has absorbed the functions of ITAP. I shall thereafter arrange for the response to be published as with the Government's responses to previous ITAP reports.

Copies of this minute go to other members of the Cabinet, and to Sir Robert Armstrong.

KB

21 July 1987

Department of Education and Science

F0324TRS1A(9)

Draft 17.7.87

GOVERNMENT RESPONSE TO THE ITAP REPORT ON "LEARNING TO LIVE WITH IT"

Introduction

1. The Government welcomes the report by the Information Technology Advisory Panel (ITAP) on "Learning to live with IT". The report rightly calls attention to the profound implications of IT for education and training, as well as to the crucial role of education and training in enabling people to benefit from IT.

2. The Government wholeheartedly endorses much of the analysis in the report, including:

its emphasis on the potential of IT for enhancing training and education across the curriculum;

its acknowledgement of the innovative and exciting work in schools, and the highly impressive calibre and knowledge of many teachers and lecturers;

its warning about some of the difficulties which can attend the incorporation of IT into teaching and learning;

and its insistence on the continuing importance of the teacher and lecturer, suitably trained to exercise their skills in the context of IT.

3. Government policies and programmes

Government, together with a number of other agencies, has a major role to play in the education and training system, and in the development of IT within it. Higher education planning bodies, local education authorities, the managers of institutions, the MSC and industry itself all have important parts to play. In particular it is employers who must take the major responsibility for ensuring

that their employees are properly trained to meet the challenge of rapidly changing technology. Within this context, the Government has developed programmes, at all levels of the education and training system, designed to increase the emphasis on IT.

4. The Government policy on IT in schools in England and Wales has to be seen in the context of its policies for the whole curriculum. These were set out in broad terms in "Better Schools" (Cmnd 9469, 1985). This White Paper recognised that the new technologies are exciting and challenging; they can enrich the learning process in various ways and will increasingly affect what pupils need to learn. In particular, in the primary schools, the content of the curriculum should introduce pupils to the nature and use in school and in society of new technology and in secondary schools all pupils should be introduced to new technology and how it is affecting people's lives and work. Curricular policies in Scotland are also giving positive encouragement to the study and application of the new technologies in both primary and secondary schools.

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6. In support of its policies, the Government has initiated a range of programmes to support and develop IT activity in schools. The Micros in Schools scheme helped to provide a computer in every school in the UK. In England, Wales and Northern Ireland, the Microelectronics in Education Programme (MEP), as well as raising the general level of interest and debate in the topic, created materials, including some 2,000 computer programs, designed to extend the use of new technology across the curriculum; provided training at various levels for up to 100,000 teachers; and stimulated the LEAs to open up their computer centres and appoint their own advisers.

7. In Scotland, the Scottish Microelectronics Development Programme (SMDP), now incorporated within the Scottish Council for Educational Technology (SCET), has provided a software development and information service. The provision of training in the applications of the new technologies in education is an area of priority activity for the Colleges of Education and is supported by the SED specific grants scheme. Also in Scotland, the Government has enhanced local authority capital allocations in 1987/88 by £2m in order to encourage the purchase of equipment associated with Standard Grade scientific and technological subjects, including Computing Studies. The scheme will continue in future years.

8. On average there were by 1985 1.7 micro computers per primary school, and 13.4 and 17 micros respectively per secondary school in England and Wales. A survey that year showed that in primary schools younger pupils were using the micro mainly to develop keyboard and mathematical skills, while for older pupils the emphasis was on mathematics and problem solving. (In Scotland, where levels of provision are slightly higher, the computer in the primary school tends to be integrated into number work, language and environmental studies). The main use of computers in secondary schools was in computer studies departments, though they were being used in other subjects, in particular science, geography and CDT. However, outside computer studies and specific familiarity courses, the use of IT was found to be sporadic. Schools thus had a considerable way to go in exploiting the contribution IT can make across the curriculum.

9. Current Government initiatives are designed to assist the LEAs and schools in this task of integration. Proposals for a new Education Support Grant in England, from 1988/89, are designed to increase both the availability of hardware and the provision of cross-disciplinary advisory support. Subject to Parliamentary approval, the grants should cover some £8.5m under the hardware heading and £10.5m for advisory support in 1988/89; and they are envisaged as the first phase in a continuing programme. IT in some form is included in all pilot projects of the Technical and Vocational Educational Initiative (TVEI), and is likely to form an integral part of the extension phase of the initiative, to be introduced progressively in secondary schools and colleges throughout Great Britain from autumn this year. These programmes are complemented by

grants for in-service teacher training in the field of IT in schools -classified as a national priority under the new INSET grant arrangements - for which some £4m are available in the current year. In Scotland assistance with in-service teacher training is available to Education Authorities through the specific grants scheme and a range of award bearing and shorter courses is provided by the Colleges of Education.

10. The Microelectronics Support Unit (MESU), set up in 1986 under grants from the Education Departments, is now providing a central source of information for LEAs, support for their advisers and development of curriculum materials targetted at classroom use of new technology. In Wales, the Microelectronics Education Unit (MEU (Cymru)), has been retained by the LEAs and performs a co-ordinating role in close co-operation with MESU. The DTI continues to make available occasional sums intended to give a modest boost to the provision of computer hardware in schools, and its £3.5m software in schools scheme is helping schools to purchase software. The reconstituted Council for Educational Technology, funded by DES and other departments, is now well placed to perform a crucial evaluative role as new technological developments become available.

