Hospital building maintenance : report of the Committee, 1968-70 / chairman : David Woodbine Parish.

DEPARTMENT OF HEALTH AND SOCIAL SECURITY
SCOTTISH HOME AND HEALTH DEPARTMENT
WELSH OFFICE

Hospital Building Maintenance

REPORT OF THE COMMITTEE
1968-70

Chairman: David Woodbine Parish

LONDON
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REPORT OF THE COMMITTEE
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1970

SBN 11 320992 4

COMMITTEE OF INQUIRY ON HOSPITAL BUILDING MAINTENANCE AND THE WORK OF BUILDING SUPERVISORS

Members of the Committee

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*resigned January 1969
†appointed January 1969
‡died November 1969

Clement F. Marshall, O.B.E., B.Sc., F.I.C.E. (*Executive Investigator*)

Clifford Graham (*Draftsman*)

Ernest Emery (*Secretary*)

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The Rt. Hon. William Ross, M.B.E., M.P., Secretary of State for Scotland.

The Rt. Hon. George Thomas, M.P., Secretary of State for Wales.

Gentlemen,

I have pleasure in submitting for your consideration the unanimous Report of the Committee of Inquiry upon "Hospital Building Maintenance and the work done by Hospital Building Supervisors" which was set up in July 1968 by the Secretary of State for Scotland and Minister of Health.

My colleagues and I have interpreted the need to constitute such a Committee as an acknowledgement that the existing state of affairs in the conduct of hospital building maintenance is not altogether satisfactory and we have ventured to presume that our report should be regarded as an instrument of change rather than a method of maintaining but modifying the *status quo*. Accordingly we have deliberately set out to uplift the status of hospital building maintenance in general and to emphasise the standing and importance to the Hospital Service of those individuals at various levels who are responsible for planning, directing and supervising the work involved. We fully realise that in so doing we are endeavouring to change established attitudes with a view to materially altering current patterns of organisation and control and we accept that the process will be achieved neither easily nor quickly.

However, we have taken comfort from the excellent Research and Development Bulletin published in 1969 by the Ministry of Public Building and Works on the subject of Building Maintenance which clearly indicates that this sector of activity confronts the nation as a whole with the need for a basic reappraisal and is by no means a problem confined to the Hospital Service. I offer the following extracts from the Bulletin for your attention and for the reassurance of any sectors within the National Health Service who may be troubled by our proposals.

> ". . . We doubt if it is fortuitous that building maintenance retains a lowly status in many budgets of human and other resources; but we also doubt if much improvement in practice can be expected without some improvement in status. Ways must therefore be found of increasing general awareness of maintenance and its problems. . . ."
>
> ". . . It is possible to neglect maintenance for prolonged periods with only marginal effect on efficiency—the tendency is therefore often to prefer other forms of expenditure and to allow buildings to join other durables in a class where repairs rank as distress purchases, to be avoided where possible and perhaps resented. Maintenance therefore enjoys a somewhat hostile environment. . . ."
>
> "We are strongly in favour of defining the status of property maintenance . . . and managing it as a separate activity with an established policy."

I realise that it will be far from easy for your Departments to give a high priority to hospital building maintenance, particularly as this will place it more directly in competition for limited funds with the pressing demands of nurses' pay, the needs of the long stay patients and the requirements of work study to which your Departments have given emphasis in recent months. However, our report attempts to show that there is an identifiable relationship between building maintenance and some of these other problem areas and that the benefits which will flow from the implementation of our recommendations are manifestly undeniable and in the longer range will be substantial.

I cannot, of course, state categorically that the recommendations which we have made will not involve the National Health Service in some additional expense in the short and mid-term, since we are proposing that additional qualified supervisory staff and a small number of professional staff be recruited, that programmes of training be developed, that effective records systems be introduced and patterns of organisation and systems of financial control improved, and further one cannot ignore the impact on future maintenance costs of the recent sizable wage award to workers in the building industry and the effects of the changeover from imperial to metric measurement; but I can state with confidence that such additional expense which our recommendations may entail will be more than offset in the long term by improved efficiency and higher productivity.

Perhaps I should mention that we received no evidence to show that the existing financial allocation for building maintenance was either sufficient or that it was being distributed on the most equitable basis relative to need and priority and I am convinced that this situation of doubt will continue until a system of ordered management as proposed is introduced to administer effectively the maintenance, improvement and renewal of the nation's hospital estate. In short, there exists no reliable means of deciding the optimum use and deployment of the available and potential resources and therefore of assessing the cost effectiveness of the present system of allocation without the information which can only be produced by the diversion of adequate financial resources to the hospital building maintenance head of expenditure at least for the immediate transitional period referred to in our report.

We are aware and have stated in our report that we have not offered complete solutions to all the complex problems which we have identified and examined and we have indicated areas where we consider that additional lines of study and research might gainfully be instituted. But I am persuaded beyond all doubt that only by adopting a far more dynamic and professional approach towards the collective stewardship of the nation's widespread stock of hospital property can any significant improvement in the general standards of hospital maintenance and related new construction be achieved.

I feel compelled to draw your particular attention to the grave concern that my colleagues and I have expressed at the non-existence of a career structure for building supervisors and the past neglect and current absence in the Hospital Service of any formal training in estate and property management and building maintenance techniques. The appendices setting out the pattern of technical qualification and age groups of building supervisors is indicative of this situation and clearly calls for a vigorous review of policy in relation to recruitment, promotion prospects and conditions of employment. With the foreseeable use

of computers in the conduct of hospital maintenance, in-service training with regular opportunities for individuals in post to update their range of skills is a key area which must be attended to with all dispatch. Time has not permitted us to devise detailed programmes of systematic training and development covering the related managerial, supervisory, executive and technical aspects of hospital maintenance or to draft precise job descriptions based upon job analysis for the various posts involved, but we remain at the disposal of your Department to assist with such tasks which we regard as immediate priorities, should we be so invited.

I trust that the Committee's recommendations will commend themselves to you and that they will be accepted and implemented as a matter of real urgency; and further that, subject to your decision in the matter, steps be taken to ensure the early publication of our report. During the course of our enquiries we have been made aware of the intense interest in our findings which exists within the Hospital Service and beyond and I earnestly suggest that it is of cardinal importance that both the hospital authorities and staff concerned should be left in no uncertainty about the outcome of our deliberations.

DAVID WOODBINE PARISH.

16 *February* 1970

REPORT

1. TERMS OF REFERENCE

1.1. The Committee was appointed in July 1968 by The Right Honourable William Ross, M.B.E., M.P., the Secretary of State for Scotland, and The Right Honourable Kenneth Robinson, M.P., the then Minister of Health, and given the following terms of reference:

> "To consider the present arrangements for the conduct of hospital building maintenance and minor capital works, including the nature of the work at present done by hospital building supervisors, and their responsibilities and qualifications, and to make recommendations on:
>
> (*a*) what changes, if any, are needed in the interest of efficient hospital building maintenance; and
>
> (*b*) the duties, responsibilities, qualifications and training of the supervisory staff required".

1.2. On 1 April 1969 health functions in relation to Wales were transferred from the Secretary of State for Social Services, who had assumed overall responsibility for the Ministry of Health, to the Secretary of State for Wales; but we consider there is no reason to draw any fundamental distinction between hospital maintenance requirements in England, Scotland and Wales and our report is addressed equally to the respective Secretaries of State. For convenience the report is written in terms of England and Wales. Where Scottish differences are significant for the argument or conclusions they are noted in the text. Otherwise we conclude that the arguments and the recommendations in respect of Regional Hospital Boards (R.H.B.s) and Hospital Management Committees (H.M.C.s) in England and Wales are equally applicable to Regional Hospital Boards and Boards of Management (B.M.s) in Scotland. (See also Appendix I.)

1.3. We believe there are two ways of interpreting the broad intention behind our terms of reference: we are required either to confine our analysis to the changes necessary to improve efficiency within the existing organisational structure for building maintenance based on Hospital Management Committees; or to present a report containing much more radical and far reaching proposals. We have therefore ventured to make a number of immediate and some further mid term recommendations designed to improve efficiency within the existing organisation; and we have indicated areas where in the longer term, and to some extent the mid term, we consider that further research and study ought to be undertaken. The comparatively limited time available has not permitted a fully detailed consideration of all aspects of each of these but at least we have attempted to give reasons for any proposed research and study and have defined the general objectives.

1.4. We have found it difficult in practice to draw a clear distinction between building and engineering maintenance work in hospitals—either in consideration of the accounts and costing returns produced by the Departments or where both disciplines are engaged on related sections of the same work. We feel that the requirements of building and engineering maintenance are so interlocked that

ideally they should be considered as a joint works organisation and we have therefore given consideration to the needs of engineering maintenance where the circumstances of the situation made this desirable. It is equally important that the requirements of building maintenance, and in particular the recommendations contained in this report, should be related to any changes proposed for engineering maintenance so as to ensure that these two, in some senses complementary, technical departments can be developed on a similar basis, pending the consideration of our longer term proposals concerning joint works departments. This requires particular consideration in the short term within the smaller H.M.C.s where the appointment of a full time Building Supervisor might not be justified and sharing and pooling arrangements (paragraph 6.1.10) are impracticable.

1.5. The future administrative structure of the health service and the pay and conditions of service of Building Supervisors are outside our terms of reference; but we have been forced to make certain assumptions about the former (see paragraphs 3.1.7. and 3.1.8.) and we are not unaware of the probable effect on the latter of some of our recommendations. In particular, it has been impressed upon us from many quarters that the issue of pay is fundamental to all other considerations and can be illustrated by reference to the salaries (exclusive of increase or abatement in respect of technical qualifications or special responsibility allowances) of the Building Supervisor and Group Engineer: on 1 August 1951 the maximum salary for a Group Clerk of Works (title changed to Building Supervisor in 1956—see Appendix 3) was £730, while that for a Group Engineer was £970—a difference of £240 (approx. 33 per cent of £730); and on 31 December 1969 the maximum salary for a Building Supervisor was £1,751, while that for a Group Engineer was £2,685 (inclusive of an increase of 10½ per cent agreed in November 1969)—a difference of £934 (approx. 53 per cent of £1,751). We have not assessed the changes in duties during this period.

1.6. The Department of Health and Social Security have provided us with copies of the 1969 Report of the Committee on Public Accounts on the subject of building and engineering maintenance in the hospital service and have kept us informed of developments in this field.

2. METHOD OF INQUIRY

2.1. The ambiguity of some terms used in discussing maintenance has caused us difficulty. We have tried in the main to keep our comments within the confines of the definitions given in British Standard 3811: 1964, and to some extent we have followed the pattern set in the "Report of the Committee on Senior Nursing Staff Structure" (The Salmon Committee—1966); and we have included, in Appendix I, a short glossary giving the sense in which we have used certain terms and defining others we have introduced.

2.2. Our review of the current situation owes an enormous amount to the prodigious efforts of our Executive Investigator, Clement Marshall; during the 18 months of our Inquiry he has visited no less than 100 hospital authorities in England, Scotland and Wales, speaking to some hundreds of officers—ranging

from administrative officers at R.H.B.s and Boards of Governors of Teaching Hospital (B.G.s) to technical officers on site; and he has provided the Committee with over 20 papers dealing in detail with his observations on the present situation and suggesting ways of overcoming in the future the current practical problems which have emerged. We believe that this executive investigation has covered a representative cross section of the hospital service.

2.3. Appendix 4 contains details of the authorities visited by the Executive Investigator, the general line taken in the questions put to the officers concerned and a summary of the information received in reply.

2.4. In addition to the information provided as a result of this unusual method of investigation, the Committee has received written evidence from 23 separate organisations, covering employers, trades unions and other representative organisations, supplemented by oral evidence from 5 of these organisations. Appendix 2 contains a list of those who gave evidence and a summary of the main and most widely supported points put forward in evidence.

2.5. We have met as a Committee on 14 occasions during the period July 1968 to February 1970; and individual members have submitted papers on specific matters for our consideration.

2.6. It was with the deepest regret that we learned of the sudden death on 30 November 1969 of our colleague and friend George Field. His efforts on behalf of the Committee and his colleagues in the field of building maintenance, to say nothing of his devoted service to St. Helena Group H.M.C. were unequalled; and we are the poorer for his absence. However during November 1969 we had reached the concluding stages of our deliberations and we believe that George Field would have joined us in signing the report; and that it takes full account of the many views expressed by him during the course of our inquiry.

2.7. Our task has been lightened considerably by the work of Clifford Graham of the Department of Health and Social Security, who joined us as draftsman in June 1969, and we acknowledge his services with appreciation and gratitude. His ability, energy and enthusiasm in distilling into report form the substantial volume of expert evidence, memoranda and other advice which we have received has greatly assisted us to reach our conclusions on the many complex issues with which we were faced.

2.8. We also place on record our thanks to our Secretary Ernest Emery, also of the Department of Health and Social Security, for the unfailing care and effort which he has brought to the propagation of the large number of documents which we have examined during the course of our inquiry; and for the diligent way in which he has arranged and recorded our meetings and planned the many visits of our Executive Investigator and Chairman.

2.9. We are extremely grateful to the many hundreds of people in the hospital service and elsewhere who have helped us so willingly in our enquiries; and we

would like to convey our warm thanks to all concerned for the great volume of valuable information they have provided.

2.10. Finally, our Chairman, David Woodbine Parish, the present Vice-Chairman of the Board of Governors of St. Thomas' Hospital, London has made a series of visits to Chairmen of R.H.B.s/B.G.s in England, Scotland, and Wales to test their reactions to our general conclusions and recommendations.

3. INTRODUCTION AND GENERAL CONSIDERATIONS

3.1. *INTRODUCTION*

3.1.1. In this report we have drawn attention to some of the apparent weaknesses in the present pattern of organisation of building maintenance in hospitals: this is by no means a criticism of individuals since in general we have been greatly impressed by what has been achieved by the officers dealing with building maintenance in conditions which often leave much to be desired.

3.1.2. As we see it, in hospital building maintenance there are two current problems of real urgency: we are unanimous in declaring that some immediate action is needed to restore the morale of the building maintenance staff by improving conditions of service and career prospects and so encouraging the entry of younger men into the service; and further, that to improve the pattern of organisation, reservoir of skills, and methods applied in hospital building maintenance new policies and procedures must be initiated so that full value is obtained for the necessarily limited amount of money that can be devoted to this sector of the health service.

Staff Morale

3.1.3. We consider that only overlong hours of continuous service by conscientious supervisors dedicated to the hospital service have prevented a breakdown of organisation in the past; and the evidence of declining morale and changing attitudes amongst staff engaged in building maintenance included in this report is an indication that such devotion to duty may not be forthcoming in the future unless prompt action is taken to repair the situation (see also section 5.3.).

Organisation and Methods

3.1.4. The reports we have received indicating the unsatisfactory nature of the existing pattern of organisation and control of maintenance and our analysis of greater maintenance requirements for the future point to an increasingly unacceptable situation unless urgent steps are taken forthwith to put right deficiencies revealed and introduce ordered management into the conduct of maintenance (see also section 5.2.).

3.1.5. National Health Service (N.H.S.) property, consisting of land, buildings and associated engineering installations represents the product of a substantial and continuing investment of public funds by the nation for which the Secre-

taries of State for Social Services, Scotland and Wales respectively are accountable to Parliament. We believe that if the Secretaries of State, and R.H.B.s and B.G.s as agents of the Secretaries of State, are to fulfil adequately this particular duty, they must be able to demonstrate that effective machinery exists through which they can satisfy themselves that this massive investment in capital assets is being competently managed and conserved; and we are satisfied that the implementation of the recommendations contained in this report will materially help to meet this need at all levels of accountability within the hospital service.

3.1.6. Our researches have revealed that much tactical advice has been tendered by departmental committees over the years on the technical maintenance of hospitals, all directed to the need for improvement, from the "Hospital Survey" in 1945 through the 1956 "Guillebaud Report" and related departmental reports to the relatively recent report of the "Inter-Board Study Group"; but we have been unable to discover evidence of any effective action taken as a result of this advice on the maintenance of hospitals and we are most concerned that our report should not receive similar treatment. We believe that the time for real change and fresh attitudes towards hospital maintenance has now arrived and we trust that the recommendations in our report will commend themselves to those concerned and will be accepted and implemented as a matter of urgency.

3.1.7. *Assumptions made by the Committee.* Since the N.H.S. is about to embark upon a period of great administrative change, we have been forced to make certain assumptions in our report and we record the circumstances to assist readers to set our findings in perspective. We have assumed that there will be no dramatic changes in the number of hospitals or patients in the foreseeable future and that closures will not reduce significantly the numbers; that the general policy changes envisaged in the second "Green Paper"—"The Future Administrative Structure of the National Health Service"—and the Report of the Royal Commission on Local Government in England and Wales (Redcliffe-Maud Report) will be effected at least in England, and might possibly result in a structure for the health service in England in which the main units of administration will number about 90 (although we recognise that similar organisational changes might not flow necessarily from a final consideration of the "Green Paper"—"Administrative Reorganisation of Scottish Health Services"—and the Report of the Royal Commission on Local Government in Scotland (Wheatley Report)); that there will be no great increase in the financial resources available overall or in respect of maintenance and that our proposals probably must be met out of a reallocation of funds and redeployment of manpower resources, albeit on a temporary basis; and that the slight increase in financial resources devoted to maintenance we propose in the transitional period will be more than offset by the cost benefits accruing in the mid and longer term. This is not to overlook, however, the fact that a slight increase overall in the transitional period might require a substantial increase in the maintenance allocation for particular localities; but merely to emphasise the need for greater flexibility of resources at all levels pending the development of an ordered approach to maintenance throughout the N.H.S., e.g. by reducing maintenance allocations for a strictly limited period in some groups which may have received adequate maintenance

moneys in the recent past and making additional funds available in areas of relatively greater need.

3.1.8. *Administrative Reorganisation.* The assumption we have made about the likely effect of the "Green Papers" requires further explanation. We believe that whatever administrative structure eventually is agreed for the N.H.S. there will still be an inescapable need to reorganise hospital maintenance to produce larger units; and to improve the processes of communication, liaison, control and technical support between any separate tiers in the administrative structure (see also paragraphs 3.2.7. to 3.2.9.).

3.2. *GENERAL CONSIDERATIONS*

The Importance of Maintenance

3.2.1. It is essential that the relationship between each individual function in the field of maintenance, the care and treatment of patients and the effect of the hospital environment on staff morale should be clearly understood: maintenance is not an isolated optional activity of a purely technical nature; it is an important, indispensable and integral part of the vital function of providing patients with the standard of care and treatment which the N.H.S. is proud to sustain, and ensuring that all staff enjoy working conditions which will inspire them to give of their best in the interests of the patients.

