M E M O R A N D U M

To: Mr A G W Bailey

From: Mr J R Redhead

cc Mr W P N Armour

Date: 15 August 1986

LOSSES AND COMPENSATION

The DHSS has now formally replied approving write-off's in the sums of £65,732.88, £33,905.55 and £5,373.06 (which includes £1,000 for overalls which was recently discussed with the DHSS Auditor). Attached herewith is a copy of the relevant correspondance.

I must confess I do not know anything about the first sum, referred to in the separate letter, and I cannot trace Will Armour's letter of 25 February 1985.

CBLA/2308

The full requirements of the NHS for protein fractions obtained from human plasma are to be met by the National Blood Transfusion Service. This programme of self-sufficiency has three main elements:

Increased plasma supply
Increased plasma fractionation capacity
Accountable uptake of BTS products by NHS

The total programme, when fully implemented, is cost effective brought about by the substitution of expensive imported blood products by those from NBTS. Cost appraisal [1, 2] has shown that the capital outlay, although considerable, achieves a financial return by an amount, and within a time scale, which is acceptable by commercial and Treasury's standards.

Implementing "Self-Sufficiency" is a complex management problem. This paper is concerned only with the building of the new Blood Products Manufacturing Unit (BPMU), but the principles and underlying objectives equally apply to plasma procurement and uptake of BTS products by the NHS: effective implementation of investment at BPL will be nullified if the NHS adopts a casual unaccountable approach to the use of BTS products.

In the BPMU redevelopment project, time and cost are key issues. The project is being undertaken during a period of rapid change in underlying technology relating to biochemical separation methods and genetic engineering of human protein analogues. The time-frame is narrow within which chosen methods can be frozen in engineering design and architectural surround. Once the advantageous cost basis has been defined for developing a high technology manufacturing building, the sooner it is commissioned and working the better will its technology relate to current practice and its products meet current needs of consumers. Such are the needs of the new manufacturing unit at Elstree.

Cost is not secondary in importance to speed. However, cost effectiveness is a net balance between expenditure and income and the BPMU project remains viable while an acceptable level of cost

benefit to the NHS can be demonstrated.

In the Cost Appraisal Study of the new building project, the return on investment was shown to be secure and satisfactory. Expenditure included costs of building, plasma and manufacturing. In principle, flexibility between revenue and capital expenditure is acceptable providing that the overall net benefits are preserved. This principle is important to the Elstree project.

Together, the parameters of time and cost present controllable problems when the project design is familiar or simple. When project design becomes both complex and critical, as in the case of the new production building, then strict preservation of time schedules will carry cost implications. With the BPMU project, this is so and the situation is exacerbated by other factors centred around the high cost of custom-designed equipment of pharmaceutical manufacturing standard.

For reasons obvious from the above commentary, early completion of the new BPL has retained the first priority and because Regulatory Standards define the quality of the building, and the engineering design is defined by the specified capacity and agreed processes, the control of cost has been an area of concern from the outset.

Early awareness that equipment and some utilities costs would be high, introduced into the design process an objective making capital outlay realise future revenue savings through consequential economies of scale, limitation of man hours and efficient working. Increased capital spending to achieve reduced Revenue Consequentials of Capital Spending (which are index-linked to inflation) was proposed as a legitimate principle, providing that the combined effects of capital and revenue expenditure did not alter the cost benefit appraisal of the total programme. Cost appraisal and discounted cash flow analysis studies have been undertaken to test this principle and are referred to later.

In recognition of the priority for early completion, the complexity of the engineering design process and the very limited manpower resources at BPL, management jointly decided to employ a comprehensive external consultant building and engineering management group to control the

project and to implement a simultaneous design and construction programme. The differences between this "Fast-Track" approach and the normally adopted DHSS Capricode system were evident to management and it was understood that under the Fast-Track system, 30% of the approved capital sum would be committed within the twelve months during which completion of design would fix the estimated final cost. The twelve months period, described at the outset as the "period of risk" of the project, is now past and firm figures of the estimated final cost are becoming available and form the body of information in this paper.

The estimated final cost exceeds the original cost estimate which in turn was used as the cash limit.

An analysis of the estimated final cost follows and its relationship to the original cost estimate is set out to show how change and inflation in scope of design have proportionately influenced costs in different areas.

The cash limit of £21.1M was imposed without contingency and without any specified element of flexibility on a design and construction proejct where there was recognised urgency of completion and complexity of design. In addition the cash limit was fixed at a stage in planning only marginally ahead of Capricode Stage I. The rules, as applied, were therefore quite different from those normally accepted by the Works Department of National Health Service Authorities: the flexibility on cost determination normally available within the NHS building works programme was not applied to this more complex developmental design of the new Blood Products Manufacturing Unit. The larger part of the difficulties that have been encountered with the project have arisen from this early deficiency.