11. In the non-advanced further education (NAFE) sector, central agencies have been assisting college managements and their maintaining LEAs to increase their IT provision across the curriculum. The MSC has a central fund to help LEAs finance IT related activities in NAFE. In 1986/87 £290,000 was committed to activities such as staff development, curriculum development and the promotion of IT awareness. The DES has concentrated its efforts particularly through the Education Support Grant (ESG) programme which meets 70% of the cost of approved LEA expenditure on computer hardware; development of courseware materials; and staff training. In the first three years of the scheme, to March 1988, £30m of expenditure -including £18m on computing equipment - is being supported in this way. A similar scheme is operating in Wales, where the comparable figure for expenditure is just over £2 million. In Scotland the local authority capital expenditure programmes for 1986/87 and 1987/88 have been increased by £1.5m per annum to enable further education colleges to purchase micro electronic equipment and new technology in support of the Government's 16+ Action Plan.

12. There has thus far been limited use of IT across all NAFE subject areas. But as a result in particular of the ESG programmes in England and Wales and support for the Action Plan in Scotland, local authorities across the country are beginning to adopt more positive, generous and coherent policies for the development of IT in NAFE.

13. In higher education also, the use of IT is increasing in most subject areas. Central initiatives to expand the role of IT include:

- the Engineering and Technology Programme, launched in 1985, provides a further 5,000 places on first degree and masters' courses in new technology disciplines. One-third of the £43m budget for the first three years of the Programme is allocated for the purchase of equipment. Industry has also provided £24m worth of assistance for institutions included in the Programme, much of it in the form of high-tech equipment.

- The Scottish 'Switch to Engineering' programme will similarly provide £14m over 3 years from 1985 to create over 1,000 additional places on first degree and postgraduate courses in engineering and technology in the Scottish Central Institutions. More than half that budget has been allocated for equipment and additional accommodation.

- a UGC scheme - supported by additional grant of £4.5m in 1985-86 - to enable universities to enhance facilities for computer-aided design in the teaching of engineering and architecture;

- a scheme, complementary to the UGC's, in the polytechnics and colleges sector - supported by £3m of DTI funding in 1986 - for the purchase of electronic computer-aided design (ECAD) equipment for degree - level courses in electrical and electronic engineering;

- the Computer Board for Universities and Research Councils' recent establishment of a networked information service to provide information on software packages for teaching and research.

- the Government's and the UGC's support for a total of 150 demonstrator projects, covering all academic disciplines, on the use of computers for university teaching.

14. There have been some striking developments in distance learning, including the linkage of Open University study centres to the University's central computing system, and the development of home computing provision for Open University students. The MSC's Open Tech programme has produced a wide range of vocational distance learning training packages, and the DTI provides grants to firms and education institutions for the production of distance learning video courses in subjects broadly related to microelectronics. The Open College, scheduled to start broadcasting in September 1987, will also be an important step in increasing access to vocational education and training through the distance learning media.

15. Government Departments and Agencies are also concerned to promote the use of IT in training. Pump-priming programmes have been designed to assist industry - collaborating as appropriate with the education service - to discharge its responsibilities for employee training. The MSC's 'New Technologies in Training' programme has encouraged the development of cost-effective solutions to identified learning needs through the use of demonstration projects in, and advice on, the application of computer based training and interactive video, and through a £3.2m project to develop artificial intelligence learning systems. Other MSC work includes the development of an IT workbench in conjunction with a private sector firm.

16. The Government is using pump-priming funding to stimulate further and higher education institutions to provide more, and better quality, adult training through such programmes as the Education Departments' PICKUP (Professional, Industrial and Commercial Updating) programme. PICKUP includes action-research projects to evaluate various IT-based methods of delivering adult training.

17. IT is also being used as a means of delivering information about training opportunities to employers and potential trainees. A computerised directory of

short courses has been funded as part of the PICKUP programme. Both this and the Educational Counselling and Credit Transfer Information Service (ECCTIS), which aims to provide information on all further and higher education courses in the UK, can be accessed via Prestel and TTNS. Possible applications of CD-ROM technology for database management are also being considered by the ECCTIS project. The DES is also seeking, through its funding of a computer-assisted careers guidance system, to apply IT to the process of careers counselling and guidance. In addition, there is ECCTIS and PICKUP involvement in the new MSC initiative, 'TAP' (Training Access Points), which is designed to extend and improve, primarily through the computer, the provision of information and advice to individuals and companies about education and training opportunities. And 'MARIS-NET' (Materials and Resources Information Service), established by MSC in 1983, but an independent company since July 1987, provides a national database, whose primary function is to provide on-line information about open learning resources.

18. The Government is also encouraging the development of IT as a tool for the management of institutions. For example, Education Support Grant funding of £11.7m is being provided between 1985 and 1991, to enable the majority of English and Welsh LEAs to purchase management information systems for FE colleges. And the Government is providing £2.5m over the years 1986/87 to 1989/90 to enable the OU to make extensive use of computer based technologies to improve the efficiency of its operation.

19. The Panel's Recommendations

The Government is, therefore, already doing much - in association with others - to increase the emphasis on IT within education and training at all levels. The Panel, in the course of its report, calls for further action, in particular by Government. The four recommendations included in the report are dealt with below.

20. Recommendation 1: "Government funding should be made available for a programme of research into the use of IT in education and training, and into IT's effect on teaching and learning. This research should examine the

opportunities and limitations of IT-aided learning and should identify the most effective way of applying IT within the formal educational system and elsewhere, in support of both student and teacher".