3.2.2. Members of hospital authorities and their officers, no less than the Departments, charged with the responsibility and accountability for the management and execution of hospital property maintenance should understand completely the true dimensions of their individual functions; and the gravity and extent of the problem which inevitably will confront them and the patients they are aiming to serve should they fail to discharge adequately their particular task as stewards of the nation's stock of hospital property. It must be clearly understood that each individual responsibility in the field of maintenance, from the formulation and implementation of strategic policies to the tactical interpretation and prosecution of such policies on site, carries with it an inescapable duty related directly to the care and treatment of patients and staff welfare: long-stay patients deserve to spend their time in agreeable surroundings and short-stay patients are more likely to respond to treatment in a well maintained hospital, thus increasing the flow of patients and improving the prospects of admission for those still on the waiting list; and staff are less likely to feel overborne by the full burdens of their increasing responsibilities in a well maintained and congenial environment.

3.2.3. In short, an efficient maintenance organisation operating within clearly defined policies with specific objectives can add markedly to the overall effectiveness of hospitals by assisting staff to realise their full potential and adding to the comfort of patients.

Estate Management

3.2.4. Effective stewardship and management of property are vital functions

of the N.H.S. We are concerned to find that the general principles of estate management, which we would expect to be applied vigorously in any large organisation controlling the substantial amount of property which is at the disposal of the N.H.S., are not always properly understood or universally applied in the hospital service. We recognise the impracticability of suggesting that in this respect the N.H.S. should operate on commercial lines, but we are confident that there is a great deal to be gained from a close examination of basic principles and commercial practice in the development of a comprehensive property and building maintenance policy for the future.

3.2.5. We are so concerned at the general absence of estate and property management capability in the N.H.S. that we have taken the opportunity of listing, in Appendix 6, some objectives of sound estate management in the private sector and have indicated the way in which traditionally these have been achieved in the hope that this will assist in the development of a sound policy suited to the special needs of the hospital service.

3.2.6. *Incentive Bonus Schemes.* We note that it is the Health Department's policy (H.M.(68)80 and S.H.M. 78/68 refer) to introduce incentive bonus schemes as widely as possible in the field of building maintenance, based preferably on planned maintenance systems. These schemes will call for an increase in the numbers and technical capability of supervisory staff, which will make it more difficult than previously to find money for extra staff for other works purposes; but full benefit from incentives cannot be achieved unless sufficient staff, qualified and experienced in the development of incentive bonus schemes, are provided to produce ordered management and therefore achieve a manifest increase in efficiency in maintenance in advance of the implementation of such bonus schemes.

Public Accountability for Maintenance

3.2.7. Our attention has been drawn to Hospital Memorandum (69)59—"Relationship between the Secretary of State, Regional Hospital Boards and Hospital Management Committees". The memorandum was applicable to England and Wales but we understand that the principles outlined in the memorandum have equal applicability in Scotland. Although the memorandum was intended to clarify relationships in the light of "The Report on Ely Hospital", our experience is that similar difficulties may well exist in the pattern of organisation of maintenance.

3.2.8. As explained in section 4.1., responsibility for maintenance has been delegated by the Secretaries of State down through R.H.B.s to H.M.C.s and as a consequence there exists a chain of accountability from H.M.C. level upwards through each next higher tier to Parliament. Without suggesting that there should be instituted a formal chain of command linking the Secretary of State with individual hospitals, or indeed a central advisory service, we urge strongly that an improved system of communication, liaison, professional and technical control and support, between the professional expertise concentrated in R.H.B.s and the Departments and the work of the technician undertaken at group level,

coupled with a clear definition of professional and technical responsibility, authority and accountability for maintenance at each tier in the administrative structure, should be regarded as urgent and indispensable.

3.2.9. Ultimately this apparent conflict between the delegation of responsibility and the continuing need for accountability will be lessened by the introduction of adequate systems of formal inspection and report recommended as part of our longer term, and to some extent mid term, proposals.

3.2.10. *Transitional Arrangements.* Finally, we would emphasise that the recommendations contained in this report must be supported by adequate transitional arrangements to cover all existing supervisory staff in post. We are certain that the current and future tasks facing the N.H.S. during the next decade in the field of building and engineering maintenance will require the services of all the existing supervisory staff together with all those that the service can reasonably hope to recruit and train.

4. HISTORICAL BACKGROUND TO THE PRESENT APPROACH TO MAINTENANCE WORK IN HOSPITALS

4.1. *THE PROPERTY*

Legal Aspects

4.1.1. Under Section 6 of the National Health Service Act 1946, all hospital property in England and Wales is vested in the Secretaries of State for Social Services and Wales. By virtue of Sections 12(1)(*b*) and (*c*) of the Act and the National Health Service (Functions of Regional Hospital Boards) Regulations 1969 (S.I. 1969 No. 297—Part III Regulations 5(8) and (9)) responsibility for the maintenance of hospital premises within prescribed limits, and the acquisition and maintenance of equipment, furniture and other movable hospital property has been delegated by R.H.B.s to H.M.C.s; subject to any regulations made or directions given by the Secretaries of State, who remain accountable to Parliament.

4.1.2. B.G.s manage and control teaching hospitals in England and Wales on behalf of and subject to any directions given by the Secretaries of State for Social Services and Wales—Section 12(3) of the 1946 Act and Regulation 6 of the 1969 Functions Regulations refer—and are thus responsible for maintenance works. Medical Schools are responsible for the maintenance of their own accommodation, and funds are made available to them by the University as part of a quinquennial grant. Differing standards can arise because of this division of responsibility. This is further accentuated where either the medical school or teaching hospital have a joint ownership in certain areas or the school is wholly responsible for teaching accommodation which is physically part of the hospital building.

4.1.3. In Scotland the relevant statutory provisions are contained in Sections 6

and 12(2)(*b*) and (*c*) of the National Health Service (Scotland) Act 1947. There are in Scotland no separate B.G.s: teaching hospitals are administered on behalf of R.H.B.s by the appropriate B.M.s, which are responsible for the day-to-day management of all hospitals under their control.

Practice

4.1.4. The Departments have never assumed at a national level all the duties involved in the application of the general principles of estate management. The Secretaries of State have not so far devolved to R.H.B.s their responsibilities for the acquisition and disposal of properties, including land surplus to hospital requirements.

4.1.5. The Departments do not possess detailed portfolios of all hospital property and have never undertaken a national survey of all such property: various details are provided in "The Hospital Survey" (ten volumes) 1945, "The Hospital Plan" (1962—CMD 1604), "The Hospital Building Programme" (1966—CMD 3000) and the "Estate Terriers" maintained by the Departments; but they are unco-ordinated and probably incomplete and do not provide the basic information required of a national portfolio of hospital property compiled in accordance with established principles of estate management. Details of the Scottish hospital building programmes are contained in "The Hospital Plan for Scotland" (1962—CMD 1602) and in the "Review of the Hospital Plan for Scotland" (1966—CMD 2877).

4.1.6. "*The Hospital Survey*" (1945). The hospital survey did not catalogue fully the age or condition of all the various hospital property at that time (it was compiled during the period 1941 to 1945 and was based generally on the situation in 1938) but it is significant that all the surveyors drew attention to the inadequate state of hospital buildings. (see extract from Ministry of Health's Annual Report for 1945/46 in Appendix 3). A "Scottish Hospitals Survey" revealed that many of the hospitals in Scotland were built in the 19th century.

4.1.7. *The Guillebaud Report.* In 1956 in their report on the "Cost of the National Health Service", the Guillebaud Committee formed ". . . the impression that at no level from the Ministry to the hospital is there sufficient consciousness of responsibility for capital assets at all comparable with that felt in a business concern, where they are carried in the balance sheet and their maintenance and depreciation are recognised as priorities necessary to maintain the capital assets of the undertaking . . ."; and in a supporting document entitled "Cost of the National Health Service" it was revealed that 45 per cent of the hospitals covered in their survey were erected originally before 1891 and 21 per cent before 1861 (see Appendix 3 for extracts from both documents).

4.1.8. *Earmarking of Funds.* The overall revenue allocations from the Ministry of Health to Regional Hospital Boards for 1955/56 to 1957/58 and 1959/60 included sums earmarked specifically for the purpose of hospital building maintenance. In Scotland sums were earmarked specifically for building maintenance in 1961/62 and for building maintenance, furniture and equipment in 1964/65.

4.1.9. *Hospital Technical Memoranda* 12 *and* 13. H.T.M. 12—"Maintenance of Buildings, Plant and Equipment"—distributed to hospital authorities in 1964, generally was not implemented, at least on the building side, owing to lack of resources; and the "Report of the Quantity Surveyors Inter-Board Study Group —Maintenance of Hospital Buildings (Method of Execution and Recording of Costs)" 1966 was not distributed owing to criticism by hospital authorities. H.T.M. 13 — "Planned Preventive Maintenance: A system for Engineering Plant and Services"—was distributed to hospital authorities in 1965 and although we are advised that only a small proportion of the overall total of hospital beds currently are covered by the system therein described, in general it was received favourably. H.T.M. 12 and 13 were issued also in Scotland and hospital authorities are expected to adopt such advice. A system of planned preventive maintenance for engineering services, based on experience gained in South Eastern R.H.B. in Scotland, was commended to Scottish hospital authorities in 1965 and it is known that many of them have adopted the system.

4.1.10. *Revenue Consequences of Capital Schemes.* Recently, the Departments set up units concerned with the revenue consequences of capital schemes, part of whose function is the consideration of the levels for running costs in new and substantially rebuilt hospitals. In carrying out this function the units should influence at least the initial level of expenditure on maintenance in these buildings and ensure that R.H.B.s and B.G.s consider the level of funds necessary for proper maintenance in the future. But no parallel organisation exists which has the function of looking at current maintenance expenditure in the old hospitals, such expenditure being determined largely by local decisions about priorities.

4.1.11. *Norms in Building Maintenance.* The development of norms and standards for building maintenance in general has proved a difficult exercise and the Local Government Operational Research Unit have been commissioned by the Department of Health and Social Security to undertake a programme of research designed to assist in the decision making process.

4.1.12. *Select Committee on Estimates.* In December 1969, in a memorandum on the "Hospital Building Programme" submitted to Sub-Committee B of the Select Committee on Estimates, the Department of Health and Social Security declared that "The stock of hospital buildings in England is old. The age varies from about 150 years down to new buildings just coming into commission, and the mean age is about 70 years. . . . Provision for the hospital building programme for England is likely to be something over £105 million in 1970/71. If investment in future years continues at this rate of expenditure, considerable progress will have been made towards modernising the stock of buildings by the year 2000, when the mean age will have fallen to about 50 years". It is reasonable to suppose that a similar situation exists in Scotland and Wales.

4.2. *THE STAFF*

4.2.1. All hospital plant and equipment is under the technical supervision of

one of the various categories of Hospital Engineer but not every hospital building receives the benefit of a Building Supervisor's expertise; and the Group Engineer is given responsibility for building maintenance where there is no establishment for a Building Supervisor (see Appendix 3 for a detailed background to and Appendix 5 for a statistical analysis of the present situation).

4.2.2. *Qualifications.* In the N.H.S. there has never existed parity of qualification between Building Supervisors and Group Engineers and the implementation of the main recommendations contained in the "Report of the Study Group on the Work, Grading, Training and Qualifications of Hospital Engineers" (the Tyler Committee 1962) further increased the level of qualification required of Group Engineers.

Responsibilities of Technicians

4.2.3. In practice there exist four variants of the relationship between the Building Supervisor and the Group Engineer:

(*a*) Where the Group Engineer is responsible for all the duties carried out by the Building Supervisor;

(*b*) Where the Group Engineer is not responsible for building maintenance work carried out by the Building Supervisor but is responsible for general co-ordination of building and engineering maintenance;

(*c*) Where engineering and building maintenance work are undertaken in two separate departments, with the Group Engineer and Building Supervisor each controlling their own staff; and

(*d*) Where no Building Supervisor has been appointed.

4.2.4. The Group Engineer is called upon to supervise the continuous operation as well as the maintenance of engineering services whilst the responsibility of the Building Supervisor is confined to building maintenance, subject to the involvement of both officers in minor capital works; and possibly an additional burden is placed on the Group Engineer, although this does not mean that the Building Supervisor must be less well qualified. The Engineer, qualified as he is required to be in his own field, is not normally qualified to carry out the full range of building maintenance duties. This is not to under-estimate the practical experience, and in some cases technical qualifications, in building and managerial experience possessed by some Group Engineers whose current responsibilities cover building maintenance.

4.2.5. *Responsibilities of Professional Officers.* P.T.B. Circular 232, issued under cover of H.M.(68)24 S.H.M.27/68, defines the Regional Architect as "A whole-time officer of the Regional Board, responsible to the Board for the efficient working of the Architectural Department of the Board's Works Organisation" (paragraph 3(*a*)(i)); and the Regional Engineer as being ". . . responsible to the Board for the efficient working of the Engineering Department of the Board's Works Organisation" (paragraph 4(*a*)(i)).

4.2.6. *Professional Support for Technicians.* On a purely voluntary basis, there is scope for providing professional support for the Building Supervisor and Group

Engineer. We have however no evidence that any guidance material has ever referred to or defined the precise role of the Regional Architect or Regional Engineer in relation to maintenance or the extent of their responsibility/accountability in respect of the maintenance work of H.M.C.s; although H.M.(69)59 makes it clear that the Secretary of State looks to R.H.B.s "to exercise general oversight of the administration and standards of care in the hospital service in their regions", and this in our opinion ought to include the maintenance of hospitals.

4.3. *THE ORGANISATION*

4.3.1. *Technical Links.* Ever since the inception of the N.H.S. in 1948 there has existed a link between the tiers of technical/professional authority on the engineering side, with technical/professional officers located at each of the major centres: there is no such comparable structure for Building Supervisors.

4.3.2. *Implementation of Maintenance Policy.* Over the years there has been a failure by senior management to overcome the general lack of interest which traditionally has come to be associated with the implementation of policy on maintenance, both within the N.H.S. and in some sections of industry. Accordingly, when the Departments eventually issued detailed and comprehensive guidance on the organisation of building and engineering maintenance in 1964—H.T.M. 12—in general it was found to be impracticable, at least in terms of building maintenance, owing to lack of resources at H.M.C. level. It was applied with relative success to engineering maintenance, more particularly when such guidance had been supplemented by a memorandum on planned preventive engineering maintenance in 1965—H.T.M. 13.

4.3.3. *Public Accountability.* To stress the point once again, there would appear to exist some conflict between the delegation of responsibility for maintenance down to H.M.C.s and the requirements of public accountability in respect of R.H.B.s, the Departments and Secretaries of State. R.H.B.s and the Departments are required to finance schemes of capital development and to stand accountable for any defects in the service resulting from any failure to provide necessary funds, but direct means of controlling the rate or level of revenue expenditure by H.M.C.s on maintenance rarely have been used (see paragraphs 4.1.8. and 5.2.20.): H.M.C.s have no direct means of reversing a situation, or proving that such a situation can exist, where they believe that continued maintenance of an out-of-date building at a current level of expenditure is relatively more expensive than the provision of additional maintenance moneys or the capital replacement of the building by the R.H.B.

5. REVIEW OF THE CURRENT SITUATION AND THE CHANGING PATTERN OF THE HOSPITAL SERVICE

5.1. *NATURE AND SCOPE OF HOSPITAL BUILDING MAINTENANCE WORK AND IMPLICATIONS FOR THE FUTURE*

Definitions

5.1.1. The British Standards Institution defines *maintenance* as "Work undertaken in order to keep or restore every facility, i.e. every part of a site, building and contents, to an acceptable standard"; and *maintained* as "maintained in an efficient state, in efficient working order and in good repair".

5.1.2. To meet the requirements of the N.H.S., the standard definition of *maintenance* might be amended to read "Work undertaken in order to keep or restore hospital premises to acceptable standards of safety and efficiency having due regard to the needs of the patients and staff within their immediate environment, the requirements of the N.H.S. and the resources available".

5.1.3. In a period of rapid technological advance and technical innovation, most items of maintenance should have an element of improvement so as to secure the benefits of new knowledge, products and materials.

Nature

5.1.4. Building maintenance work in the full sense ought to range from work required to maintain the fabric of the building and keep it functioning—such as painting, external and internal, major repairs to the structure, re-surfacing roads, rodding and flushing gullies, drains and sewers—to small everyday jobs of immediate maintenance—such as replacing broken windows and ironmongery, worn washers and repairing minor damage to floors, walls, ceilings and roofs and dealing with contingency or emergency repairs and renewals; but it should not exclude small works of modernisation.

5.1.5. We have evidence that some building maintenance is not always properly organised or undertaken within the requirements of a comprehensive plan, and it is reasonable to suppose that a disproportionate amount of the available resources in some groups may be consumed by unplanned, unorganised day-to-day maintenance.

5.1.6. It seems to be accepted generally that planned preventive maintenance is more applicable to mechanical and electrical engineering than to building maintenance, where it cannot extend to all aspects of the work required to maintain the fabric of the building.

5.1.7. We are forced to record that there is no commonly accepted standard of building or engineering maintenance in the hospital service and that in practice standards vary greatly between Regions, Groups and even hospitals within the same group.

Scope

5.1.8. The three Secretaries of State have vested in them a total of almost 3,000 hospitals: in England there are over 2,300 hospitals containing over

400,000 beds; in Scotland almost 400 hospitals containing over 60,000 beds; and in Wales almost 200 hospitals containing over 25,000 beds. These resources are managed and administered on behalf of the three Secretaries of State by their agents: 14 R.H.B.s, 35 B.Gs and 301 H.M.C.s in England; 5 R.H.B.s and 75 B.M.s in Scotland; and, 1 Hospital Board, 1 B.G. and 15 H.M.C.s in Wales. This adds up to a total of 447 individual hospital authorities all sharing individually and collectively in the management of the hospital service on behalf of the three Secretaries of State. (See Appendix 5, Table 4).

5.1.9. Apart from the need to provide shelter and complex hospital services annually for some six million in-patients and facilities for 40 million out-patient attendances, the Secretaries of State also have a duty to secure a suitable environment for over 600,000 hospital staff. (See Appendix 5, Table 4).

5.1.10. *Capital Expenditure.* The "Hospital Building Programme" (CMD 3000) envisaged expenditure on capital building projects to the total value of £1,000m. taking place during the decade commencing 1966; and the annual expenditure is currently running at something over £100m., with schemes to the total value of some £340m. in progress in England and Wales. In Scotland, a similar pattern has been established—current annual expenditure is in the region of £15m., with work to the value of £55.4m. in progress.