21. The Government entirely accepts the principle that the use of IT in education and training should be based on a thorough understanding of its current and potential contribution. It is not, however, persuaded that the Panel's recommendation represents the best way forward. The Government believes that there are two major problems with the approach proposed in the report. First, it fails to allow for the pace of change in IT. The report emerging from the large - and inevitably lengthy - research programme envisaged would probably be out-of-date before it was published. Secondly, ITAP appears to assume that there is one best way of applying IT in education and training, which it would be the objective of such a programme to identify. The Government, on the contrary, believes there is no single best way of effectively applying IT. The appropriate method of application will vary according to the particular educational or training context.

22. The Government considers that the right approach is to combine regular examinations of the educational and training implications of developing technology, with more precisely targetted and in-depth work on the value of specific techniques in particular contexts. That is why the Government last year asked the Council for Educational Technology (CET) to undertake regular assessments of the impact, actual and potential, of the whole range of technology - including IT - on education, both to help determine what should be introduced into educational practice and to provide the basis on which further development work could take place.

23. And Government is also supporting work in particular areas of education and training. For example, the MESU (described at paragraph 10 above) will be carefully evaluating the impact in the classroom of the materials which it develops. And the Government is funding a review by the CET into the contribution IT, in the context of open or distance learning materials, may be able to make to the problem of shortage of maths, physics and technology teachers by enabling more independent study by pupils. On a broader level, the

Government intends to commission a rigorous evaluation of its strategy for investment in IT in schools; this, whilst not pretending to offer a definitive analysis of the potential in this field, should give a useful assessment of what is being achieved in practice. In Scotland, investigations by HM Inspectorate into the use of microcomputers in Further and Higher Education and into the use of microcomputers in learning and teaching in secondary and primary schools are contributing to a comprehensive evaluation of the impact of information technology in the classroom.

24. Recommendation 2: "There should be an additional budget, on a continuing basis, for IT-based applications in schools, colleges, universities, etc, to maintain the momentum of the investment already made in IT. In addition, demonstrator projects should be set up, to establish what can be done with IT and to stimulate innovation within both the educational system and the IT industry, including the development of a set of software tools to enable teachers to develop educational software and courseware more easily than at present. As well as the general support for IT, a small number of educational establishments, at all levels, should be sufficiently funded to develop applications of IT beyond that possible with the limited resources available generally."

25. Paragraphs 6 to 18 above describe some of the important IT programmes which Government has initiated, in collaboration with its partners in education and training. These are helping to furnish a sound basis for the cost-effective development of IT in education and training by the relevant authorities. In view of the importance which it attaches to this matter, however, the Government keeps under continual review the need for further initiatives on its part. For example, in the recent Higher Education White Paper (Cmnd 114), the Government said it would "take advantage of the potential of new technology to facilitate the extension and development of distance learning provision across a wide range of institutions, covering both learning materials and delivery systems".

26. Further Government initiatives could include demonstrator projects and other types of developmental work. There are already a number of centrally funded demonstrator projects, including the projects on the use of computers, in

university teaching (vide paragraph 13 above) and the MSC's work in the application of artificial intelligence to training. In addition, the MESU will help LEAs and schools to decide whether they might suitably mount demonstrator projects. And the TVEI pilot projects - which have devised a range of ways of helping to bring IT into pupils' lives -provide a good example of the type of scheme for concentrating resources at the developmental phase which the Panel favours.

27. Industry, too, can usefully contribute to initiatives in this area, including those led by Government; and under the proposed new Education Support Grant arrangements for IT in the schools and local authorities will be encouraged to seek contributions in cash or kind from industry to enhance the investment from public funds. The support given by companies to institutions included in the Engineering and Technology Programme (see paragraph 13) is an excellent example of what can be achieved through collaboration between education, industry and government.

28. At a European level, the Community's COMETT programme, whose operational stage begins later this year, offers a further source of support for developmental work on applications of IT to education and training. Of particular relevance is the COMETT scheme for "multilateral multi-media training initiatives", which will provide Community funding for training projects based on the new information and communication technologies.

29. The Government was interested to see the Panel's proposal on teacher production of education software and courseware. In the Government's views, while software production is likely to remain a complex process involving, programmers, systems analysts and other specialists, as well as teachers, programs may increasingly become sufficiently flexible to allow teachers to input their own material. The Government would wish to encourage such widening of opportunities for teacher input.

30. Recommendation 3: "The need to back up the provision of IT equipment and services with adequate support must be recognised. Training, retraining, consultancy, etc, must be regarded as essential elements in the realistic

introduction and use of IT in education, and continuing Government funding must be available for these aspects. At the same time, teachers themselves must take a positive attitude to the use of IT in education, through involvement in updating skills and in identifying areas in which IT is useful and relevant (or, indeed, in which it is a hindrance) to their work".

31. The Government entirely agrees that appropriate training programmes for teachers and lecturers are vital, if additional IT provision in education is to be effective. Criteria laid down by the Government in 1984 require that all students on initial teacher training courses gain an understanding and experience of the contribution of new technologies to all aspects of children's learning. Training of serving teachers was an important part of the MEP, and the MESU includes provision for support of teacher trainers. Lecturer training has a similarly important place in the IT in NAFE ESG programmes in England and Wales. And microelectronics has been designated a priority area in the new Local Education Authority Training Grants Scheme in England and Wales, which began in April 1987. Grant is being provided to promote training for schoolteachers and further education lecturers at a cost of £5m in England (and almost £300,000 in Wales) in 1987-88, and on that basis English LEAs have reported that they will undertake further training costing £2.6m, from grant set aside to meet locally determined priorities In the Scottish Colleges of Education, in addition to the creation of new BEd courses in Technology, all pre-service courses are expected to address the contribution of new technology to learning. The colleges also provide a range of in-service courses and these are supplemented, in the further and higher education sectors, by courses provided by the Microelectronics Education and Development Centre (MEDC). And the PICKUP programme has helped to develop over 250 in-service courses - of which a majority are in IT -to train polytechnic and college lecturers in the skills required to provide updating courses.

32. The Government agrees with the Panel's emphasis on the importance of teachers being positive about IT. Positive attitudes are, in turn, more likely to be fostered if IT is introduced after the necessary groundwork, including training, has been carried out. Government policies are designed to encourage adequate preparation for the introduction of IT.

33. Recommendation 4: "A Commission of Enquiry should be appointed with a remit to consider the educational system which this country will need for the next century".

More specifically the commission should be asked

- to examine the changes which are taking place in our society and in the light of those changes (and those taking place in other countries) to determine the future education and training needs of the UK;

- to consider how those needs can best be met, recommending where necessary changes:

  - to our current institutional structures;

  - to the locus of policy formulation for education and training;

  - to level and sources of funding;

  - to the collaboration between academia and industry and commerce, the professions and Government in the determination of requirements, in research and in the deployment of knowledgeable people to the teaching role;

  - to consider how the establishment of a sound domestic education and training policy can support UK activities overseas in terms of both cultural influence and commercial exports;

  - to recommend any new legislation or changes to existing legislation necessary to implement the policies which are proposed;

  - to consider the need for a permanent body to keep national education and training policies under review in the light of the now ever-increasing pace of technological and societal changes."

34. The Government agrees with much of the analysis underpinning this recommendation. In particular, issues surrounding IT's role in education and training cannot be divorced from wider questions about the future direction of education and training in a rapidly changing society. Policy should clearly be developed on the basis of the best possible assessment of future needs.

35. The Government is not, however, persuaded by the Panel's recommendation that a Commission of Enquiry be established. In the first place, Government and its partners in the education and training services, already have access to authoritative sources of advice on social and economic trends. Of course, projection of such trends into the future is a necessarily difficult undertaking, subject to wide margins of error. But it is not clear that the proposed Commission could provide significantly more reliable predictions than existing agencies, nor that, more generally, such a body would make a distinctive contribution to the stock of information relevant to an assessment of future needs.

36. The Government also sees significant difficulty attaching to the proposed Commission's role in recommending action to meet perceived education and training needs. The Panel acknowledges the complexity of the system for developing education and training policy, which involves, inter alia, a variety of agencies and interests; provision at a number of levels, from primary school to postgraduate research; and different arrangements in the constituent countries of the United Kingdom. But this very complexity calls into question the ability of a single body - acting only in an advisory capacity - effectively to encompass the range of issues and interests involved.

37. The Government's policy is to encourage maximum co-operation and co-ordination between the various partners in developing education and training policy, including policy for IT. At the level of Government itself, co-operation between a number of Departments in the IT area, has borne fruit in the related initiatives for developing IT in the schools, and, in higher education, the Engineering and Technology Programme. These Government-led initiatives have also involved other agencies in the education system and illustrate the progress

being made as a result of co-ordinated and co-operative endeavour. Further reforms now planned, such as the move towards an agreed national curriculum in the schools, will also have a significant part to play in ensuring that the education service continues to develop appropriate policies for the use and understanding of IT

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Secretary of State for Trade and Industry

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10 August 1987

The Rt Hon Sir Geoffrey Howe QC MP
Secretary of State for Foreign and
Commonwealth Affairs
Foreign and Commonwealth Office
Downing Street
LONDON
SW1

Dear Geoffrey,

I am writing to seek your agreement, and that of other interested colleagues, to the terms of a proposed agreement with the US on conditions for importing supercomputers into the United Kingdom.

As you know supercomputers are regarded by the United States authorities as highly sensitive militarily critical technology and supercomputer installations merit special security safeguards. We too have taken appropriate measures. Difficulties have however arisen with the US over the safeguards required, and the basis on which they should be imposed.

The United States authorities have over some years developed a system under which exports of supercomputers from the US to other Western countries are licensed subject to security conditions to be met by importers. In principle, we have no difficulty with the concept of conditional export licences: indeed sensitive exports from this country may be licensed on similar terms. But the US authorities have attempted to impose objectionable conditions on the export of supercomputers, such as the extraterritorial condition (which they canvassed last year, to Parliamentary protest) that their approval should be sought for the sale within this country of a supercomputer already here. The US authorities have also attempted to impose conditions on access which have posed particular problems for academic institutions. As a result, the

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export of supercomputers to the UK has become subject to difficulty and delay.

My Department had sucessfully developed informal arrangements with the United States under which supercomputer importers in this country volunteered security undertakings to the United Kingdom authorities rather than direct to the United States authorities. But these informal arrangements have proved increasingly unworkable, as the US authorities have sought to impose stricter conditions. With the agreement of other Departments and the Central Computer and Telecommunications Agency, my officials have therefore been discussing with the US agencies concerned a possible agreement designed to obviate these problems and substitute an agreed patternn of supercomputer security arrangements. This has now reached a draft form which would be acceptable in principle to the United States agencies concerned. If the text is also acceptable to the UK signature could follow in September.

... I enclose the draft text. As will be seen it takes the form of an exchange of letters. In essence, it is designed as an agreement between COCOM partners sharing common security concerns. Under it, reciprocal arrangements will be put in place providing for standardised arrangements governing the security of US supercomputers exported to this country and any UK supercomputers exported to the US. Although the UK does not currently export supercomputers to the US, reciprocity has had the healthy advantage of compelling the US, in the course of the negotiations, to give serious thought to the conditions that they would themselves be ready to accept, rather than viewing the matter as a simple question of imposing conditions on the UK, as they appear to have done in discussions with other countries.