5.1.11. *Revenue Expenditure.* The 1969/70 estimates show that it is expected that expenditure on the maintenance of buildings, plant and grounds will amount in England to nearly £40 million, in Scotland to about £5 million and in Wales to about £2 million.

Implications for the Future

5.1.12. The national stock of almost 3,000 separate hospitals contains many categories of buildings ranging from the relatively new hospitals built during the past decade, when maintenance was not accorded its proper priority, to a residual stock of "old" property, covering ancient buildings in need of replacement and relatively modern property with a future N.H.S. life, the major part of which will in all probability still be in existence at the end of the present century. The average size of the 2,300 hospitals in England, which differ greatly in age, physical condition, size and capacity to provide an efficient and economical service, is about 200 beds but over 800 hospitals have under 50 beds. Some three quarters of the beds are in hospitals designed before the first world war mainly to accommodate the sick poor, whereas now the requirement is for diagnosis, investigation and treatment for the whole community. It is reasonable to suppose that a similar situation exists in Scotland and Wales.

5.1.13. Each of the many separate categories of hospital buildings, from old Poor Law Institutions, Workhouse Infirmaries, Fever Hospitals, Sanatoria and wartime emergency hospitals to modern Teaching and District General Hospitals, present different maintenance problems which must be dealt with within a comprehensive maintenance policy, with each category requiring dissimilar provision.

5.1.14. The renewed interest in the needs of the N.H.S., which led to a great upsurge in capital development, not unrelated to the findings of the Guillebaud Committee in 1956 (see Appendix 3), was not preceded by and has not resulted in any marked change in the level of resources devoted to maintenance; except in so far as the Departments' provision of funds for the running costs of new buildings has been designed to cover the needs for maintenance of these buildings.

5.1.15. Most hospital authorities are of the opinion that the property in their charge is in slightly better condition than it was a few years ago; but generally in the absence of ordered management in building maintenance they have no means of satisfying themselves upon this aspect, particularly as standards outside the N.H.S. constantly are rising.

5.1.16. *Teaching Hospitals in England and Wales.* As a result of the executive investigation, we have concluded that not all under-graduate teaching hospitals in England and Wales have entirely satisfactory building maintenance arrangements; and that building maintenance arrangements in the majority of post-graduate teaching hospitals situated in London are even less satisfactory. We believe that there are many ways in which these hospitals can improve their building maintenance arrangements but we venture to expect them in consultation with the Department, particularly in view of the substantial building programme in which most of them are involved, to decide how the direction and control of available resources can produce solutions most suited to the needs of individual hospitals within the general standards set out in this report.

5.2. PLANNING, CONDUCT AND CONTROL OF HOSPITAL BUILDING MAINTENANCE

EXISTING POLICY AND PRACTICE OF THE DEPARTMENT OF HEALTH AND SOCIAL SECURITY

5.2.1. *Revenue Funds.* The total revenue funds allocated from the Department to each R.H.B. and B.G. are increased each year to reflect changes in rates of pay and prices of goods and services, and by a share of the additional funds available for the hospital service. The additional funds available to each R.H.B./B.G., supplemented by any savings which it can find from its own resources, provide for qualitative and quantitative improvements in staffing, equipment and standards of care, including net additional costs of running new or rebuilt hospitals.

Estimates

5.2.2. Once the overall allocations have been decided, R.H.B.s are required to submit estimates to the Department within their total allocations—divided between services directly administered by the R.H.B. and one bulk item for the running costs of H.M.C.s. R.H.B.s submit a regional breakdown of this bulk item at a later date showing, *inter alia*, the anticipated expenditure on the maintenance of buildings, plant and grounds by H.M.C.s within the Region.

5.2.3. Provision is made for the revision of these original estimates of expenditure halfway through the year; R.H.B.s approve the revision of H.M.C. estimates and the Department approves those for R.H.B.s.

5.2.4. The annual allocations from R.H.B.s to H.M.C.s generally follow a similar process; H.M.C.s submit estimates to the R.H.B. for the following year within the allocations notified to them. These estimates are approved by the R.H.B. about March each year. H.M.C. estimates show expenditure under subheads of account for all services which they directly administer, including expenditure on maintenance of buildings, plant and grounds. Similar provision is made for the revision of these estimates about halfway through the year.

5.2.5. In Scotland within the total vote the bulk allocation to each R.H.B. is determined following consideration and discussion of expenditure forecasts submitted by each R.H.B. for a specified number of years ahead. Responsibility for the detailed allocation of each R.H.B.'s bulk allocation is delegated in full.

Expenditure

5.2.6. In 1967/68 the total expenditure by H.M.C.s in England and Wales on the salaries and wages of all staff directly employed on maintenance works amounted to some £25 million, the cost of tools and materials used by these staff were about £7 million; and payments to contractors were about £14 million. Total expenditure on building maintenance by B.M.s in Scotland during the same period was about £2½ million.

5.2.7. In general, an H.M.C.'s maintenance budget will be expended on meeting day-to-day maintenance by directly employed labour; undertaking larger upgrading and repairs by directly employed labour or contract, where such works estimated to be in excess of £3,000 per job require the prior approval of the R.H.B.; and minor new works of up to £500 each, which are charged to revenue as a matter of administrative convenience.

Planning

5.2.8. In H.T.M. 12, the Department advised hospital authorities to plan maintenance on the basis of a comprehensive annual programme, broken down into monthly programmes of work and daily schedules for the deployment of a labour force, but it is apparent that the degree of programming and planning varies considerably throughout the country.

5.2.9. Many R.H.B.s and a few H.M.C.s hold back reserves out of the allocations provided by the Department/R.H.B. to meet, *inter alia*, contingencies; and any unused reserves are released towards the end of the financial year to supplement one or more subheads of expenditure, quite often maintenance. In addition, the maintenance budget can be increased or decreased at the revised estimate stage; but if extra money is made available there are usually a number of schemes in an advanced stage of planning, and these in the main are put out to contract in view of the limited time available to complete the work before the end of the financial year and also because the Building Supervisor and the

D.E.L. personnel by this time of the year already are committed to a programme of work.

5.2.10. *Scotland.* Existing procedures for the planning, conduct and control of hospital building maintenance in Scotland are basically similar to those in England and Wales. While there are minor differences between the countries, such as the approval of estimates, the end results are the same. For several years hospital authorities have been encouraged to pay special attention to the maintenance of the existing assets and to give high priority to expenditure on the upkeep of buildings and plant. A certain amount of additional "non-recurring" money has been made available to R.H.B.s each year and they have been advised to use such allocations to supplement their normal level of expenditure on the maintenance of buildings and plant. Non-recurring money cannot be used by hospital authorities in ways which would create continuing commitments in later years. In addition average costs for building services and engineering services at individual hospitals are now being published to improve comparability and this information also provides management guidance for hospital authorities. H.T.M. 12 has been circulated by the Scottish Home and Health Department to the various Scottish hospital authorities.

PRACTICE OF HOSPITAL AUTHORITIES

5.2.11. Practices vary but all hospital authorities adhere to the general principle of need modified by the availability of funds. Generally maintenance funds are determined more by financial considerations than physical need; and it is doubtful if any attempt to assess physical need is ever sufficiently comprehensive, given the existing state of financial stringency. In addition hospital authorities are likely to regard the additional annual revenue provided for development of services in general as the only "escape valve" to meet all new requirements. Whereas in fact the total revenue budget should be reassessed each year by hospital authorities to ensure that the best use of all the available resources is being made.

5.2.12. Given such a variety of practices in the organisation of building maintenance, it is difficult to present a fully comprehensive review which covers all practical aspects but in the following paragraphs in this section of our report we have attempted to indicate what we consider to be the main areas of weakness in the existing pattern of organisation: assessing the building maintenance requirement; determining the financial budget; controlling expenditure; and executing building maintenance.

Assessing the Building Maintenance requirement

Planned Inspection

5.2.13. Few H.M.C.s have developed an established policy on planned inspection, where the maintenance programme is built up carefully at hospital level and extends some years ahead, or make a practice of listing renewals and improvements on the basis of economic criteria: usually day-to-day maintenance is budgeted on the basis of the total for the previous year, although major items

may be budgeted on the basis of priorities determined by physical survey; but any such survey is designed to achieve the best use of limited resources rather than to determine the amount required to finance the most economic maintenance plan. In some cases no real budget is prepared beyond earmarking expenditure to cover the wages and materials of the directly employed labour; and the remaining allocation is spent on individual items as they arise until the allocation is exhausted. Very few groups succeed in making frequent inspections of structures based on a quinquennial timetable reviewed annually. Ideally, annual comprehensive inspections of property should be undertaken.

5.2.14. Hospital authorities usually try to follow some definite policy on cleaning, painting and decorating, and sometimes in dealing with other building elements which require regular routine treatment; but in general local conditions and availability of resources, rather than the clear requirements of a comprehensive maintenance plan, tend to control the nature and scope of such a policy. We understand that the Department has produced norms for such routine work and that these will be incorporated in the revised version of H.T.M.12. We commend the use of such information by hospital authorities but stress that it should be treated with the reserve demanded by the particular local situation and should not be followed "slavishly or too much".

Determining the Financial Budget for Building Maintenance

5.2.15. *Basis of Budget.* Although the hospital service has been in existence for more than 20 years there are still hospital authorities which seem to be governed by the level of expenditure on works maintenance which prevailed in 1948; the cash amount has increased but the current budget is broadly that of 1948 adjusted to take account of the rise in prices and changes in the estate which have occurred in the last two decades. In addition, there is a fairly widespread belief that new buildings will prove more costly to maintain, owing in part to the present restrictive effect of capital expenditure limits; but there is an absence of any hard evidence to support any general or widespread conclusions.

5.2.16. *Work Programmes.* The building maintenance work programme is drawn up at H.M.C. level, generally by deciding how much of the work estimated by individual hospitals can be met out of the total amount made available out of the group's overall revenue budget. Most R.H.B.s are concerned to see that H.M.C.s do devote a reasonable sum for works maintenance each year. A sum to cover "extraordinary maintenance" may be reserved by some R.H.B.s out of the total allocations from Departments for distributing between H.M.C.s on the basis of the number of beds or some other common factor; or, more desirably, against specific items submitted by groups for this purpose. Some R.H.B.s, notably Western R.H.B. in Scotland, retain a reserve to deal with exceptional items of maintenance including gale damage.

5.2.17. Money for maintenance is limited and the overall situation would be much worse than it is but for windfalls such as money allocated as part of measures taken to alleviate winter unemployment in some development areas,

rare underspendings on other subheads of expenditure and the use of endowment funds.

5.2.18. *Budgets.* All hospital authorities are required to arrange their financial affairs so that they balance their budgets and do not exceed the allocation of funds notified to them. All subheads of expenditure, including maintenance, are liable to adjustment to this end. Given the existing state of priorities, and the fact that the maintenance subhead is one of the very few for which an H.M.C. can alter the provision at short notice, this often means the reduction of maintenance funds due to the pressures of clinical and other needs.

5.2.19. *Contingency Reserves.* H.M.C.s in general seem to dislike the practice of the reserve retained by some R.H.B.s to meet contingencies: it leaves H.M.C.s inadequate time in which to plan most effective use of surplus money made available towards the end of the financial year, although continuity of practice can give rise to expectancy and therefore permit advance planning; and often such money is used to purchase equipment.

5.2.20. *Allocations Formulae.* Some R.H.B.s, notably Manchester where a great deal of equalisation of maintenance expenditure between H.M.C.s is attributed to the use of a formula for allocation, have attempted to develop a formula to assist in the even distribution of maintenance funds between H.M.C.s according to potential need, in addition to specific items related to particular properties; but most Boards unhappily are forced to rely too heavily upon evidence of the previous year's expenditure in determining the allocation of funds.

Controlling Expenditure on Building Maintenance

Financial Control and Cost Comparisons

5.2.21. These are generally confined to a consideration of whether funds have been spent in accordance with the original authority and whether overall expenditure is in keeping with the estimate. Detailed estimates corresponding to the sum allocated to building maintenance for the year are rarely available, and it is not a general practice to make special arrangements to check the final cost of work undertaken and ascertain whether real value for money has been achieved.

5.2.22. In some cases the overall allocation for maintenance is sub-divided into two separate amounts, one covering work estimated to involve expenditure in excess of a pre-determined figure and the balance to cover all residual maintenance. Control over this residual sum in relation to productivity is frequently ineffective: subdivision of the main head is rarely attempted; and even when individual hospital budgets for this purpose are defined, further subdivision into trade subheads or other suitable control areas is rarely attempted. Funds allocated to maintenance are not subdivided between engineering and building, although expenditure is so recorded, and financial control mainly is exercised by the Group Secretary or Treasurer.

5.2.23. *Job Costing*. Work in a direct labour department requires job costing, i.e. estimating or evaluating the work, job identification, effective recording of labour and stores used for the work, financial costing based on this data, and effective review by supervisory staff of the results of the costing. It is understandable that administrative officers might have doubts about the usefulness of job costing in relation to its high cost of introduction, especially where it involves the improvement of financial controls and procedures and, possibly, the appointment of additional staff before a system can be provided; but the evidence that bad organisation and low productivity are inter-related cannot be ignored, and job costing provides the data necessary for effective planning and control.

5.2.24. *Accounting Procedures*. We are concerned that the accounting system makes it difficult to obtain reliable and useful statistics on building maintenance work. Such statistics are essential if comprehensive financial control and cost comparisons are to be introduced.

Executing Building Maintenance Work

Directly Employed Labour (D.E.L.)

5.2.25. We have not discovered a standard approach amongst hospital authorities towards the use of D.E.L. or local contractors for the execution of maintenance work in hospitals, although most R.H.B.s would be concerned to see that no drastic change in the "*status quo*" took place without their prior knowledge; and we recognise the dangers involved in trying to lay down a rigid policy regardless of local conditions or requirements. There exists a marked diversity of opinion about which method is cheaper; and some group officers go so far as to say that contract labour is unsuitable for work in hospital wards.

5.2.26. This is not to suggest that hospital authorities cannot show good cause for the direct employment of a small body of building and engineering workers at most if not all hospital groups; but merely to emphasise that there appears to be too great a reliance upon a subjective assessment of the requirements of the hospital service and insufficient evidence of any objective consideration of the criteria governing the direct employment of maintenance labour in general. (See also paragraphs 6.2.8. to 6.2.15.)

Work Undertaken by Contract

5.2.27. Contract documents and invitations to tender generally are prepared by works staff: tenders are returnable to the Group Secretary. When the contract is placed the Building Supervisor or the Group Engineer administers it and provides site supervision, issues certificates and may authorise variations which do not involve increased cost or substantial change.

5.2.28. Term contracts, either measured or daywork, seem to be practically unknown in the field of hospital building maintenance, and tend to be used only for specialised engineering maintenance such as lifts; and there is a general lack of up-to-date guidance material for hospital authorities in relation to contract maintenance work.

5.2.29. *Management of Inter-Group Services.* We are aware that many services are currently managed, in whole or in part, on an inter-group basis—such as supplies, laundries, central sterile supply departments, laboratories and pharmaceutical services—but we have no evidence of similar proposals in building maintenance, where in our opinion there could be scope for the development of such arrangements.

5.2.30. *Works Stores.* Control over issues of stores, which sometimes rests with the Building Supervisor/Group Engineer and sometimes with the Supplies Officer, is often quite inadequate, and workmen frequently draw such materials as they require without anyone having the time or knowledge to check that the quantities used are suitable for the work to be done. Sometimes, quite unnecessary time is wasted because methods for issue of stores and their conveyance to site are badly organised. Annual contracts placed with builders' merchants and ironmongers (on trade terms less a small discount) are less common than would seem to be justified; although the disadvantages associated with the use of such contracts increase in proportion to the spread of incentive schemes, where even a slight delay in the delivery of stores can affect bonus earnings. Spare parts may be retained in store after the equipment has been discarded, due to lack of realistic write-off procedures.

5.2.31. *Requisitions.* The frequency and irregularity of demands for repair work, both routine and emergency, constitute an organisational problem which is not always met effectively. Demands are frequently verbal, and workmen carrying out jobs in various parts of the hospital complex are frequently asked to do additional work not formally authorised by their own department.

5.2.32. *Clerical Assistance.* In come cases office accommodation for senior staff is cramped and unsuitable, and the clerical staff in support, where they exist, are often inexperienced. Because of these factors and the general lack of an ordered approach to maintenance planning, clerical procedures are often not carried out effectively either in relation to day-to-day records of labour and stores, or in relation to examination of invoices, delivery notes and contractors' accounts. Defined standards of checking and verification are rarely laid down.

5.2.33. *Co-ordination.* In most H.M.C.s where a Building Supervisor and Group Engineer are in post, co-ordination between engineering and building works is effected by the technical officer responsible for the major works content in the joint operation; and "major works content" is capable of determination by the officers concerned. The Group Secretary may undertake co-ordination between the technical officers and "clients" and is responsible for interpreting the policy of the H.M.C. and ensuring that it is carried out; although technical officers possess the right to be heard by reason of expertness or knowledge; and remain accountable to the H.M.C. within the sphere of their particular discipline. In many H.M.C.s responsibility for co-ordination of the management function in respect of both building and engineering maintenance is exercised by the Group Engineer.

R.H.B. Control

5.2.34. R.H.B. staff generally take some interest in individual items of hospital maintenance which are funded out of revenue funds allocated for major repairs, but they regard maintenance overall as a matter fully delegated to H.M.C.s within an expenditure figure proposed by the group and accepted by the R.H.B. and do not dictate how detailed sums are to be spent; although most R.H.B.s seek to discourage attempts to divert maintenance funds to other revenue heads of expenditure which are overspent.

5.2.35. A number of minor capital works may be delegated to H.M.C.s if the R.H.B. thinks the local building maintenance staff has the necessary capacity; but financial control is retained by the R.H.B. and the H.M.C. is not empowered to exceed an approved total estimate for any scheme.

5.2.36. *Scotland—Regional Clerks of Works.* In the Northern, North Eastern and Eastern R.H.B.s in Scotland the maintenance in outlying areas is the responsibility of Clerks of Works on the staff of the R.H.B.; and by this means it is possible to ensure that all property receives regular attention from technical building staff even where it would be uneconomic to appoint one Building Supervisor to each individual group.

5.3. *STAFFING STRUCTURE*

5.3.1. There are two supervisory grades in the existing structure for building maintenance—Building Supervisor and Assistant Building Supervisor (in Groups with 50½ points and above) and four supervisory grades on the engineering side—Group Engineer, Deputy Group Engineer (in Groups with 48½ points and above), Hospital Engineer, Assistant Engineer. Building Supervisors and Group Engineers generally are supported by Works Assistants.

5.3.2. *Staffing Numbers.* The Department's Annual Report for 1968 shows in these supervisory grades a total of 316 building staff and 1,745 engineers at 30 September 1968 (250 Building Supervisors, 66 Assistant Building Supervisors, 334 Group Engineers, 69 Deputy Group Engineers, 662 Hospital Engineers and 680 Assistant Engineers). Corresponding figures for Scotland as at 30 September 1968 are 52 building staff and 218 engineers (48 Building Supervisors, 4 Assistant Building Supervisors, 47 Group Engineers, 12 Deputy Group Engineers, 75 Hospital Engineers and 84 Assistant Engineers). All hospital property is under the surveillance of an engineer but there is insufficient building staff to cover all hospitals. The disparity in numbers between engineering and building cannot be explained wholly by the additional responsibilities of engineers in relation to the operation of services and underlines the absence of technical coverage in the field of building maintenance.

Staffing Patterns

5.3.3. The appointment of a Building Supervisor to a hospital authority which hitherto has employed only a Group Engineer could result in a reduction in an allowance for special responsibilities paid to the latter; and consequently there is

little inducement to extend the range of technical supervision of hospital buildings, and often in such cases the appointment of a Building Supervisor is delayed until circumstances lead to a change in the Group Engineer. Where a Group Engineer carries responsibility for building maintenance he is assisted by Hospital and Assistant Engineers; but when a Building Supervisor is appointed he is often the sole officer of supervisory grade employed on building maintenance, and usually has no staff under him higher than an hourly paid foreman. Sometimes, however, Hospital Engineers are made responsible to the Building Supervisor for the technical aspects of building maintenance in their area of operation.

5.3.4. The information provided by our Executive Investigator (see Appendix 4) and the statistics provided by hospital authorities (see Appendix 5) reveal that a variety of staffing patterns exist in practice—not least for the historical reasons given in Appendix 3. Some of the variations are anomalous and should be removed in the interests of efficient hospital building maintenance.

5.3.5. We are inclined to believe that the apparent conflict of interest between Building Supervisors and Group Engineers, which has been represented to us by some organisations, scarcely exists in practice; there is no doubt that difficulties may occur in certain places but these have their origins in problems of personality, which exist in any human relationship.

5.3.6. At the level of direct supervision of workmen employed, a suitable structure of general and trade foremen is not always found, and in some groups staff at hospitals work with very infrequent supervision. This can have quite a significant effect on such matters as overtime levels, and general productivity. Adequate supervision at this level must take account both of staff ratios and also geographical distribution, and must be suitable in quality as well as quantity. This implies adequate technical knowledge of such factors as the expenditure estimate of work being performed, estimated time for completion and materials needed. Without this sort of detailed knowledge and related control experience, supervision can be quite ineffective.

Professional Support

5.3.7. Regional Architects generally delegate a member of their professional staff to give advice on maintenance matters to H.M.C.s as and when requested to do so, and the officer delegated to give this advice is generally either an architect or a surveyor by profession—usually in the Assistant Regional Architect or Principal Assistant Architect or Surveyor grades.

5.3.8. In discussion between our Executive Investigator and some Building Supervisors, it has been stated that Regional Architects have always been willing to give professional advice and assistance upon any specific problem put to them; but we have been advised that in general such references are not common and in the case of some hospital authorities are practically unknown.

5.3.9. Partially, this may be due to those Building Supervisors most in need of

advice being the most disinclined to seek it, but in our opinion the fault lies in the fact that there has never been an officially accepted and defined link laid down between the Building Supervisor at H.M.C. level and the Regional Architect at R.H.B. level, which would encourage a greater degree of liaison.

5.3.10. There can be no doubt that the shortage of numbers coupled with the lack of adequate professional support in general has lowered the morale of staff engaged in building maintenance and that this has had a serious effect on the recruitment and retention of staff. In oral and written evidence, the Staff Side of Committee D of Professional and Technical "B" Whitley Council have presented positive evidence of a number of highly qualified Building Supervisors devoted to and respected within the hospital service who in recent years have, with great reluctance, felt obliged to leave the N.H.S. to take up responsible positions in local authorities, universities and industry.

5.3.11. *Turnover of Staff.* We have been unable to establish the rate of turnover of staff engaged in hospital building maintenance but the statistical tables in Appendix 5 reveal that most Building Supervisors in post on 31 March 1969 belong to the upper age groups. Taking into account the historical information provided in Chapter 4 and Appendix 3, it could be argued that such staff do not see a career in hospital building maintenance and regard it as a secure place of employment after spending most of their life in industry and elsewhere. If this assumption is correct, this must have a bearing on mobility of labour and productivity.

5.3.12. *Clerical Assistance.* Our Executive Investigator has reported that each Building Supervisor is able to spend most of his time undertaking the technical functions for which primarily he is employed; but there is an urgent need to ensure that the situation is not allowed to worsen as the workload increases, particularly when computers undertake tasks in hospital building maintenance, and that adequate clerical assistance is provided. (See also paragraph 5.2.32.)

5.4. *FUNCTIONS, RESPONSIBILITIES, QUALIFICATIONS AND TRAINING OF BUILDING SUPERVISORS*

Terms and Conditions of Service

5.4.1. P.T.B. Circular 215, which contains the existing Whitley Council agreement on the terms and conditions of service for Building Supervisors, defines the post and duties as follows:

"A whole time officer of the employing authority who has responsibility for:

(i) planning and supervising the building maintenance work of the group, which may include the preparation of contracts and specifications for such work;

(ii) preparation of and advising on the building maintenance estimates of the group;

(iii) directing the economical use of the building trade labour in the group whether for building maintenance work or for building work involved in the maintenance of the engineering service;

(iv) preparing the drawings, specifications and contracts for minor capital works and supervising the execution of capital works of moderate size entrusted to him, subject in either case to the concurrence of the Hospital Management Committee or Board of Management and under the direction of the architectural or engineering staff of the Regional Hospital Board as appropriate;

(v) certifying accounts and keeping such records as are required for the proper control of the staff and services for which he is responsible".

5.4.2. This bare statement of duties does not cover fully all the complexities of the existing situation in practice: it does not reveal the management problems involved in controlling a force of directly employed labour or supervising the contractor on site; the difficulty of working outdoors sometimes in precarious places; the need to ensure adherence to all the appropriate safety regulations; or the onerous duties involved in maintaining liaison with the "clients", who are generally afforded much higher status within the Group, and convincing them of building requirements which immediately will not be apparent.

5.4.3. When a hospital authority engages consultants to handle minor capital or other works for them the Building Supervisor is concerned in the preparation of the brief, advising the consultants about local conditions and acting as a clerk of works during the execution of the work.

5.4.4. Staffing at senior level (Building Supervisors and Group Engineers in particular) does not always take account of the practical effect of the volume of minor capital work undertaken for R.H.B.s. This tends to be a priority commitment and in consequence the normal building maintenance work may receive less time than it deserves; and it may result in inadequate supervision of the quality and cost of building maintenance work undertaken by contract or D.E.L.

Practical Training, Experience and Qualifications

5.4.5. For Building Supervisors and Assistant Building Supervisors this is defined in the following terms in P.T.B. Circular 215:

". . . must have served a full apprenticeship followed by experience as a craftsman in an appropriate trade and have had some years' experience as a general foreman in the carrying out of building contracts. It is also desirable that he should have one of the following qualifications:

Ordinary National Certificate in Building, Certificate of the Institute of Clerks of Works, Diploma of the Association of Building Technicians, Licentiate of the Institute of Builders or an equivalent qualification approved by the Minister of Health or Secretary of State for Scotland".

5.4.6. The information provided in the statistical tables in Appendix 5 reveals that approximately 26 per cent of all Building Supervisors in post on 31 March 1969 possessed technical qualifications above the level described as "desirable" in P.T.B. Circular 215; 30 per cent were in possession of desirable qualifications; and about 44 per cent possessed no technical qualification in building or had qualifications below the desired level.

5.4.7. The Executive Investigator has reported in Appendix 4 that hospital authorities with Building Supervisors in possession of higher than "desirable" qualifications employed them accordingly and generally achieved a higher standard of maintenance and improved organisation; and that in general such hospital authorities felt that the Building Supervisor should be required to hold qualifications similar to those required of the Group Engineer, i.e. Higher National Certificate. In oral and written evidence the Staff Side have stated that they regard H.N.C. as the minimum qualification for Building Supervisors.

5.4.8. The executive investigation provided us with evidence that there are very few instances in which the duties of a building supervisor are compatible with the very low standard of technical qualifications described as "desirable" in the P.T.B. circular.

5.4.9. We have discovered no evidence in general support of the mandatory requirement for Building Supervisors "of a full apprenticeship followed by experience as a craftsman in an appropriate trade"; although a number of Building Supervisors and other officers have told our Executive Investigator that they consider a trade apprenticeship an essential part of the training of a good Building Supervisor.

Training

5.4.10. We are disturbed by the complete lack of attention to the training requirements of Building Supervisors and associated grades over the years; and the absence of any clear departmental policy towards recruitment, selection and training for building maintenance. Apart from the necessary technical training required to fit them for the tasks of executing maintenance within the policy guidelines set down by H.M.C.s and R.H.B.s, Building Supervisors have a vital function to perform in the management and supervision of maintenance.

5.4.11. We are aware that the training of building workers and their supervisors is one of the subjects awaiting attention from the Department's Advisory Committee on Ancillary Staff Training (ACAST) and that it has been given greater priority within the last few months; but this degree of attention does not bear any comparison to the level of training achieved by the construction industry or even the training programme provided by the Department and hospital authorities for engineers.

5.4.12. Since the establishment of the Construction Industry Training Board (C.I.T.B.) following the Industrial Training Act 1964, the construction industry has invested a great deal in the development of a comprehensive training pro-

gramme, so much so that even employing authorities in the public sector are taking advantage, albeit indirectly, of the expertise accumulated by C.I.T.B. For the next financial year C.I.T.B. have estimated a levy requirement from industry in the order of magnitude of £25 million to meet the requirements of some $1\frac{3}{4}$ million workers; and on this ratio, given a total of some 10,000 building workers in the hospital service, the N.H.S. would need to make an annual investment of some £150,000 to meet the training needs of these workers, to say nothing of the backlog of training requirements since 1964; but we are not aware of any general investment in training for building workers in the hospital service.

5.4.13. *Recruitment of Trainee Technicians.* We have not been able to discover a clear departmental policy towards the recruitment and retention of trainee technicians to meet the building maintenance requirements of the future; and there exists no clear career structure for supervisory staff engaged on building maintenance on the lines of that existing for most other grades in the N.H.S. and industry, including those building workers below the supervisory level.

6. TRANSITIONAL REORIENTATION AND REORGANISATION AND GUIDELINES FOR THE FUTURE

6.1. *IMMEDIATE TRANSITIONAL ARRANGEMENTS*

6.1.1. The transitional recommendations which follow, and to some extent those included for the mid term, might be interpreted as falling within some of the ground normally reserved for the Whitley Council and some of our comments in Chapter 5 also fall into this category. We wish to make it clear that we are not criticising Whitley agreements, particularly as we are not equipped to judge them within the overall context in which they were framed originally; but simply declaring that our recommendations point to a revision of the definitions, duties, training and qualifications of the Building Supervisor.

6.1.2. Apart from these detailed questions, our terms of reference require us to make recommendations on any changes necessary in the interest of efficient hospital building maintenance. In the transitional and some of the mid term recommendations we propose changes within the existing maintenance organisations of hospitals and groups; but in the remainder of the mid and longer term recommendations we make it clear that in our view efficiency can only be achieved by re-defining the maintenance function within an improved organisation.

6.1.3. The most important single factor, other than the availability of money, influencing the standard of maintenance work in hospitals is the quality and quantity of supervision. This requires a balanced management structure which, taking into account the requirements of minor capital works and building maintenance, provides for both technical competence and the full range of managerial skills from the planning, preparation, co-ordination, costing and

budgeting of the work to the organisation of actual supervision on site. Accordingly, our immediate transitional arrangements in addition to the development of skills of the staff in post relate to the recruitment of appropriate staff at all levels, and the provision of a basic organisational structure with all the necessary aids to management so as to exploit fully all the latent expertise.

STAFF

Recruitment

6.1.4. Hospital authorities must regard the immediate recruitment of additional supervisory staff as a paramount requirement. The object should be to increase existing manpower resources so as to provide both a Building Supervisor in possession of the H.N.C. in Building and an adequate number of supporting supervisors as demanded by the local situation in each of the main units of administration (referred to as "about 90" for England in the second "Green Paper").

6.1.5. We consider that there exists an immediate requirement for additional supervisors but in view of the probable difficulties of recruitment we would suggest a gradual recruitment policy covering a decade. It is essential that such recruitment should be clearly related to a proposed new career structure (see paragraphs 6.2.4. and 6.2.23.).

6.1.6. The probable geographical pattern of the main units of administration which might be expected to result from the proposals in the "Green Papers" should produce variations in the size of building departments as well as in the complements of supervisory staff, worked out locally within parameters laid down centrally, particularly if an efficient service is to be provided at all hospitals. This probable variation in size should be helpful to training and in the provision of a realistic career structure.

6.1.7. *Introduction of a Revised Staffing Structure.* This would take account of the following changes:

A new post of Deputy Building Supervisor should be introduced in the main units of administration to cover the whole range of duties currently undertaken by the Building Supervisor, assuming that this does not run counter to current organisation theory in Departments; the post of Assistant Building Supervisor should be used more widely than at present, particularly in smaller units, which should form part of a larger group organisation under the control of a Building Supervisor; differing levels of ability within the grade of Building Supervisor shoud lbe recognised and an amended structure introduced accordingly; and the post of Works Assistant should either be abandoned, enlarged to undertake a wider range of duties and require even a basic qualification, or should simply be recognised as a useful technical/clerical post although not on the main promotion ladder. Provision should be made for the review, and if necessary revision, of this proposed new grading structure once the transitional arrangements have been completed.

6.1.8. *Development of a Policy for the Recruitment of Trainee Technicians.* The staffing measures referred to above must be supplemented by a clear and immediate policy for the selection and recruitment of trainee technicians; but the actual number of such technicians will depend, *inter alia*, upon the outcome of the review of the directly employed labour forces recommended in paragraph 6.2.8. and the other organisational changes proposed. (see also section 6.2.)

6.1.9. *Adequate Clerical Assistance.* Building Supervisors must be provided with clerical assistance to relieve them of unnecessary administrative detail and leave them free to consider the general management, control, direction and execution of their work. Each technical department could receive such assistance or joint arrangements could be made to service the Building Supervisor and Group Engineer, e.g. by providing staff on secondment from the departments of the Group Secretary/Treasurer.

6.1.10. *Sharing and Pooling Arrangements for Building Supervisors.* Arrangements which already exist between some hospital authorities should be extended without delay during the transitional period and in the mid term so as to enable the best use to be made of all the available resources pending the recruitment of technical staff sufficient to meet the overall needs of the hospital service. The aim should be to produce units controlling an overall maintenance budget, covering building and engineering, of between £250,000 and £350,000; operated by Building Supervisors employed jointly by adjacent H.M.C.s (particularly between specialist H.M.C.s in rural areas and general H.M.C.s in nearby urban areas) or employed by one H.M.C. and acting as adviser to other H.M.C.s. The second "Green Paper"—"The Future Structure of The National Health Service" —proposes a structure for the health service in England in which the main units of administration number about 90; and we would suggest that R.H.B.s in consultation with their subordinate hospital authorities should have in mind such an eventual structure when making arrangements to share or pool building maintenance services.

Professional Support

6.1.11. Building Supervisors should be provided with professional support at R.H.B. level by the appointment of a professional officer on the staff of the Regional Architect who would be responsible, on behalf of his chief officer, for advising upon all technical aspects of maintenance.

6.1.12. The conditions of service of this officer and the amended conditions of service of the Regional Architect should make specific reference to a responsibility for maintenance and define the nature and extent of this responsibility in respect of that work applicable to the R.H.B. and that applicable to H.M.C.s.

6.1.13. The conditions of service and training of Building Supervisors should henceforth make specific provision for the request and receipt of advice, guidance and information from R.H.B. professional officers.

6.1.14. We believe that a Chartered Building Surveyor, i.e. qualified by means of the R.I.C.S. building surveyors' examinations, by nature of his professional

training and experience is the one best suited to give the professional advice outlined in paragraph 6.1.11., and recommend that such an officer should be appointed in the Principal Assistant Grade to the staff of every Regional Architect; and we further recommend that both R.H.B.s and H.M.C.s should be advised to make full use of such arrangements by ensuring that all the necessary professional advice, guidance and information is both sought and obtained, and that such advice, once obtained, is acted upon. As an alternative, consideration might be given to obtaining the requisite professional skill by the appointment of consultant surveyors on a retainer basis. We have had drawn to our attention examples of such an arrangement which would appear to provide a satisfactory solution under certain circumstances. Although such an appointment should be designed primarily to provide the professional support required by technicians at H.M.C. level, it should also prove beneficial to the R.H.B. both in terms of building maintenance and feed back and in the wider development of the principles of estate and property management.

QUALIFICATIONS

Higher National Certificate (H.N.C.) in Building—Minimum Qualification for Building Supervisors

6.1.15. We are convinced that the basic minimum qualification "required" of Building Supervisors and Deputy Building Supervisors should be the Higher National Certificate in Building, or a certificate resulting from a course of equivalent technical content (e.g. Associate Membership Clerk of Works, by examination, and Licentiate Institute of Building); and that a full apprenticeship followed by trade experience as a craftsman should not be required of future Building Supervisors or associated grades. Much more importance in the future should be placed on managerial and supervisory capabilities. Assistant Building Supervisors should be required to possess the Ordinary National Certificate (O.N.C.) in Building.

6.1.16. In section 5.4. we have reported the absence of a standard approach towards the qualifications of Building Supervisors; that hospital authorities currently employing staff qualified to the level of H.N.C. display a higher standard of maintenance and improved organisation and regard the H.N.C. as a minimum qualification for Building Supervisors; and that the Staff Side have repeated their conviction that H.N.C. must be regarded in the future, as the minimum qualification.

6.1.17. Our recommendation is based on the facts recorded above, and because the O.N.C. by any standards is inadequate in the light of the duties we recommend the Building Supervisor should perform; we regard the Building Supervisor as a technician, i.e. trained to undertake, or supervise the undertaking, of work involving established techniques, and the O.N.C. in Building is not the complete qualification of such a technician but merely an intermediate stage in the process of achieving technician status.

6.1.18. Our recommendation for the abandonment of the requirement of an apprenticeship and trades experience for potential Building Supervisors is made in recognition of changing attitudes and patterns in industry and the emergence of trainee technicians in place of apprenticeship as the sole route to supervisory responsibility.