In the upshot, I believe that we have an acceptable draft arrangement. From our point of view it confirms standard security arrangements to be operated by three groups of UK end-users of US supercomputers (ie government, private sector end-users and academic institutions); and the US, recognising that these security arrangements will be in place, will license exports of supercomputers without attempting to impose any of the extra security measures that have recently given rise to difficulty. The arrangements are essentially voluntary (although there is the sanction that a supercomputer may not be made available unless they are put in place. They will involve some fuller undertakings being given by UK end-users, but they are consistent with the security procedures that have been operated informally hitherto. In the case of academic institutions, it is worth adding that, thanks to the strength of the existing peer review system operated jointly

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under the Research Councils and the Computer Board for the Universities (whose advice throughout the negotiations has been much valued) the UK is in a position to regulate access in a way which is arguably more comprehensive than that currently operated in US universities. The agreed procedures can be fitted within this framework, without the need for controversial innovations going beyond the peer review system.

The proposed text does not compromise our position on US extraterritoriality, and indeed sets a useful new precedent for dealing with this issue in other negotiations. One extraterritorial issue remains, namely the treatment to be given to exports from France of IBM machines. We would be ready to treat such machines as if subject to the agreement, provided that this can be done without accepting US extraterritorial claims to licensing powers over them. This problem mainly concerns my department and yours; and, if colleagues agree, I suggest that my officials should discuss with yours any solution which they consider acceptable.

It would not be my intention to give publicity to the proposed agreement. But its existence is likely to become known; and there may be attempts to criticise it as distorting our domestic arrangements to comply with US wishes. I believe that such criticisms would be misplaced: we have maintained - and the US have accepted - that any regime operated in the UK must reflect our own view of what is necessary and practicable. The US side have been persuaded to make major modifications in their stance to take account of this, particularly on the question of access to supercomputers in academic institutions by "COCOM-proscribed" (i.e Eastern Bloc, including Chinese) nationals where, following a decision taken by the President on the advice of the National Security Council, the Department of Defense relaxed its long-standing contention that such nationals should have no access, even in circumstances that we would regard as reasonable. If a line had to be taken in public, we could make clear that we share with the US - as with other COCOM partners - a commitment to safeguarding sensitive technology; and that in this instance the proposed arrangements do not oblige us to take any steps that are out of line with our own national treatment of the security issues involved.

If the proposed arrangements prove workable they should remove the difficulties and delays which, with all the comcomitant criticisms, had become a feature of the previous licensing arrangements. I therefore commend the proposed arrangements to you, and seek your agreement and that of colleagues to whom this letter is copied, to

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a formal exchange of letters with the United States authorities in the coming weeks.

I am sending copies of this letter to Nigel Lawson, Douglas Hurd, George Younger, Kenneth Baker and Patrick Mayhew and to Sir Robert Armstrong.

Yours,

LORD YOUNG OF GRAFFHAM

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SUPERCOMPUTERS: UK PROPOSAL FOR EXCHANGE OF LETTERS

1 At our meetings in March, April, May and June 1987, we discussed the security conditions to be attached to the use of supercomputers and the associated software. As a result of our discussions we agreed that the US and UK authorities would put into operation the arrangements set out in this exchange of letters in relation to imported supercomputers manufactured in each other's countries. The objectives of these security arrangements are to prevent unauthorised access to supercomputers by COCOM-proscribed nationals and others and to prevent the diversion of supercomputers to COCOM-proscribed destinations. All such supercomputers and the associated software henceforth will be governed by the stipulations contained in this exchange of letters and assurances related to security and export control arrangements other than those contemplated in this exchange of letters will not be sought by either government.

2 Inasmuch as there are multiple sets of technical parameters for supercomputers, some giving rise to varying and inconsistent definitions, we agreed that a supercomputer should be defined for the purposes of this exchange of letters as any general purpose computer of performance capability equal to or better than the Cray 1. Capability is measured in terms of peak megaflop rate in 64-bit arithmetic. Attached as Annex B is a list of supercomputer models to which this exchange of letters currently applies. We agreed that this definition and the list relating to it should be jointly reviewed by the authorities of both countries at least every twelve months, with a view to agreeing a revised definition, with consequent additions to, or deletions from, the list. We further agreed that in determining the definition and the list both sides shared the objective that the number of supercomputers covered should be kept to the minimum consistent with the objectives of this exchange of letters.

3 We recognised that, without altering the basic objectives of this exchange of letters, the security arrangements might in certain respects need to be defined differently for the three categories of potential end-users of supercomputers, ie government agencies, academic institutions, and private sector entities. Where either Government acts as host to a supranational organisation, that organisation will be treated as if it were a private sector entity, subject to any modifications necessary in the light of any special privileges and immunities which it may enjoy, which will be discussed and agreed between the two governments on a case by case basis.

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4 As regards government agencies, both governments reaffirmed the importance which they attached to maintaining effective and appropriate security controls over access to and use of supercomputers in their own installations. Given this common purpose, it was agreed that no assurances would be required by either government in relation to supercomputers destined for agencies of the other government. Both the US and UK authorities would apply appropriate security arrangements to supercomputers operated by themselves and their agencies. These arrangements, it was understood, would not be less than those in Annex A.

5 As regards academic institutions in each country, it was understood that these would be required by their respective authorities to give written assurances, before the issue of an annotated import certificate by those authorities, that they would operate appropriate security procedures, and it was further understood that such procedures would be regarded as appropriate only if they contained all the elements set out in Annex A. A copy of those undertakings would be provided to the authorities of the exporter's government.