6.1.19. The statistical tables contained in Appendix 5 reveal that the majority of existing Building Supervisors are in the upper age groups; and that most of these older Building Supervisors do not possess technical qualifications in building or are in possession of qualifications below the "desirable" level set by the Whitley Council. Adequate transitional arrangements will have to be made in the development of our recommendations, particularly on the question of qualifications.

6.1.20. For this purpose, existing and future Building Supervisors can be divided into two separate categories: Building Supervisors in the upper age groups to whom would apply the normal protection arrangements; and, existing Building Supervisors who possess or can reasonably achieve the basic qualification of H.N.C. in Building, and perhaps more. This latter category requires no special attention.

6.1.21. Existing Building Supervisors who cannot be fitted into the revised structure must be given protection, although necessarily they may not all advance to the highest point in the new structure; and the Committee place on record their view that they have no wish to see this report used as a recipe for redundancy. We believe that there is sufficient work of vital importance to the N.H.S. as a whole to occupy the services of all the existing Building Supervisors and all those the N.H.S. can reasonably hope to recruit.

6.1.22. Existing Building Supervisors or Group Engineers who declare an intention to obtain the H.N.C. in Building should be afforded all the necessary facilities to enable them to achieve their objective; including the provision of day or block release even though the officers concerned may be above the normally accepted age point for such activities.

6.1.23. It has been suggested to us that our mid and longer term recommendations may have a damaging effect upon the status of those Group Engineers who are currently responsible for the management and control of building maintenance work within certain hospital authorities. While we recognise this apprehension we do not believe that in the immediate and mid term there need be any cause for concern. We have recorded that there is unanimous agreement that progressively all building maintenance work should be supervised by technicians with a minimum qualification of H.N.C. in Building, preferably with suitable endorsements related to hospital building maintenance which increasingly we would hope to see in the future, and we envisage a period of transition in which the development of trainee recruitment and systematic training and planned experience programmes will provide the requisite corps of qualified personnel to man up the hospital building maintenance service. Those Group Engineers now supervising building work, whether they be qualified engineers

or not, must without building qualifications be considered, in relation to building works, to be in a similar position to Building Supervisors without technical qualifications.

6.1.24. Where building and engineering maintenance departments are integrated at the moment in accordance with our longer term recommendation (paragraph 6.3.4.) this should continue; and H.M.C.s should consider how the management function is to be exercised.

DUTIES AND RESPONSIBILITIES

6.1.25. We recommend that the Building Supervisor should be given responsibility for the following wider range of duties:

(i) maintaining liaison with the users and with the Regional Architect;

(ii) planning, programming and supervising all building maintenance work of the group, including the preparation of contracts and specifications for such work;

(iii) preparing and advising on the building maintenance and minor capital works estimates of the group;

(iv) directing the economical use of the building trade labour in the group, whether for building maintenance work or for building work involved in the maintenance of the engineering services, and advising on when work may best be done by outside contract or directly employed labour;

(v) preparing the drawings, specifications and contracts for minor capital works of moderate size entrusted to him, subject in either case to the concurrence of the H.M.C. and under the direction of the Regional Architect or Regional Engineer as appropriate (see paragraph 6.1.27.);

(vi) assessing annually the quinquennial building maintenance requirement of the group in consultation with the Regional Architect, including the preparation of quinquennial surveys and interim reports for the advice and guidance of the H.M.C. and R.H.B. as appropriate and making periodic detailed inspections of the property;

(vii) co-ordinating the technical content of maintenance work undertaken jointly with the Group Engineer wherever the major work content can be seen to involve building maintenance;

(viii) assisting in the financial control and cost comparison of all the building maintenance of the group, including preparing and advising on statistical information for inclusion in the hospital financial accounts and cost statements and advising on the "feed back" and "feed forward" of technical information;

(ix) participating in the implementation and running of variable bonus incentive schemes, measured day work schemes and productivity agreements;

(x) programming and supervising the training requirements of trainee technicians and other staff engaged on building maintenance work in the group;

(xi) requisitioning supplies for the building maintenance department, controlling and accounting for the level of stores and ensuring that equipment, tools and all other supplies are kept in good working condition;

(xii) acting as Safety Officer for the building maintenance department and advising on building maintenance aspects of the fire precautions arrangements within the group as may be determined by the hospital authority;

(xiii) verifying and certifying accounts and keeping such records as are required for the proper control of the staff and the planning, financial control and cost comparison of all building maintenance and minor capital works for which he is responsible

ORGANISATION

Technical Superintendence of Building Maintenance

6.1.26. The technical maintenance of all hospital buildings should be placed in the formal care of a Building Supervisor. It is completely unacceptable that large areas of the overall hospital estate should be left without adequate technical oversight. This recommendation probably cannot be fully implemented until the reorganisation foreshadowed in the "Green Papers" has been undertaken; but in the transitional period it should prove possible to provide technical advice for all parts of the estate either by extending sharing and pooling arrangements, as explained in paragraph 6.1.10, or recruiting additional staff in accordance with 6.1.4.

6.1.27. In considering the deployment of building staff on their primary task of hospital building maintenance, hospital authorities should ensure that Building Supervisors are not overloaded by duties in connection with minor capital works. We have not been able to discover any scientific method of deciding on the total amount of minor capital works which the Building Supervisor should be asked to undertake, and the organisations giving evidence were in no better position; but, provided hospital authorities keep a sensible balance between the two functions, it should be possible to exploit the expertise of the better quality staff which should result from the implementation of our proposals by allowing Building Supervisors to continue to undertake minor capital works on behalf of the R.H.B.

Planned Inspection of and Formal Report on the Building Maintenance Requirement

6.1.28. A survey based on a planned inspection of all hospital property at Hospital and Group level should be constructed in broad and general terms, without undertaking detailed measurements or a close examination of all aspects

of each individual building. The object would be to establish the major non-recurring items of building maintenance which are likely to require substantial sums of money within a 5 to 7 year period with some estimate of the probable cost. This could then be the subject of a formal report to R.H.B.s in recognition of their duty of accountability. The flow of maintenance moneys should then be evened out in the light of this broad assessment of the likely future maintenance requirement. The results of this broad brush approach can be made more sophisticated in the mid and longer term, either in whole or part, as more resources become available.

6.1.29. We are aware that consideration has been given to the development of such a broad survey of maintenance, by the Department of Health and Social Security and certain hospital authorities; and we recommend that, as a first step, Departments should design a *pro forma* which will enable hospital authorities to gauge the general dimensions of the maintenance requirement with the minimum of effort and resources.

6.1.30. We have no reason to doubt that there exists already a backlog of building maintenance in the hospital field; stemming from the years of depression in the early 30's, 6 years of war, post-war financial stringency and building controls, and present-day economic constraints. As a rough metre-stick for hospital authorities, therefore, we would suggest that if, after the development of a planned formal inspection on the lines of paragraph 6.1.28 a hospital authority finds that it is faced with a backlog of maintenance expenditure which exceeds its current annual budget for maintenance it should seek the R.H.B's approval to a further annual allocation for a five year period, in addition to the normal annual allocation for maintenance, specifically to finance the arrears of maintenance work. R.H.B.s will of course have to give particular consideration to maintenance budgets in respect of hospitals likely to be the subject of closure in the mid and longer term.

A Comprehensive System for Planning, Financial Control and Cost Comparisons

6.1.31. This should be regarded as a priority in the development of an ordered approach to maintenance work in hospitals. Basically this should take the form of an up-dating and restatement in greater detail of the basic philosophy on this subject contained in H.T.M.12 and the 1969 Report of the Committee on Public Accounts, which should be accepted and acted upon by all hospital authorities.

6.1.32. *Planning*. It would appear that there is an urgent need to ensure that, for the future, funds are devoted to maintenance to protect the nation's vast investment in hospital property, and that such money is not directed to alternative needs of the service. We believe an organisation, on the lines of the existing unit dealing with the revenue consequences of capital schemes, should be established to assist hospital authorities in the process of assessing the maintenance requirements of older buildings while they remain; and, so far as is possible within the existing constitutional framework of hospital authorities,

to ensure that maintenance funds made available initially for new buildings are not eroded in time by other types of expenditure being given higher priority.

Financial Control and Cost Comparisons

6.1.33. Ideally, and given adequate resources to undertake such a review, the revenue budget for maintenance should be reassessed each year to ensure that each hospital authority is making the best use of *all* the available resources. It is essential that hospital authorities should be made aware of the variations in the programming and planning of maintenance which exist in practice and should be advised not to perpetuate differences which are not seen to be in the interests of efficient hospital building maintenance. There is clearly a need for positive and practicable guidance on the importance and application of financial control and cost comparisons; and we look to Departments to provide this in the revised version of H.T.M. 12. (See also our comments on the use of directly employed labour in section 6.2.)

6.1.34. It should be emphasised, however, that essentially such control must be exercised by technical officers, who should be required to produce and comment on the necessary calculations; although administrative officers and members of hospital authorities are clearly involved in the general development and oversight of policy.

6.1.35. We have been made aware that a wide range of procedures exist in practice in relation to the retention of reserves to meet contingencies; and, although we have no wish to rule out the practice of reserves retained at R.H.B. level, we think that all such reserves should be kept to the absolute minimum and should not be duplicated at H.M.C. level.

6.1.36. The questions of financial control, cost comparisons and approval of maintenance work are inter-related and in this situation we would suggest that there is great scope for the application of the principles enunciated in S.H.M. 50/66—Farquharson-Lang Report—and H.M.(68)28—"Administration of Hospital Authorities"—in an endeavour to secure the most effective use of all the available resources.

Amendment of the Financial Accounts and Cost Statements

6.1.37. This should be undertaken by the Department so as to improve the use of accounts and cost statements as tools of management and should assist in the presentation of a reasoned case to the H.M.C. There is also a clear need to consider closer involvement between all the senior Group officers—Treasurer, Secretary, Building Supervisor and Group Engineer—to ensure that the benefit of all the costing information, e.g. the detailed booklet accompanying the Hospital Costing Returns, is made readily available to, fully understood and subject to amendment by the technical officers it ought to influence. In Scotland, as in England and Wales, there exists a Working Party on hospital costing; and costing information is contained in the publication "Running Costs of Scottish Hospitals".

6.1.38. We have discovered defects in the application of the current definition of "Capital" and "Revenue" expenditure laid down by Departments. Extreme variations in practice exist between hospital authorities and the Committee recommends that Departments should look at the effects of the existing definition, in particular the practice of charging all minor capital works costing under £500 to revenue, and see what can be done to rationalise the situation so that any financial statistics produced can be used confidently by hospital authorities as an aid to management. Any such rationalisation should attempt to produce certainty of definition and we do not think it should exclude the possibility of transferring moneys between capital and revenue allocations according to the availability of overall resources. Failure to give the necessary attention to this matter must seriously impair the opportunities for inter-authority statistical comparisons.

Co-ordination

6.1.39. The technical content of maintenance work should be undertaken by the technical officer bearing the major work content in a particular project. The Group Secretary should be recognised as the non-technical co-ordinator of projects between the "clients" and the works organisation. Co-ordination in existing integrated works departments is dealt with in paragraph 6.1.24.

6.1.40. We have been unable to devise any objective criteria for the establishment of "major work content" but all the evidence submitted to the Committee indicated that normally this was capable of determination locally on an amicable basis between the officers concerned.

TRAINING

Introduction and Development of a Comprehensive Training Programme

6.1.41. Staff engaged in building maintenance must be provided with a training programme, as a priority. We are of the unanimous opinion that the design of an effective recruitment and training programme (in terms of training in management, administration and technical expertise) is fundamental to any move from the existing situation to the longer term objectives. The standard of maintenance achieved in the hospital service can be no better than the quality of the supervisors; and if the N.H.S. is to meet the challenge, and the increasing competition, of the future, urgent steps will have to be taken to select, recruit and train the appropriate staff.

6.1.42. Systematic training and retraining ought to embrace technical instruction through the normal academic outlets, practical training through courses devised or approved by the C.I.T.B., pulled together by Group, Regional and Departmental training courses providing technical and managerial training in single and multi-disciplines; together with the necessary planned experience. The Regional conferences and seminars organised by some R.H.B.s, to bring together Building Supervisors to consider their role, should be extended to all Building Supervisors so as to capitalise on shared knowledge and experience.

6.1.43. We suggest that consideration should be given to the question of bringing the appropriate sectors of the hospital service within scope of the Industrial Training Act. We are not unaware of the difficulties involved or that the staff employed in building maintenance represent only a small proportion of the total staff who would be expected to make use of such an arrangement; but, for the reasons given in paragraphs 5.4.10. to 5.4.12. we believe that it is in the best interests of the N.H.S., particularly in the field of much sought after Building Supervisors, that the Departments should be seen to be giving as much attention to the fundamental question of training as is required by legislation of industry and commerce at large.

6.1.44. Departments must give consideration to the question of providing their own "seed box", through which trainees can be developed into the maintenance managers of the future; or alternatively of placing complete reliance upon the educational and training facilities which are available outside the N.H.S. We believe that the N.H.S. should not attempt to initiate new training programmes, geared particularly to the needs of hospital building maintenance, but should use established facilities; either by making direct use of those provided by the C.I.T.B., assuming a change in the law as suggested in paragraph 6.1.43., or by using the facilities available through Colleges of Further Education etc. which offer courses approved by C.I.T.B. Consideration should also be given to the question of including endorsements related to the specific subject of hospital building maintenance within the technical education and related training provided by H.N.C. courses. In this connection, it has been brought to our notice that the activities of the Building Supervisor in relation to fire precautions ought to be given careful consideration.

6.1.45. We would even go so far as to say that, if there is any doubt about the ability or willingness of hospital authorities to make provision for the standard of training regarded as desirable by the Departments, and by the C.I.T.B. for industry generally, Departments should give consideration to the question of retaining the necessary funds in a central reserve from which the training needs of building maintenance within the hospital service could be met, including the economic cost of out-service facilities.

6.1.46. Departments also should give thought, in consultation with Colleges of Further Education etc., to the development of a training programme designed to attract trainee technicians (possessing at least three passes at the Ordinary Level of the G.C.E.) as part of a long term objective of providing training arrangements, e.g. including the "Trainee's year", to permit the ablest of the trainees to reach the highest points in the revised structure by a regulated process of progression.

6.1.47. Apart from the question of basic training, there is a clear and continuing need for the introduction of a system of retraining. All Building Supervisors and their staff should be provided with opportunities and facilities to "top up" the knowledge gained through academic, practical and other channels at regular courses organised on an inter-group, R.H.B., or inter-R.H.B. basis; and covering single and multi-disciplines. Such courses should cover both technical infor-

mation and managerial and supervisory techniques. In this connection, we commend to the Departments and hospital authorities the pattern of multi-disciplinary training courses for supervisory staff developed at Manchester R.H.B's Regional Staff College; and urge other hospital authorities to follow this example.

6.1.48. *Recruitment and Appointment of Training Officers.* Regional Training Officers should be provided with increased assistance to meet the training needs of all workers directly employed in the hospital service; and Departments should consider enlarging their own N.H.S. training facilities to assist in this development. Inter-board exchanges of information and assistance should be encouraged.

6.1.49. *Liaison with C.I.T.B. and Ministry of Public Building and Works (M.P.B.W.).* We strongly recommend that Departments should liaise closely with the C.I.T.B. in the development of training programmes, courses and other related activities. Equally the Departments, in consultation with M.P.B.W., should consider whether a joint training programme could be devised to meet the needs of all maintenance staff employed by them.

6.1.50. *Job Descriptions.* We have given thought to the drafting of detailed job descriptions; and we have been advised by the Department of Health and Social Security that such guidance material would take a considerable time to prepare and ideally should be drawn from the narrative of our finished report, as interpreted by the Departments and hospital authorities. We understand that such advice is not unrelated to experience gained in the implementation of the "Report of the Committee on Senior Nursing Staff Structure". Accordingly, we have not attempted to complete the task and we recommend that Departments should undertake job analyses and prepare full job descriptions for all the supervisory grades engaged in hospital building maintenance, taking into account the revised duties and responsibilities detailed in paragraph 6.1.25. and the new titles proposed in paragraph 6.2.3. We are entirely convinced of the value and immediate priority of such guidance material and although time and the other factors mentioned have not permitted us to enlarge upon this recommendation, we stand ready to co-operate with Departments in the detailed drafting and implementation of job descriptions, should this be required.

6.2. *MID TERM CHANGES—5 YEAR PLAN*

6.2.1. The transitional recommendations were designed to bring about the reforms necessary to rectify the more disturbing deficiencies in the existing situation: the following mid term changes represent an attempt to move forward from this limited basis to a situation in which the Building Supervisor is left in complete technical charge of a building maintenance department, which is equipped with all the necessary aids to proper management and control. In some of our recommendations however, notably paragraphs 6.2.7., 6.2.14., 6.2.16., 6.2.19., 6.2.25., 6.2.26., 6.2.29. and 6.2.30., time has not permitted a fundamental examination of each of the proposed changes and we have been able to do no more than indicate areas where the Departments and hospital

authorities should undertake further detailed research and study against the background of our report.

STAFF

6.2.2. *Recruitment.* Hospital authorities should undertake the recruitment of further additional supervisory staff, for the reasons given in section 6.1.

New Titles for Building Maintenance Supervisory Staff

6.2.3. The titles of Building Supervisor, Deputy Building Supervisor and Assistant Building Supervisor should be replaced by Group Building Officer, Deputy Group Building Officer and Assistant Building Officer; and the new grade of Hospital Building Officer should be introduced. This will mark a departure from the less progressive practices of the past; provide greater scope for the revised staffing structure we propose in section 6.2.; and relate the titles more closely to the general functions of individual officers.

6.2.4. The most highly qualified Building Supervisors should be given responsibilty for the largest of the main units of administration, numbering possibly about 90 in England and varying in size and therefore complements of supervisory staff, and carry the title of "Group Building Officer". They should be supported by "Deputy Group Building Officers" in accordance with the structure outlined in section 6.2. The remainder of the Building Supervisors should be renamed "Hospital Building Officers" with responsibility for individual hospital(s) within the new main units. Both the Group and Hospital Building Officers should be supported by "Assistant Building Officers", serving at either Group or Hospital level, drawn in the main from Assistant Building Supervisors.

6.2.5. These new titles are intended to recognise the analogy which exists between building and engineering maintenance by providing officers of similar grade and title doing similar work within their respective disciplines. They would assume greater importance and carry more clearly defined duties within the joint works organisations, proposed as a longer term objective in section 6.3.

Planned Inspection and Formal Report on a More Detailed Survey of the Building Maintenance Requirement

6.2.6. Under the existing financial arrangements between Departments, R.H.B.s and H.M.C.s, the Departments must persuade hospital authorities to devote the necessary resources to maintenance, in terms of manpower, finance and professional support, to permit them to adopt a more systematic approach; by developing the systems of planned inspection and formal report described in paragraphs 6.1.28. to 6.1.30. into more detail. A more detailed survey, again compiled on *pro formas* designed by Departments, should equip each Group with a statement of the existing condition of all the property for which they are accountable and the steps necessary, together with estimates of expenditure, to bring it up to the standard required by the overall needs of the N.H.S. R.H.B.s and Departments should be involved in this exercise by means of an extension of the system of formal report outlined in paragraph 6.1.28: R.H.B.s should be provided with summaries of group surveys (approx. 10 to 12 sheets per group);

and the Departments with R.H.B. summaries (approx. 10 to 12 sheets per Region). This would equip hospital authorities and the Departments with a comprehensive picture of the overall size of the problem and arm them with the detailed information necessary to bring about an appraisal and sequential re-adjustment of priorities so that more resources, at least in the initial period of change, could be devoted to maintenance.

6.2.7. It is in this area that the findings of the Local Government Operational Research Unit could be of most assistance; it is possible that the results of the further research commissioned by the Department might serve to assist hospital authorities in translating these surveys into estimates of the expenditure required, phased over, say, a five year period to permit them to catch up with the more important parts of the backlog of maintenance and yet avoid a great increase in the maintenance allocation during the initial period of change. There is scope for a much wider application of operational research techniques in the field of maintenance and we are pleased to note that to this end M.P.B.W. recently have established a research fellowship in the University of Strathclyde.

ORGANISATION

A Review of the use of Directly Employed Labour (D.E.L.)

6.2.8. Hospital authorities should undertake a detailed review of D.E.L. in accordance with general guidelines set by Departments. Such a review could start by taking into account the experience gained by M.P.B.W. and considering how far any general principles developed by M.P.B.W. could have application within the hospital service. It is important that in the development of general guidelines governing the use of D.E.L. the Department should make it clear that the onus of proof rests on those hospital authorities who declare a need for D.E.L.

6.2.9. In general the establishment or continuation of D.E.L. can be supported on two main grounds: that such an organisation can provide a service more economically than contract works; or provide an essential service which could not be provided by contract.

6.2.10. The basic criterion for D.E.L. manifestly must be economy; and where D.E.L. is more expensive than contract work D.E.L. should not be used unless, in the considered opinion of the hospital authority, the further factors detailed in paragraph 6.2.12. outweigh this basic disadvantage. It is equally important that any cost comparisons between maintenance work undertaken by D.E.L. and contract should be both realistic and comprehensive; great care should be taken to ensure that the two sets of work chosen are in all senses demonstrably comparable, and that all the necessary overheads and other charges are included and that contractors are invited to compete on equal terms with D.E.L. To assist in this process, we recommend that the Departments should provide hospital authorities with details of two overall percentage additions to cover overheads—

(*a*) labour, materials and administrative expenses to be added to D.E.L.:

(*b*) administrative expenses to be added to contract - derived from details provided in the financial accounts and cost statements. Percentage additions should only

be regarded as general guidance, and should be subject to adjustment in the light of local experience.

6.2.11. Apart from the general question of economy, contract work is essential where the work required is of a specialist character, such as terazzo or other proprietary floor coverings, asphalt work on roofs or roadways and plastering; where there is a risk of under-employment of D.E.L.; or where there is insufficient time to plan and execute the work by D.E.L.

6.2.12. Some of the ways in which a directly employed labour force could be employed on building maintenance work in hospitals are where the work demands an intimate knowledge of hospital buildings and their functions and methods of working; requires the minimum possible interference with hospital routines and flexibility in the use of labour; can be affected by the relationship between patients and staff and maintenance workers, particularly in hospitals for the mentally ill or handicapped; and can develop in the forces of D.E.L. a feeling of pride in achieving a higher standard of maintenance in "their" hospitals. On the other hand there is a risk of under-employment of D.E.L., especially where the deployment of labour is not properly planned; D.E.L. requires logistic support in the way of stores, tools, plant, transport and mess rooms; the economical number of staff needs to be carefully considered, particularly where the hospitals concerned are isolated or widely separated; it is difficult to arrive at the optimum size of a direct labour force—such forces are probably only effective in small numbers of up to six men, which require very little supervision, or over 50 men where a reasonable level of supervision and other overheads more easily can be justified; and the retention of D.E.L. carries within it the need to institute a comprehensive system of financial control and cost comparisons, and responsibility for training.

6.2.13. We believe essentially that all such considerations remain a matter for each individual hospital authority within general limits set by the Departments; but in reaching a reasoned decision to establish, retain, reduce or discontinue their D.E.L., each hospital authority should understand clearly all the advantages and disadvantages in such an arrangement; be certain that the force can be usefully and continuously employed; and should undertake meaningful and comprehensive cost comparisons to ensure that D.E.L. remains at all times the most efficient method of undertaking the work concerned. Hospital authorities should not overlook the need to keep trades in balance and arrange any run down of D.E.L. without creating redundancy.

6.2.14. Our attention has been drawn to two papers entitled "A Review of Good Practice in Property Management" and "Contractual Policies and Techniques for Maintenance Works", produced by M.P.B.W. for consideration by the "Committee on Building Maintenance". We welcome these lines of research, commend the documents to Departments and hospital authorities and urge Departments to co-operate closely with M.P.B.W. over all such questions, particularly the use of term contracts, and to issue detailed guidance to hospital authorities as soon as practicable. We have regarded M.P.B.W. as an authoritative source of maintenance information, and we have not undertaken separate

research in fields already covered by them and, due to the relatively limited time available, have not subjected their publications to detailed analysis.

6.2.15. In the course of our general consideration of the use of D.E.L. in hospitals we came to the conclusion that no overall benefit could accrue from the use on this work of D.E.L. employed by M.P.B.W. or local authorities. Although we could not undertake a detailed analysis of the workings of each of these separate organisations, we formed the view that the balance of advantage lay in increasing the efficiency of each of the separate forces of D.E.L. in relation to their own specific tasks; and that, once that had been achieved, there would be no room for further marked efficiency, saving or benefit by broadening the scope of their work.

Major Building Projects

6.2.16. Wherever possible, major building projects should not be planned for groups without the knowledge and co-operation of the Group Building Officer; but any such interest, as for minor capital works under existing arrangements, should not be permitted to detract from the Group Building Officer's prime responsibility for maintenance.

6.2.17. As the capital building programme gathers momentum, there will be a much greater need to involve the Group Building Officer and the Group Engineer in developments which are scheduled to take place within their Group; this will make the maximum use of their detailed knowledge of the buildings, plant and equipment under their control and at the same time provide the necessary "feed back" from the technician to the professional designer, and vice versa.

The General Principles of Estate Management

6.2.18. Insofar as estate and property management is related to the requirements of the N.H.S., it has received detailed consideration elsewhere in this report, in Appendix 6 in particular, and is also the subject of a commendable paper prepared by M.P.B.W. under the title "A Review of Good Practice in Property Management", referred to in paragraph 6.2.14.

6.2.19. During the mid-term, we recommend the full implementation of the general principles of estate and property management, in such measure as they have or should have application within the hospital service, both at Departmental and R.H.B. level in addition to group requirements.

The Application of the General Principles of "Feed Back" and "Feed Forward"

6.2.20. This should become one of the important developments in the mid-term. The improved qualifications of the Group Building Officer coupled with his greater understanding of and interest in major capital works within the group should enable him to play an active part in the development of such policies by Departments and hospital authorities within the general principles detailed in Appendix 7. (See also Appendix I.)

6.2.21. This is a vital area of development for the hospital service if the maximum use is to be made of all the available resources and once again it is an area where Departments can reap full benefit from a continuation of their close association with M.P.B.W. We have received copies of a paper entitled "Maintenance Manuals for Buildings" prepared by M.P.B.W. for the "Committee on Building Maintenance" and we consider that the compilation of maintenance manuals for all new construction should be made obligatory.

6.2.22. We endorse the view expressed by a joint working party of the Economic Development Committees for Building and Civil Engineering that the Departments "should intensify their existing efforts to establish and implement broad standards of performance in the various phases of design and building functions, both for the important elements of specialised wards and departments and also for general standards appertaining to buildings as a whole"; and we recommend that such expertise should not be confined to new building but should be extended into the field of maintenance of existing buildings. In particular, we recommend that the Department should co-ordinate any limited testing programmes for components, construction and finishes peculiar to the hospital service which may already exist within certain R.H.B.s to avoid duplication of effort amongst hospital authorities.

The Development of a Career Structure

6.2.23. The development of a career structure linked to the training programme for Building Officers and Trainee Technicians (see paragraphs 6.1.41. to 6.1.49.), should be regarded as an absolute priority in the mid term.

6.2.24. We cannot stress too much the cardinal importance of a clearly designed career structure for Building Officers especially as most other grades in the N.H.S. and industry are provided with a clearly defined and attractively presented career structure, including those grades below Building Supervisor, e.g. Trainee Cooks, Domestic Staff and Porters—H.M.(69)51, (69)49 and (68)46; it is related intimately to the question of status and therefore output and will be regarded as an essential pre-requisite by any potential recruits. Equally, it ought to be possible to introduce a clear line of promotion from the trainee direct to the Assistant Building Officer and onwards through the Deputy Group Building Officer to the Group Building Officer.

6.2.25. Finally, the increases in supervisory staff, referred to in sections 6.1., 6.2. and 6.3., and the career structure referred to above should be used to provide building maintenance staff with opportunities to fit themselves for promotion and to keep abreast of developments within their discipline through a process of planned movement.

National Research into Methods of Allocating Funds to Maintenance

6.2.26. The Departments, R.H.B.s and H.M.C.s, should co-operate in the development by the Departments of a national programme of research into methods of allocating funds to hospital maintenance in an endeavour to escape

from the legacies of 1948 and distribute the resources according to principles of need more closely related to present day requirements.

6.2.27. We recommend that the pioneering work already carried out in this field by Manchester R.H.B. should form part of this further research.

6.2.28. It is also possible that such research could point the way towards freeing maintenance staff from the pointage system and providing Departments and hospital authorities with a more equitable basis for assessing the salaries of maintenance staff.

6.2.29. *The Constitutional Relationship between R.H.B.s and H.M.C.s and their Officers in respect of Maintenance.* We have recorded that it has been represented to us that Regional Architects in the past have not been encouraged to take a more active part in providing professional support for Building Supervisors, through a lack of definition of their constitutional relationship in this respect vis-a-vis R.H.B.s and H.M.C.s (see paragraphs 5.3.7. to 5.3.10. and 6.1.11. to 6.1.14.). We recommend that Departments should clarify these relationships (paying particular attention to a document provided for our consideration by Western R.H.B. in Scotland entitled "Scheme made . . . in terms of sub-section (2) of Section 12 of the N.H.S. (Scotland) Act, 1947") and ensure that there exists an adequate system of professional support in preparation for our longer term recommendation of Joint Works Departments—section 6.3.

6.2.30. *Management by Objectives.* Departments should give consideration to the possibility of applying the principles of this management technique in the field of hospital building maintenance. This technique is based on twin concepts: the clearer the knowledge about the tasks to be accomplished the greater the chances of successful completion; and progress towards such accomplishment can only be measured in terms of the predetermined objectives to be achieved. The development and application of objectives techniques require unusually close and precise attention to the practice of ordered management, i.e. both by Departments and hospital authorities, thus Departments and hospital authorities would be required to transmit downwards their intentions on the future pattern of hospital building maintenance so that Building Officers could formulate their individual goals within a meaningful context. Building Officers would then experience a sense of commitment in developing to a successful conclusion objectives which they had helped to formulate.

6.3. *LONGER TERM OBJECTIVES—10 YEAR PLAN*

6.3.1. In this area of our report we can do no more than present pointers for the future and indicate in general terms the objective which best suits the technical situation we have been asked to analyse. Once the reorientation and reorganisation indicated for the immediate and mid term have been achieved there should be scope to reconsider the dual functions of Group Building Officer and Group Engineer to see whether on the general grounds of efficiency within the N.H.S. taken as a whole there is scope for further rationalisation within the

context of joint works departments—departments which are common to many other bodies in the public and private sectors.

STAFF

6.3.2. *Recruitment.* Hospital authorities should recruit further additional supervisory staff to complete the full technical coverage of all hospital property as explained in Section 6.1.

ORGANISATION

Joint Works Departments

6.3.3. We believe that the technical problems we have identified in the field of hospital building maintenance at H.M.C. level, taken in isolation, can best be served in the longer term by the introduction of an integrated works organisation, covering both building and engineering maintenance, under the supervision of R.H.B.s; but we appreciate that such a proposal goes beyond our terms of reference.

6.3.4. In the longer term, we would recommend the introduction of joint works departments based on and controlled and managed by the main units of administration we have referred to in paragraphs 3.1.7. and 3.1.8.; but within a re-defined relationship between any separate tiers within a reorganised administrative structure for the Health Service. Greater emphasis would be placed on the specific ways in which the needs of public accountability could be satisfied at all levels in the Health Service. In preparation for the implementation of this proposal in the longer term, we recommend that Departments should commission before the end of the mid term period a more broadly based committee —embracing our own representation and that of the Tyler Committee supplemented by a further selection of individuals who can be seen to be independent of building and engineering—to examine the proposal from first principles and make recommendations accordingly.

6.3.5. We remain so convinced of the logic of our longer term proposal, at least as a solution to the technical problems we have identified and to meet the clear needs of a career structure for Building Officers, that we have provided Departments with fuller details of the proposal in a separate memorandum.

6.3.6. *Interchange of Building Officers with Industry.* Given a greater range of more complex hospital units and a requirement for highly qualified staff, requiring professional qualifications at some points at the top of the career structure, at least in the future, the N.H.S. must accept the possibility of two-way traffic between the Health Service and industry at large—at least until equality of pay and conditions have been achieved. It has been demonstrated to the Committee, during oral evidence presented by the Staff Side, that even the most devoted Building Supervisor can be lured away by the prospect of greater advancement elsewhere; and it is possibly true to say that the old spirit of vocation may not be present in the minds of the younger generation to whom the hospital service must look for future recruits. In setting any standards, therefore, the Health Service will have to decide whether it is prepared to produce its own managers of the future or whether it will look to industry to

provide them; and accept that, in return, some of its own men may be tempted into industry.

6.3.7. *Estate Management*. In terms of basic maintenance, we believe that the hospital unit does not differ in its requirements from any other unit in the construction industry and that the hospital has come to be regarded as a unique unit owing to the non-maintenance influences that can be brought to bear on the maintenance plan rather than because it presents any greater technical problems than any other maintenance unit. There is, therefore, no reason why the N.H.S. should not proceed into the field of maintenance at the same pace as, if not ahead of, industry in general; and this implies the need to identify and deal with the improved skills requirement for hospital maintenance. We recommend, therefore, that Building Officers should be trained in the wider aspects of estate management so as to equip the N.H.S. to meet any challenge from industry.

7. CONCLUSION AND SUMMARY OF DETAILED RECOMMENDATIONS

7.1. We are aware that we have not been able to provide complete solutions to all the problems which we have identified; but we have attempted to indicate what we consider to be the main areas of weakness in the present organisation of hospital building maintenance and minor capital works and the work of building supervisors and to suggest ways of increasing efficiency. We consider the acceptance and implementation of the recommendations summarised below to be an essential prerequisite to the ordered management and future effective conduct of hospital building maintenance.

7.2. IMMEDIATE TRANSITIONAL RECOMMENDATIONS

Staff

7.2.1 Recruitment of additional supervisory staff. (Paragraphs 6.1.4. to 6.1.6.).

7.2.2. Introduction of revised staffing structure. (Paragraphs 6.1.7.).

7.2.3. Development of policy on the recruitment of trainee technicians. (Paragraph 6.1.8.).

7.2.4. Provision of adequate clerical support for Building Supervisors. (Paragraph 6.1.9.).

7.2.5. Extension of existing arrangements for sharing and pooling Building Supervisors. (Paragraph 6.1.10.).

7.2.6. Provision of professional support for Building Supervisors. (Paragraphs 6.1.11. to 6.1.14.).

Qualifications

7.2.7. Introduction of H.N.C. in Building as the basic minimum qualification

for Building Supervisors and Deputy Building Supervisors. (Paragraphs 6.1.15. to 6.1.23.).

Duties

7.2.8. Extension of existing duties and responsibilities of Building Supervisors. (Paragraph 6.1.25.).

Organisation

7.2.9. Maintenance of all hospital buildings to be placed in the formal care of a Building Supervisor. (Paragraphs 6.1.26. and 6.1.27.).

7.2.10 Planned inspection of and formal report on the building maintenance requirement at hospital and group level. (Paragraphs 6.1.28. to 6.1.30.).

7.2.11. Introduction of comprehensive system for planning, financial control and cost comparison of building maintenance work in hospitals. (Paragraphs 6.1.31. to 6.1.36.).

7.2.12. Amendment of financial accounts and cost statements so as to improve their use as tools of management. (Paragraphs 6.1.37. and 6.1.38.).

7.2.13 Co-ordination of technical content of individual maintenance schemes to be undertaken by the Building Supervisor-Group Engineer according to "major work content". (Paragraphs 6.1.39. and 6.1.40.).

7.2.14. Building and engineering maintenance departments already integrated in keeping with longer term objective should continue; and H.M.C.s should consider how management function is to be exercised. (Paragraph 6.1.24.).

Training

7.2.15. Introduction and development of a comprehensive training programme on the lines of those formulated by C.I.T.B. (Paragraphs 6.1.41. to 6.1.47. and 6.1.49.).

7.2.16. Recruitment and appointment of training officers. (Paragraph 6.1.48.).

7.2.17. Development of job descriptions. (Paragraph 6.1.50.).

7.3 MID TERM RECOMMENDATIONS TO BE IMPLEMENTED WITHIN A FIVE YEAR PERIOD

Staff

7.3.1. Recruitment of additional supervisory staff. (Paragraph 6.2.2.).

7.3.2. New titles for officers engaged in building maintenance. (Paragraphs 6.2.3. to 6.2.5.).

Organisation

7.3.3. Planned inspection and formal report on a more detailed survey of the building maintenance requirement at hospital, group and regional level. (Paragraphs; 6.2.6. and 6.2.7.).

7.3.4. Review of directly employed labour. (Paragraphs 6.2.8. to 6.2.15.).

7.3.5. Group Building Officers to be made aware of major building projects planned for the Group. (Paragraphs 6.2.16. and 6.2.17.).

7.3.6. Full implementation of the general principles of estate management as modified to meet the needs of the hospital service. (Paragraphs 6.2.18. and 6.2.19.).