6 As regards private sector end-users in each country, it was agreed that such end-users would be asked to give their country's authorities written assurances on appropriate security procedures and that the authorities of the country concerned would satisfy themselves, before the issue of an annotated import certificate, that these procedures contained all the elements set out in Annex A. A copy of those undertakings would be provided to the authorities of the exporter's government. The authorities of the end-user's government will inform the authorities of the exporter's government if a private sector end-user refuses to give such undertakings, or, if such an end-user proposes modifications departing from the elements set out in Annex A, will discuss those modifications with the authorities of the exporter's government.

7 Each government confirmed that it would make clear to end-users in its country of supercomputers manufactured in the other country that its relevant authorities are to be notified before any change of end use or end user so that they could consider whether the proposed change had any security implications. Each Government further confirmed its expectation that the security conditions attaching to a supercomputer manufactured in the other country would be imposed on or accepted by the new end-user with the addition of fresh conditions if appropriate.

8 Each government made clear that operators of supercomputers in its country covered by this exchange of letters are to notify their relevant authorities of any

breach of security procedures relating to the supercomputer concerned, including breaches involving access by nationals of COCOM-proscribed countries. The relevant authorities would then ensure that an investigation was undertaken so that all practicable steps could be taken to pursue the matter, as appropriate, within the framework of those respective laws which might be relevant; and, in the light of the findings, the relevant authorities would determine what further action might be required. Each government undertook to notify the other at the time when an investigation was mounted, and to give information, on request, relating to the background to the investigation, its progress and conclusions, and details of remedial action.

9 It was agreed that the authorities of whichever of the two countries in which a supercomputer is located at the time would be solely responsible for issuing a licence in the event of export. All applications would be carefully examined and the authorities of the other government would be consulted about the proposed end-use, the prospective end user and the intended country of destination, and the safeguard assurances to be sought from the end user. Where either government objected on the grounds of concern about the security of the supercomputer or other matters of concern affecting its security interests it would be the general policy of the other government not to grant such a licence until agreement had been reached on the action to be taken. It was further agreed that it would also be the general policy of each government not to grant a licence for an export to a third country until satisfactory assurances had been received from the prospective end-user and its government's authorities about the security conditions to be applied at the installation in that country, such conditions in any case being no less rigorous than those set out in Annex A.

10 It was agreed that both governments would use their best endeavours to operate their export licensing procedures expeditiously.

11 It was agreed that, in the event of concern on the part of either government with the operation of these arrangements, it could seek consultations on their operation, and that consultations would be held without delay.

12 It was agreed that these arrangements would come into operation on [ ] and that the two governments would review the operation of these arrangements twelve months from that date.

13 While establishing agreed administrative procedures which will be used in relation to the matters within its scope, this exchange of letters does not affect US or UK national law; and each Government reserves its respective position on the compatibility with international law and comity of the national law of the other. Where, exceptionally, any course of action under the national laws of either side relating to matters within the terms of this exchange of letters could, notwithstanding the existence of this exchange of letters, give rise to conflict, it will be the policy of each Government to act with moderation and restraint, giving careful consideration to the interests of the other, to alternative courses of action, and to the difficulties posed by interference with pre-existing contracts and by placing companies under conflicting obligations.

14 I should be grateful if you would confirm my understanding of the outcome of our discussions.

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ANNEX A

SUPERCOMPUTERS: STANDARD SECURITY PROCEDURES

Physical Access

1 Proper building security against theft or unauthorised use of hardware or software will be maintained at all times The bona fides and legitimacy of purpose will be established for key compuer centre personnel and for any other who would have access to the computational capability of the computer before such access if granted.

(a) Computer Centre: The computer centre will be controlled via a sign-in/sign-out procedure for visitors and an ID card system. ID cards will be issued only to authorised personnel. Visitors will always be accompanied.

(b) Computer Suite including all Operations Area and Storage of Sensitive Manuals: Access will be controlled by data processing pesonnel and will require a key/token, which will not be issued to any national of any country on the list of COCOM proscribed destinations, or any organisations or representatives thereof.

Terminal Access to Computer Facilities

2 All terminal access outside the computer suite ie from elsewhere in the computer centre or remotely, will be via the front end conrol software and will be confined to legitimate, authorised users and controlled by security procedures as defined below. The security procedures will be notified to those responsible for the operations at all remote sites.

3 All users will be subject to the central software, password and monitoring usage controls detailed below.

(a) Software Controls: Security and privacy software controls which prevent unauthorised runs that do not have valid account code and user ID will be enforced continuously.

(b) Password: (i) As regards end users other than academic institutions, no passwords or ID will be allocated to any national of any country on the COCOM proscribed list of destinations, organistions, or representatives thereof except those who have legally immigrated as permanent resident aliens to a COCOM country.

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(ii) As regards academic institutions:

All proposed projects including those involving COCOM-proscribed nationals using supercomputers must be approved in advance by established peer review procedures. Passwords for terminal access to supercomputers, which will only be allocated for projects which have been accepted under those procedures, will be issued to the principal investigator specified on the application form, who will invariably be a permanent member of staff of the academic institution, and who will be responsible for keeping under review the work of his team and ensuring that there is no unauthorised use of the supercomputer.

There will be no use of supercomputers by COCOM-proscribed nationals for any national security related work or any other work the results of which are ineligible for public release. Legitimate civil scientific uses are acceptable, but COCOM-proscribed nationals may only have access to supercomputers as members of research teams or as part of formal course work.