7.3.7. Introduction of national arrangements for "feed back" and "feed forward". (Paragraphs 6.2.20. to 6.2.22.).

7.3.8. Development of career structure. (Paragraphs 6.2.23. to 6.2.25.).

7.3.9. National research into methods of allocating funds to maintenance. (Paragraphs 6.2.26. to 6.2.28.).

7.3.10. Re-examination of constitutional relationship, in terms of maintenance, between H.M.C.s and R.H.B.s. (Paragraph 6.2.29.).

7.3.11. Consideration of use of management by objectives in maintenance work. (Paragraph 6.2.30.).

7.4 LONGER TERM RECOMMENDATIONS TO BE IMPLEMENTED WITHIN A DECADE

Staff

7.4.1. Recruitment of additional supervisory staff. (Paragraph 6.3.2.).

Organisation

7.4.2. Constitution of a broad based committee to prepare the ground for the introduction of joint works departments. (Paragraphs 6.3.3. and 6.3.4.).

7.4.3. Interchange of suitably qualified Building Officers between industry and the hospital service and development of a closer relationship between the N.H.S. and industry at large. (Paragraph 6.3.6.).

7.4.4. Introduction of the wider aspects of estate management into the functions of Building Officers. (Paragraph 6.3.7.).

(*Signed*) DAVID WOODBINE PARISH (*Chairman*)
THOMAS D. W. ASTORGA
JOHN CONSTABLE
MOSTYN DAVIES
ROBERT F. FAIRWEATHER
NORMAN SIDWELL
HENRY S. STAVELEY

CLIFFORD GRAHAM (*Draftsman*)
ERNEST EMERY (*Secretary*)
February 1970

APPENDIX I

Glossary of Terms and List of Abbreviations

1. *GLOSSARY OF TERMS USED IN THE REPORT*

1.1. *Hospital Maintenance* (*including Hospital Building Maintenance and Hospital Engineering Maintenance*)

Work undertaken in order to keep or restore hospital buildings, plant and equipment to acceptable standards of safety and efficiency having due regard to the needs of the patients and staff within their immediate environment, the requirements of the N.H.S. and the resources available.

1.2. *Ordered Management*

The full appreciation and application of the established principles of management (*inter alia:* planning, organising, co-ordinating, communicating, controlling and reviewing) by defining clear strategic objectives, formulating policies, procedures and tactical plans, determining the structure of human and material resources by specifying zones and areas of responsibility, delegating authority and initiating systems of control, accountability and feed back to ensure strict conformance with predetermined directions, programmes and budgets.

1.3. *Accountability*

The obligation of discharging delegated responsibility by the exercise of authority specified in a job specification and the duty of formally and regularly reporting to higher authority to enable effective comparison to be made between forecast and actual performance in terms of time, expenditure and resources used. The flow of responsibility and authority is always downwards. The flow of accountability is always upwards.

1.4. *Estate Management*

The process of planning the maintenance, improvement, renewal and replacement of the stock of property which forms the hospital service and ensuring a state of functional efficiency which is commensurate with the economic development of a trouble free investment in capital assets within pre-determined standards.

1.5. *Feed Back*

The flow of information in terms of actual operational experience of design and constructional defects and weaknesses to enable their elimination in future capital works. The flow is from hospital level to higher authority where suitable remedial action should be initiated.

1.6. *Feed Forward*

The flow of information in terms of systematic or planned maintenance programmes in the form of manuals, drawings, schedules and maintenance instructions. The flow is from designer to user and maintenance manager.

1.7. *Planning*

The process of examining alternative courses of action, forecasting and determining from available alternatives the optimum course of action to achieve an objective or specific result, including policy formulation.

1.8. *Systematic Training and Planned Experience*

The analysis and definition of each post, identifying the training needs in terms of knowledge and skill requirement, designing and putting into effect suitable programmes of instruction by qualified instructors, arranging related planned in-service experience, assessing progress and maintaining simple records of performance.

1.9. *Planned Inspection and Formal Reporting*

The systematic and routine examination of all resources, *inter alia*, buildings, external work, stores and building plant, to ensure conformance with pre-determined standards and reporting on actual and foreseeable defects requiring action, with a view to establishing future expenditure programmes and priorities.

1.10. *Supervisory Staff*

Building Technicians: Building Supervisors, Deputy Building Supervisors, Assistant Building Supervisors, Group Building Officers, Deputy Group Building Officers, Hospital Building Officers, Assistant Building Officers.

1.11. *Technician*

Building staff trained and qualified to undertake or supervise the undertaking of [building maintenance and minor capital] works involving established techniques.

1.12. *Professional Officers*

Technologists: Regional Architects, Regional Engineers, Building Surveyors.

1.13. *Technologist*

Officers with graduate qualifications and hence the qualities of mind capable of evolving new techniques in [building maintenance and minor capital] works and possessing the capacity to apply such new knowledge and techniques to practical purposes.

1.14. *Group*

All the hospitals within the administrative control of individual H.M.C.s or B.M.s.

1.15. *Immediate Transitional Period*

The period of time covering the two years from the date of publication of this report.

1.16. *Mid Term Period*

The period of time covering the five years from the date of publication of this report.

1.17. *Longer Term Period*

The period of time covering the 10 years from the date of publication of this report.

1.18. *Short Term*

Any period of time stretching from the "immediate transitional" to the "mid term".

2. *LIST OF ABBREVIATIONS USED IN THE REPORT*

2.1. N.H.S.—National Health Service
Departments—Department of Health and Social Security,
Scottish Home and Health Department,
Welsh Office
Department—Department of Health and Social Security

R.H.B. —Regional Hospital Board
B.G. —Board of Governors of a teaching hospital in England or Wales
H.M.C.—Hospital Management Committee
B.M. —Board of Management
D.E.L. —Directly employed labour

2.2. H.M. —Hospital Memorandum
S.H.M. —Scottish Hospitals Memorandum
H.T.M.—Hospital Technical Memorandum
P.T.B. Circular—Recorded agreements reached between Management and Staff Sides of Professional and Technical "B" Whitley Council
Points—the method adopted by the Whitley Council to determine in broad and general terms the workload of particular officers (and therefore their salaries) and hospital authorities by reference to such matters as the number of separate hospitals, beds and out-patient attendances within a group

2.3. H.N.C.—Higher National Certificate
O.N.C.—Ordinary National Certificate
G.C.E. —General Certificate of Education

2.4. M.P.B.W.—Ministry of Public Building and Works
C.I.T.B. —Construction Industry Training Board
R.I.C.S. —Royal Institution of Chartered Surveyors
R. and D.—Research and Development (Division of M.P.B.W.)
H.M.S.O. —Her Majesty's Stationery Office

2.5. S.O.—Superintending Officer

APPENDIX 2

1. *LIST OF THOSE WHO GAVE EVIDENCE*

1.1. *The following gave written and oral evidence:*

Staff Side of Committee D of Professional and Technical "B" Whitley Council
National Association of Hospital Group Engineers
Institute of Hospital Building Supervisors
Institute of Hospital Engineering
Institute of Building

1.2. *The following gave written evidence only:*

Institute of Clerks of Works Great Britain Incorporated
Association of Hospital Treasurers
Construction Industry Training Board
Regional Engineer's Association
Royal Institution of Chartered Surveyors
Committee of Regional Treasurers
Association of Scottish Hospital Boards of Management
City and Guilds of London Institute
Institute of Hospital Administrators
Association of Hospital Management Committees
National Association of Hospital Management Committee Group Secretaries
Regional Hospital Boards Architect's Association
Eastern Regional Hospital Board, Scotland
Newcastle Regional Hospital Board
South Western Regional Hospital Board
North Eastern Regional Hospital Board, Scotland
Manchester Regional Hospital Board
Liverpool Regional Hospital Board

2. *SUMMARY OF THE MAIN AND MOST WIDELY SUPPORTED POINTS PUT FORWARD IN ORAL AND WRITTEN EVIDENCE*

2.1. *Qualification of Building Supervisor and Assistant Building Supervisor.*
The minimum qualification for a Building Supervisor should be the H.N.C. in Building and the O.N.C. for Assistant Building Supervisor. Trade experience should no longer be an essential requirement.

2.2. *Duties and Responsibilities.* There exists scope for extending the existing range of duties and responsibilities of Building Supervisors.

2.3. *Staffing.* Building Supervisors should be provided with professional support at R.H.B. level and adequate clerical assistance at H.M.C. level. Assistant Building Supervisors should be appointed more widely than at present.

2.4. *Training.* A standard pattern of in-service training courses should be introduced for hospital building maintenance staff, to supplement the technical qualifications required, and should be linked to refresher courses designed to develop and improve the social skills of supervisors.

2.5. *Maintenance Allocations.* Adequate funds should be allocated to hospital maintenance in accordance with established and up-to-date principles, such as on a unit cost basis, having regard to the general use, age and complexity of each building and its services.

2.6. *Minor Capital Works.* Hospital authorities should attempt to strike a sensible balance between the requirements of building maintenance and minor capital works in determining the responsibilities of the Building Supervisor; and building maintenance should be regarded as his prime function.

2.7. *Co-ordination.* Building and engineering maintenance work should be co-ordinated by the technical officer responsible for the major work content of each particular scheme.

APPENDIX 3

Historical Background to the present approach to Maintenance Work in Hospitals

1. *THE PROPERTY*

1.1. Extract from the:—"Report of the Ministry of Health for the Year ended 31 March 1946" (CMD 7119 1947).

"The Hospital Surveys

The purpose of the surveys was to obtain information about the hospitals and hospital services in each region, together with the surveyors' opinions on the adequacy and quality of both buildings and services, and their recommendations for such expansion and improvements as they found to be needed. The chief value of the surveys, therefore, lies in the detailed descriptions of the conditions found in each area and in the measures recommended to meet particular circumstances. For these details the reports themselves must be consulted.

All the reports contain general observations on what the surveys revealed and on the lines which should be followed to meet the needs in a comprehensive and orderly fashion. Different conditions were, naturally, found in different parts of the country but while one surveying team lays more emphasis on this and another on that, the agreements are more striking than the differences, and the similarity of the findings in the various reports is remarkable. In this chapter some account is given of the general statements made by the surveyors on a number of subjects together with some generalisations based on a study of the detailed matter contained in the reports. . . .

Quality of Hospital Buildings

A fact which is strikingly brought out in the reports is that many hospital buildings are out of date and fall far short of modern requirements in planning and in the facilities which they provide for efficient and convenient working.

There has been comparatively little hospital building since 1914 and a large proportion of the hospitals are more than 50 years old, though many of course have had additions made to them at various later times.

The following extract from the North Western Survey report may be taken as representative:

> '*Voluntary hospitals.* To consider first the voluntary hospitals: the bulk of these were built in the 'seventies, 'eighties and 'nineties of last century and they are, generally speaking, out of date and lacking in amenity. Outside Liverpool and Manchester they are all small; the largest has 333 beds; out of 143 only seven have over 200 beds and of these only two have over 250. They are usually situated in a central and often noisy part of the town, with drab surroundings and on very restricted sites. In many cases, patchwork additions have been made at different periods and often the insufficiency of space on the site and other difficulties (especially financial) have caused these to be made in such a way that the site has become congested, and the general design formless and inconvenient. An almost universal defect is insufficiency of single-bed wards and of accessory rooms. In

most cases, equipment has been brought fairly well up-to-date, indeed equipment is generally good, but often it has had to be housed in cramped space, and the general rule is that out-patient and special departments are much too small for the volume of work now being undertaken. Many of these hospitals have reached a point at which they cannot expand to provide, under reasonable working conditions, the various modern facilities that would correspond even to their existing small number of beds. They are, consequently, working under great difficulties, and in conditions which are very trying to both patients and staff and which militate against efficiency. The general lack of amenity is a serious matter and is very striking; many of the hospitals are gloomy and depressing, which can hardly fail to have a discouraging effect on a patient entering them.

Municipal hospitals. The municipal general hospitals are, almost without exception, converted poor law institutions, or parts of poor law institutions, some remaining under poor law administration but many having been appropriated for use as hospitals under the Public Health Acts. The public assistance institutions tend to be even older than the voluntary hospitals, a considerable number dating from before 1870, but usually the infirmary (which as a rule forms the main part of the municipal hospital) is the most recent portion; a fair number of these were erected about 1900. The quality and suitability of the municipal hospital buildings vary greatly; with very few exceptions they were not originally intended to be used as acute general hospitals, and most of them are attempting, in greater or less degree, to perform a function for which they were not designed and are not suited. Many of the municipal hospitals have the advantage of standing in spacious grounds, and of being situated in the country or on the outskirts of towns. They have the disadvantage of adjoining (in some cases being almost entangled among) rather forbidding and barrack-like public assistance institutions, and the 'public assistance atmosphere' (which is difficult to define but easy to recognise) tends to cling to them. The ward accommodation is often, though by no means always, reasonably good, but there is almost invariably a lack of single-bed wards and of accessory rooms, and sanitary accommodation is usually cramped and unsatisfactory. They seldom have anything which could be dignified with the name of an out-patient department, and many are ill-provided with operating theatres and X-ray and physiotherapy departments. Modern equipment has often been obtained, but it is seldom satisfactorily housed.

A certain amount has been done to remedy some of the defects mentioned above, but the process of improvement and extension has not gone very far. When the county councils and county borough councils, in 1930, came into possession of the public assistance institutions, they usually wished to gain some experience of their new functions before launching into big schemes of building and improvement. Almost immediately after the transfer there supervened the 'economic blizzard' and a period of severe restriction of public expenditure. Accordingly, for some years only the most urgently necessary work was undertaken. In the 1930's, however, most local authorities were busy preparing improvement schemes and, but for the outbreak of war, many building schemes would now be proceeding or completed. As it is, not many large schemes have been carried out, but a considerable number of additions and improvements, some of them fairly extensive, have been made. The urgent need for more and better maternity hospital accommodation has led to a number of new maternity blocks having been built at municipal hospitals and these, as a rule, are excellent. In some cases new operating theatre suites or X-ray departments have been erected, and a number of new nurses' homes have been built. The need for increased and improved accom-

modation for nursing staffs has been very urgent, as the nursing staffs of the old poor law infirmaries were much smaller than the staffs required to carry out present-day functions.

Round about 1900, or a little later, a number of boards of guardians built new workhouse infirmaries, which afforded reasonably good accommodation for the type of patient for which they were intended, that is to say, for the chronic sick, with perhaps a sprinkling of acute medical cases especially pneumonia and bronchitis. The increasing demand for acute hospital beds has led to these infirmaries being more and more occupied by acute cases, both medical and surgical. The result has been that reasonably good chronic hospitals have been converted into poor acute hospitals, and the unfortunate chronic patients crowded out of the good wards that had been provided for them into what is often very inferior accommodation indeed, in the public assistance institutions'.

. . . From the findings of the reports under this heading of quality of hospital accommodation and also under that of adequacy of accommodation, it is evident that the country will be faced with a very heavy building programme when building restrictions are relaxed".

1.2. Extract from the: "Report of the Committee of Enquiry into the Cost of the National Health Service" (CMD 9663 1956).

"Maintenance of capital assets
As the capital assets in the service do not appear in any balance sheet even at a nominal value, and as hospital authorities may be tempted to reduce their expenditure on the maintenance of assets in order to make more money available for the therapeutic needs of patients, it seems to us that there is a real danger that the upkeep of hospital buildings and plant may be neglected. We have no doubt that a great deal has been done since the Appointed Day to make good the deficiencies caused by the war and post-war years, and some of our witnesses have indeed maintained that the total capital value of the assets in the service is now higher than in 1948. Others, however, fear that there may have been some decline. Nevertheless, we are left with the impression that at no level from the Ministry to the hospital is there sufficient consciousness of responsibility for capital assets at all comparable with that felt in a business concern, where they are carried in the balance sheet and their maintenance and depreciation are recognised as priorities necessary to maintain the capital assets of the undertaking. As one of our witnesses said—"the absence of a proper system of capital accounting is to be regretted, as interest and depreciation (or loan redemption) should be important features in the assessment of the cost of projected developments, but are not, in fact, recorded in either estimates or accounts.

As hospital budgets have become tighter each year, there is of course the added danger that Hospital Management Committees may decide to save on their building maintenance subhead in order to meet overspendings in other subheads—a practice which, however understandable, does not help to maintain the capital assets of the service. It is an obviously false economy to spend money on the expansion of the service without having regard to the state of existing assets. In fairness it should be noted that until 1953 hospital expenditure on building maintenance was itself restricted by the Ministry as part of the national control of building materials and labour. Even since the lifting of these restrictions, however, we have reason to believe that building maintenance subheads have often been "raided" to make hospital budgets balance over the financial year.

We understand that a Working Party in the Ministry of Health is now considering this matter of building maintenance and in particular the question whether standards can be laid down nationally to cover such matters as the frequency of external painting, specifications for materials, etc. We do not know yet what the Working Party's conclusions are likely to be; but it seems to us in any event that there is a strong case for making Regional Hospital Boards responsible for allocating sums annually to Hospital Management Committees for the specific purpose of maintaining assets and for that purpose only. This would have the incidental advantage that Hospital Management Committees would be encouraged to spread their maintenance work more evenly throughout the year, as they would no longer be tempted to hold back work until the latter part of the financial year (January to March, when weather conditions are often unfavourable) as a cushion against possible overspending on other subheads. Regional Boards and Hospital Management Committees should therefore be asked to work out schemes designed to ensure that proper standards of maintenance are observed in their Regions. The technical advice required to enable Boards and Committees to perform this duty might be provided either by the Boards themselves employing expert staff, or by the Boards (or their Management Committees) employing outside firms on a contractual basis. In any event, the Regional Boards should be responsible ultimately for ensuring that the maintenance work in the Regions is properly carried out. Boards and Committees should decide locally the best means of meeting this need.

The proper maintenance of these capital assets is a matter of the greatest importance in the long run. It appears to us right that the Regional Hospital Boards which are the agents responsible to the Health Ministers for the allocation of public money (including capital) to the Hospital Management Committees should also be responsible for ensuring that the fabric of the hospitals in their Regions is being suitably maintained".

1.3. Extract from: "The Cost of the National Health Service in England and Wales" by Brian Abel-Smith and Richard M. Titmuss (1956).

"Future Trends in Costs

As stated earlier, capital expenditure can, by its nature, be postponed. There is no reason why expenditure should be up to replacement level in any particular year. But in the long run capital needs must be met if the service is to be maintained. An important factor in assessing the need for building up to or beyond replacement level now and in the future is the age of the existing stock of hospitals. If most of the hospitals in the country had been built during the last thirty years, there would obviously be no necessity to build up to replacement level at the present time. But this is far from being the case. Such information as has been collected for us by the Ministry of Health on the age of hospital buildings is neither complete nor in the form most suited for the assessment of rebuilding needs.[1] Nevertheless, it appears from these data that about 45 per cent of the hospitals were originally erected before 1891 and 21 per cent before 1861. Mental and mental deficiency hospitals are, on the average, older than other hospitals as shown in [the table overleaf.]