Records will be kept of project applications accepted, including details of their nature, and the amount of supercomputer resources allocated to those projects, in particular the estimated time needed. Reports will subsequently be made of all those who have received passwords and of the supercomputer resources which have been used. The details of these records and reports will be regularly available to and used by Directors of Computer Centres and the authorities of the supercomputer end-user's country, for the purposes of monitoring supercomputer usage. Computer Centre Directors and principal investigators will be responsible for seeing that these conditions are adhered to.

(c) Monitoring of Usage: Computer usage will be monitored appropriately.

(d) Networking: There will be no conscious or direct ties to the networks of COCOM-proscribed countries, organisations or representatives thereof.

Technical Data

4 (a) No transfer will be made to any national, organisation or representative of a COCOM-proscribed destination of proprietary technical data related to the supercomputer.

(b) It will be made clear to supercomputer users that transfer of technical data derived from the use of the supercomputer which relates to the design, manufacture, or use of any COCOM-controlled items will be subject to the export controls of their country's authorities.

Security Breaches

5 Any indication of a breach of these security procedures will be reported to the authorities of the end user's country.

Delivery

6 On arrival in the importing country, the supercomputer will be delivered via attended transport by the most secure route possible. The police will be given advance notice of the transport route and arrival details.

Notification

7 Timely notice will be given to the authorities of the end user's country of any intended transfer of control over the supercomputer by title, lease, or otherwise.

ANNEX B

DEFINITION OF SUPERCOMPUTER BY MODEL NAME

Cray 1
Cray 2
Cray XMP
Cyber 205
ETA-10
Amdahl 500
Amdahl 1100
Amdahl 1200
Amdahl 1400
ÎBM 3090/180 with vector
IBM 3090/200 with vector
IBM 3090/300 with vector
IBM 3090/400 with vector
IBM 3090/600E with or without vector

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ELIZABETH HOUSE
YORK ROAD
LONDON SE1 7PH
01-934 9000

Sir Francis Tombs
Chairman
Advisory Council on Science and Technology
70 Whitehall
London SW1A 2AS

12 October 1987

Dear Francis.

As you know, the Information Technology Advisory Panel, the responsibilities of which have now been subsumed within the remit of ACOST, published last year a report entitled "Learning to Live with IT". The Prime Minister asked me to coordinate the Government's views on the report and I now enclose a pre-publication copy of the Government's formal response, which will be available to the public within the next few days.

You will see that the Government have welcomed the report, and are grateful to the Panel for its work. We wholeheartedly endorse the Panel's analysis of the potential of IT for enhancing education and training across the curriculum, and in this context we thought it helpful in our response to set out in some detail our policies on IT and the programmes being pursued by a number of Government Departments across the education service as a whole. We also endorse the Panel's recognition of the difficulties which can be associated with the incorporation of IT into teaching and learning, and of the continuing importance of the role of the teacher and the lecturer.

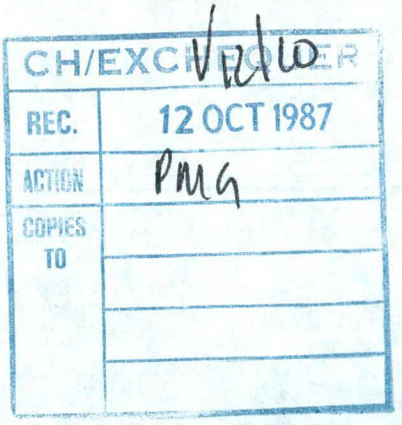
Broadly, we accept that the increased use of IT should be based on an understanding of its current and potential contribution, that the momentum of IT investment should be maintained, and that there should be adequate support for teachers and lecturers through training and re-training. Though the Government have been unable to accept in full the formal recommendations made by the Panel, we have set out the action we are now taking and, also, what might be done in the future, which will I believe go a long way towards meeting the needs identified by the Panel.

I have copied this letter, together with the enclosure, to the Prime Minister, to other Cabinet members, and to Sir Robert Armstrong.

Yours
Kenneth

ESD11AM15

ELIZABETH HOUSE
YORK ROAD
LONDON SE1 7PH
01-934 9000



The Hon Peter Brooke MP
Paymaster General
Treasury Chambers
Parliament Street
London SW1P 3AG

12 October 1987

Dear Peter.

DATA PROTECTION

Thank you for the copy of your letter of 30 September to Douglas Hurd about your recent meeting with Eric Howe, the Data Protection Registrar. I would certainly have no objection to Mr Howe or his colleagues having discussions with officials in this Department about the way we are implementing the Act. Our internal rules are not at present in the public domain but they do not present any great difficulties and that could be discussed further. We would keep CCTA in touch if we were approached.

I am copying this letter to the recipients of yours.

Yours
Kenneth

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
WHITEHALL PLACE, LONDON SW1A 2HH

From the Minister

The Hon Peter Brooke MP
Paymaster General
Treasury Chambers
Parliament Street
LONDON
SW1P 3AG

CH/EXCHEQUER
REC. 26 OCT 1987 26/10
ACTION PMG
COPIES TO

26 October 1987

Dear Peter,

DATA PROTECTION

Thank you for the copy of your letter of 30 September to Douglas Hurd about your meeting with Eric Howe, the Data Protection Registrar.

Disclosures to other Government departments of computerised personal data held by this Ministry are described, as are all other disclosure of personal data, in the MAFF registrations submitted to the Registrar under the Data Protection Act. In those areas where disclosure is already restricted by legislation, eg under the Agricultural Statistics Act 1979, the Data Protection registrations reflect that position. Should the Registrar wish it, my people would be happy to have further discussions with him on these matters in due course.

I am copying this letter to Ministers in charge of Departments and to Sir Robert Armstrong.

Yours ever,

JOHN MacGREGOR

QUEEN ANNE'S GATE
LONDON SWIH 9AT

26 October 1987

DATA PROTECTION

Dear Peter,

Thank you for your letter of 30 September about your recent meeting with Eric Howe, the Data Protection Registrar.

A meeting between Mr Howe and Home Office officials has been arranged to discuss the way we are implementing the Act, and CCTA are being kept in touch.

I am copying this letter to the recipients of yours.

Yours,

Douglas

The Hon Peter Brooke, MP.

Logica Consultancy Limited

64 Newman Street
London W1A 4SE
UK

telephone 01-637 9111
telex 27200

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	PS/FST
	PS/PMG
	PS/EST

6 January 1988

Mr J M G Taylor
Room 12/2
Treasury Chambers
Parliament Street
London SW1P 3AG

Dear Mr Taylor

PROJECT GEMSTONE: Electronic Mail for Private Offices

I am writing to confirm the meeting arranged between myself, yourself and Tony Dight on Friday 15 January at 10.30 am in connection with the above project.

The objective of project GEMSTONE is to determine the need for and the feasibility of implementing an electronic mail system between the Private Offices of Ministers and Permanent Secretaries throughout government.

A short briefing paper, which you may find helpful to read before our meeting, is attached. It provides some background to the project and outlines the areas we would like to discuss with you. The study team all hold current PVs and have other relevant security clearances necessary to discuss the types of classified documents that you may receive or send.

I look forward to meeting you. If you have any questions before then, please contact me at Logica on

01 637 9111 Ext 3813.

Yours sincerely

Dr Allen J Careless
Logica Project Manager

CG1ABK

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PROJECT GEMSTONE: Electronic Mail for Private Offices

Briefing Paper for Interviewees

Background

1 Project Gemstone has been established under the auspices of the CCTA to address the difficulties currently encountered in sending documents between the Private Offices of Ministers and Permanent Secretaries.

2 The CCTA are already implementing an inter-departmental electronic mail system (IDEM) but this will only handle information classified up to Restricted. It is believed that any system providing similar facilities between the Private Offices will need to be capable of handling higher levels of classification.

3 An electronic mail system like IDEM may not be the only way of meeting the Private Office requirements and other solutions such as secure facsimile will be considered during the project.

4 The project Steering Committee chaired by R E Dibble, Head of Advanced Technology and Telecommunications Division, CCTA, comprises representatives from the Cabinet Office, DHSS, DTI, FCO, HM Treasury and No. 10 Downing Street. The study is being undertaken by a team from Logica Consultancy Limited.

Survey of User Requirements

5 At the first meeting of the Steering Committee with the Logica team in December 1987, it was agreed that the initial investigations into user requirements should be made in a cross-section of departments as follows:

- Cabinet Office
- DHSS
- DTI
- FCO
- HM Treasury
- MoD
- No. 10 Downing Street
- Welsh Office.

Meetings are being arranged with staff in a number of Private Offices including those of Secretaries

of State, Junior Ministers, Parliamentary Secretaries and Permanent Secretaries.

Topics for Discussion

6 The main objectives of these meetings are to establish the current and future pattern of document exchange between private offices (both in normal circumstances and during crises), the problems with current arrangements and the consequent need for new facilities.

7 It is intended that, among other things, the following topics will be discussed during the course of the meetings:

a The main types of document sent and received (e.g. briefing papers, minutes, Cabinet Committee papers).

b The main sources and destinations of these documents.

c The characteristics of the documents (e.g. approximate numbers, classification, urgency, size, appendages).

d Variations in the above according to time of year, special circumstances (e.g. crises), etc.

e Current facilities used to prepare, send and receive documents (e.g. word processing equipment).

f Problems encountered with the current arrangements.

g Future planned changes which will affect the pattern of document exchange (if any).

h Future departmental plans for new facilities to prepare, send and receive documents, (if any).

i Specific requirements for new inter-departmental communications facilities between private offices (the project team will provide prompts).

Additional Information Required

7 In addition to the meeting the study team will be seeking assistance with collecting volume information by means of a simple document survey. Details will be provided by the study team at the meeting.

8 Where plans for Information Technology in the Private Office are not known, the study team will aim to determine them from the relevant IT Department.

9 Your co-operation is very much appreciated.

A J Careless
4 January 1988

CG1ABK

Morris MP

DEPUTY PARLIAMENTARY CLERK

From: M B Morgan
23 June 1988

c. Mr A Allan - PPS
Parliamentary Clerk
Mr P G Cobb (OR)

COMPUTERISATION OF PARLIAMENTARY SECTION

As you are aware, I am due to return from the wilderness early in July. My first task upon return will be to look at your requirements. Mr Cobb has asked me to write to you with draft terms of reference for the review so that we can agree the shape of the review as early as possible after my return.

2. Immediately upon my return I shall be attending a course at Sunningdale, so my first day back in the Treasury will be 7 July. I shall need one or two days to re-orient myself so I suggest that we plan to start the review around the 12th or 13th of the month. I will telephone you for an appointment when I return.

3. After my preliminary examination of your needs, which should only take one or two days, we can formally agree the terms of reference and timescales for the full assignment. As Mr Cobb has said, the definition of requirement stage should be fairly short.

4. I attach a first draft of the terms of reference for the review for your consideration. We can firm these up as necessary when we meet. We will also need to agree the boundaries of the review and any constraints (such as timing and staff resource in the Section).

M B MORGAN

Draft Terms of Reference

To examine the computing needs of the Parliamentary Section with a view to:

- identifying the Section's requirements of a computer system to replace the existing manual procedures;

- defining a system to meet those needs; and

- identifying appropriate hardware and software for early installation.