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[1]The information covers 1,922 of 2,750 hospitals in England and Wales in 1953. The omitted hospitals are, in the main, the smaller ones, and in total they account for only 10 per cent of the beds. The figures refer to the original erection dates; about half the hospitals covered had additions made to them after they were erected.

The age of hospital buildings (England and Wales)

Percentage of hospital buildings originally erected before	Mental and mental deficiency (%)	Other (%)	Total (%)
1891	65	43	45
1861	40	18	21

This information is by no means conclusive because we do not know either the dates or the extent of the new building which took place after the original erection. Nor have we any up-to-date information about the structural condition of these hospitals. We may, however, supplement this information on age by quoting from the reports of the last national hospital survey. This took place during the Second World War. All the surveyors drew attention to the inadequate state of hospital buildings".

2. *THE STAFF*

England and Wales

2.1. Prior to the inception of the N.H.S. each separate hospital authority had its own system for building maintenance; municipal institutions were maintained by the Architect's or Engineer's Department of the local authority; and voluntary hospitals often received advice and assistance from a local firm of architects or surveyors, in addition to the building contractor who might be found as a member of the governing body.

2.2. In general and with the exception of the building contractor, this pattern of advice and assistance was lost when the N.H.S. was introduced and hospital authorities looked to the technical officer: he was the man in possession at almost every hospital, charged with a general responsibility for maintenance; and, although he was technically qualified mainly by R.N. or Merchant Marine training, he was very experienced and often had some acquaintance with the maintenance of building fabric.

2.3. In some cases H.M.C.s inherited a staff of building tradesmen and labourers for maintenance and minor capital building works; and in other cases a small nucleus of building maintenance staff had to be appointed. The existence of such staff was recognised in H.M.C.(48)40, which dealt with the appointment of Engineering Staff and gave recognition to the post of Building Foreman in the following terms:

> "The employment of a Building Foreman (at the local rate of pay) may be necessary in the case of a Management Committee group which carries a staff of building tradesmen and labourers for maintenance and the smaller direct labour building works, and the Hospital's Engineer has insufficient knowledge of building methods. It is envisaged that this arrangement should only operate in the largest groups, particularly those containing Mental Institutions".

2.4. The foreman, where he was appointed, was placed under the Engineer, who reported to and advised the H.M.C. upon both engineering and building matters. This relationship and structure of command and responsibility was given recognition in H.M.C. 15/23, in an Appendix dealing with the duties of the Engineer-in-Charge (or Hospital Engineer) in the following terms:

> "In regard to the maintenance of the building fabric, in some hospitals it has been the practice for the Engineer to have the over-sight of this and in such cases the Management Committee may not wish to disturb the position".

2.5. In 1952—H.M.C.(52)115 enclosing P.T.B. Circular 17—the post of Group Clerk of Works was given official recognition; but such appointments were restricted to groups with more than 750 beds, where there was an officer on the Engineer's staff concerned solely with building maintenance and carrying out the full duties of a Group Clerk of Works as defined in Circular 17.

2.6. The current grade of Building Supervisor was given formal recognition in 1956—H.M.(56)88, P.T.B. Circular 61—subject to the same restrictive conditions which were contained in H.M.C.(52)115; and in 1967—H.M.(67)36 and P.T.B. Circular 215—a new grading structure, with revised qualifications, salary scales and a revised pointage scheme was provided for Building Supervisors. The terms of this agreement, which also introduced the new grade of Assistant Building Supervisor govern the present situation (subject to changes in the salary scales and protection arrangements, announced in H.M.(68)68 and (69)31, respectively).

Scotland

2.7. In Scotland it is probably of some major importance to recognise the role accorded traditionally to the class of supervisor known as a Master of Works. The Master of Works had a wide range of responsibilities covering supervision of trade works and including in some cases engineering.

2.8. This traditional post did not develop along the same lines in England and Wales; at that time the engineer was regarded as the chief officer in the works service in England and Wales.

2.9. At the inception of the N.H.S. it was common to find in the larger hospitals in Scotland a Master of Works and their employment was continued in the N.H.S. In other hospitals Clerks of Works were recruited from the local authority field where they had been in employment as Building Inspectors.

2.10. In 1951 a Group Clerk of Works grade was introduced for B.M.s where the number of beds was 750 or over; his responsibility lay in the day to day building maintenance of the hospitals in the Group. The grade of building supervisor was introduced in 1956 and a B.M. could employ both a Building Supervisor and a Superintendent Engineer; but in Scotland when a group instead made a joint appointment, the post was more often than not filled by the Building Supervisor/Group Clerk of Works. This again reflects the historical position accorded to the Master of Works in the multi-trades sphere in Scotland.

APPENDIX 4

Executive Investigation

1. In the course of his enquiries on behalf of the Committee Clement Marshall visited the following authorities and had discussions with the officers concerned.

1.1. *R.H.B.s and H.M.C.s in England*

1.1.1. East Anglian R.H.B.

Papworth, Huntingdon H.M.C.
Fulbourn, Ida Darwin H.M.C.
West Suffolk H.M.C.
Ipswich H.M.C.
Peterborough, Stamford H.M.C.
King's Lynn Area H.M.C.
North Cambridgeshire H.M.C.
Cromer Area H.M.C.
Little Plumstead H.M.C.
Norwich, Lowestoft & Great Yarmouth H.M.C.
Suffolk Mental H.M.C.

1.1.2. North West Metropolitan R.H.B.

St. Bernards H.M.C.
Mid Herts H.M.C.
North London Group H.M.C.

1.1.3. Newcastle R.H.B.

Newcastle-on-Tyne H.M.C.
Sunderland Area H.M.C.
Gateshead & District H.M.C.

1.1.4. Leeds R.H.B.

York (B) Group H.M.C.
Harrogate & Ripon H.M.C.
Leeds (A) H.M.C.

1.1.5. Sheffield R.H.B.

Sheffield No. 1 H.M.C.
,, No. 2 H.M.C.
Doncaster H.M.C.
Higham H.M.C.

1.1.6. South West Metropolitan R.H.B.

Kingston & Longrove H.M.C.
Croydon & Warlingham H.M.C.
Guildford & Godalming H.M.C.

1.1.7. Wessex R.H.B.

Salisbury Group H.M.C.
Portsmouth Group H.M.C.
Knowle H.M.C.

1.1.8. Oxford R.H.B.

Isis Group H.M.C.
Royal Bucks & Associated H.M.C.
Reading & District H.M.C.

1.1.9. South Western R.H.B.

Southmead General H.M.C.
Bath H.M.C.
Gloucester & Stroud H.M.C.

1.1.10. South East Metropolitan R.H.B.

1.1.11. Manchester R.H.B.

South Manchester H.M.C.
Prestwich H.M.C.
Stockport & Buxton H.M.C.
Whittingham H.M.C.

1.1.12. Birmingham R.H.B.

Wolverhampton H.M.C.
West Bromwich H.M.C.
South Birmingham H.M.C.

1.1.13. Liverpool R.H.B.

St. Helens H.M.C.
Central Wirral H.M.C.
West Cheshire H.M.C.

1.2. *B.G.s of Provincial Teaching Hospitals in England*

1.2.1. United Bristol Hospitals

1.2.2. United Birmingham Hospitals

1.2.3. United Sheffield Hospitals

1.3. *B.G.s of Graduate and Post Graduate Teaching Hospitals in London*

1.3.1. University College Hospital
Royal National Throat, Nose & Ear Hospital
The Royal Hospital of St. Bartholomew
The London Hospital
Guy's Hospital
St. Peter's, St. Paul's, St. Philip's and the Shaftesbury Hospitals
The National Hospitals for Nervous Diseases
The Hospital for Sick Children
The Royal Marsden Hospital
The Hospitals for Diseases of the Chest

The National Heart Hospital
The Royal National Orthopaedic Hospital
St. Mary's Hospital
Westminster Hospital

1.4. *Scotland*

1.4.1. Scottish Home & Health Department

1.4.2. South Eastern R.H.B.

Royal Infirmary of Edinburgh B.M.
Royal Edinburgh Hospital B.M.
West Lothian (Bangour) Hospitals B.M.

1.4.3. Eastern R.H.B.

Dundee General Hospitals B.M.
Sunnyside Royal Hospital B.M.

1.4.4. North Eastern R.H.B.

Aberdeen General Hospitals B.M.
Royal Cornhill Hospitals B.M.

1.4.5. Northern R.H.B.

Inverness Hospitals B.M.
Craig Dunain Hospitals B.M.

1.4.6. Western R.H.B.

Glasgow Western & Gartnavel B.M.
,, Royal Infirmary B.M.
,, South-Western Hospitals B.M.
Lochgilphead Hospitals B.M.
Coatbridge, Airdrie and District Hospitals B.M.
Central Lanarkshire Hospitals B.M.

1.5. *Wales*

1.5.1. Health Department, Welsh Office

1.5.2. Welsh Hospital Board

Cardiff & District H.M.C.
Brecon & Radnor H.M.C.
South West Wales H.M.C.

1.5.3. United Cardiff B.G.

2. The aim of the visits was to ascertain how building maintenance was managed and controlled in the field and to that end the following topics usually were discussed informally:

2.1. *With Officers of R.H.B.s*

Maintenance funds—how far, if at all, does Region share in deciding what funds shall be devoted by H.M.C.s to works maintenance out of the annual revenue allocation?

—how are funds allotted to H.M.C. by R.H.B. for "extraordinary" or "non-recurring" maintenance? Do Regional professional staff concern themselves about these items?

—do Regional staff have any control over maintenance expenditure once funds have been distributed to H.M.C.s?

Standards of maintenance—do Regional officers have any responsibility for the standard of maintenance in hospitals?

—do Regional officers vet the maintenance programmes of H.M.C.s and if so, at what stages?

—is hospital maintenance a matter delegated in its entirety to H.M.C.s?

Minor Capital Works delegated to H.M.C.—who decides what items shall be delegated to H.M.C. for design and execution, and on what grounds?

—who decides whether the work is to be handled by H.M.C. by consultants or by Group staff?

—are the designs referred to Region for approval?

—are cost limits used in place of detailed examination of design?

—what financial control over these works is exercised by Region?

Contracts—within the limited field of work handled by Group staff does the Region play any part in contract matters beyond laying down procedures and circulating lists of approved contractors?

—have maintenance term contracts, either daywork or measured been tried for engineering or for building maintenance and if so with what result?

—is the S.O. invariably the Group Engineer or Building Supervisor for contracts covering work delegated to the Group?

Directly Employed Labour (D.E.L.)—does the R.H.B. lay down a policy regarding the size of the D.E.L. force in any Group and the nature of the work it may be given to perform?

—would Regional staff be concerned in disputes with Unions over matters arising initially in a Group's works organisation?

—is there a Regional policy regarding the size and nature of stores held for use by D.E.L.?

—are these supply contracts arranged by Region (or otherwise) to cover more than one H.M.C.?

Staffing—are the Group Engineer and Building Supervisor regarded as members of the Regional Engineer's and Regional Architect's Departments?

—are there opportunities for these Group officers to get experience in Regional offices?

—what part does the Region play in fixing works complements?

—what training facilities are available to Group staff on a Regional basis, e.g. short courses run by Regional staff?

—what parts do the Regional staff play in Group staff promotions and transfers?

Does an H.M.C. have one Works Department or two? How is co-ordination affected between engineering and building? Are present arrangements satisfactory in the view of the Region? To whom does the R.H.B. consider the Building Supervisor is responsible?

2.2. *With Officers of H.M.C. or B.M.*

Maintenance programme—how is programme built up?

—how is expenditure controlled?

—how is money divided between engineering and building and how is expenditure coded against different facilities?

Directly employed labour—how used?

—how supervised at outlying hospitals? Who authorises overtime, approves payment of allowances, etc.? What progress has been made in introducing preventive maintenance in engineering and in building? Who deals with T.U. officials?

Chain of command in the Group as regards Building Supervisor, Group Engineer, Group Secretary and H.M.C. Attendance of works staff at Committees. To whom is Building Supervisor responsible? What professional or technical support is available from Regional Board officials?

Contracts for works. How are these handled? Who is the S.O.? Who issues interim and final certificates? Who can authorise extras and extensions of time?

What financial powers are delegated to Group Engineer and Building Supervisor?

What training facilities are available? What technical literature is supplied?

2.3. *With Officers of B.G.s in England and Wales*

Maintenance funds—

—how do you decide on the total funds made available annually for hospital maintenance?

—is this a constant percentage of your total budget?

—how do you finance extraordinary or non-recurring maintenance items?

Standards of maintenance—

—does your level of expenditure produce a satisfactory standard of maintenance?

—is the property today in as good a state as it was say in 1958?

—how much of the maintenance programme is pre-planned on a time cycle?

Financial control—

—are funds allocated separately to engineering and to building maintenance?

—is the programme subject to up and down adjustment to match over and under spending on other votes?

—are any financial powers delegated to works officers?

Minor capital works—

—what capital works are entrusted to works staff for design and execution?

—what part do your works staff play in connection with works designed by consultants?

—who decides whether work shall be put out to consultants?

—how are minor capital works controlled financially?

Directly Employed Labour—

—on maintenance, what is approximate ratio of D.E.L. work to contract work?

—how is D.E.L. employed?

—how are costs of D.E.L. and contract work compared?

—who decides what shall be D.E.L. task and what shall go to contract?

—how is payment of overtime and allowances controlled?

—how far has planned preventive maintenance been introduced in engineering and in building maintenance

—who deals with Trade Union officials?

Contracts for works—

—open or selective tendering: list of approved contractors?

—lump sum or Bill of Quantity contracts?

—term contracts—daywork or measured?

—who prepares contract documents and issues invitations to tender?

—who is the nominated Superintending Officer who issues interim and final certificates?

—who authorises deviations and extensions of time?

Works stores—

—are stores centralised or dispersed?

—who decides on the level of holdings?

—who is responsible for works stores purchases?

—how far are builders' merchants and engineering equipment makers used as stores?

—has Planned Preventive Maintenance affected the level of store holding?

Chains of command—

—to whom are the Building Supervisor and Group Engineer responsible for the technical and managerial aspects of their work?

—do the Building Supervisor and Group Engineer attend any R.H.B. or H.M.C. meetings?

—where both Building Supervisor and Group Engineer are employed is the works organisation a single department or two departments?

—how is co-ordination effected between engineering and building programmes?

—would you regard it is practicable to share the services or works staff between two or more Teaching Hospitals?

3. The discussions revealed a wide range of practice in the detail within a fairly consistent overall approach to the problems of building maintenance in hospitals. This was not surprising given that R.H.B.s and H.M.C.s vary so greatly in size. All the figures quoted in Tables 1-3 are related to the date of each individual visit by the Executive Investigator and cannot be reconciled with the statistics provided elsewhere in the report.

TABLE 1

R.H.B.	Population (Millions)	No. of H.M.C.s	No. of Building Super-visors	Maintenance Expenditure £M	No. of beds '000
Newcastle	3·07	30	15	2 to 2·25	27·1
Leeds	3·10	21	19	2·53	31·7
Sheffield	4·50	26	18	2·16	33·5
E. Anglian	1·66	12	5/6	0·90	13·1
N.W. Met.	4·20	22	21	2·55	33·9
N.E. Met.	3·38	19	17	2·12	30·3
S.E. Met.	3·49	24	22	2·46	30·2
S.W. Met.	3·26	26	24	2·99	40·0
Wessex	1·90	12	8	1·51	17·0
Oxford	1·82	14	8	1·14	13·7
S. Western	3·00	29	13	2·36	31·7
Welsh	2·70	15	11	1·95	26·0
Birmingham	5·02	18	12	3·23	42·0
Manchester	4·53	31	26	3·36	40·0
Liverpool	2·23	15	11	1·66	22·0

TABLE 2

Scottish Hospital Region	Population (Millions)	No. of B.M.s	No. of Building Super-visors	Maintenance Expenditure £M	No. of beds '000
Northern	0·19	10	2	0·11	2·57
North Eastern	0·47	9	3	0·29	6·07
Eastern	0·41	8	5	0·46	6·58
South Eastern	1·17	15	12	0·90	12·98
Western	2·94	35	25	2·29	34·69

4. In the London Teaching Hospitals visited there was a range from 80 to 1,576 beds and maintenance expenditure ranged from £20,000 up to £350,000 p.a. In Wales and the provinces the figures for Teaching Hospitals were:

TABLE 3

	Mtce. Exp. £M	No. of beds '000
United Cardiff	0·12	0·95
United Sheffield	0·15	1·45
United Bristol	0·18	1·02
United Birmingham	0·30	1·63

5. Where practice varied so much it was exceedingly difficult to present a short summary statement of the position. The following propositions were true in many instances but not in all.

5.1. R.H.B.s keep an eye on maintenance expenditure by H.M.C.s but do not dictate how much is to be spent out of the bulk allocation of revenue funds.

5.2. Most R.H.B.s and H.M.C.s think the property in their charge is in slightly better shape than it was a few years ago but standards outside are constantly rising.

5.3. Money for maintenance is tight and the situation would be worse than it is but for windfalls such as winter building money, underspending on other votes and the use of "free monies".

5.4. R.H.B. staff take some interest in individual items of hospital maintenance which are funded out of revenue funds allocated for major repairs, but they regard maintenance generally as a matter fully delegated to H.M.C.s within an expenditure figure proposed by the H.M.C. and accepted by the R.H.B. Most R.H.B.s seek to discourage attempts to divert maintenance funds to other revenue funds which are overspent.

5.5. It is held that maintenance is the prime concern of H.M.C. works staff but a number of suitable small capital works may be delegated to H.M.C. staff for design and execution if the R.H.B. think the local staff has the necessary capacity. For works of adaptation which require detailed local knowledge H.M.C.s may be allowed to employ Consultants if their own staff cannot undertake the work.

5.6. R.H.B.s generally examine plans and specifications of delegated minor capital works and in some cases may handle the placing of the contract. Financial control is retained by the R.H.B. as the H.M.C. is not empowered to exceed an approved total estimate for each job.

5.7. Where Building Supervisors are qualified above the level required by P.T.B. Circular they tend to be employed accordingly so it is generally felt that Building Supervisors should be required to hold qualifications similar to those of the Group Engineer.

5.8. Term contracts are used only for specialist engineering maintenance (such as lifts) and little is known of measured and daywork term contracts outside that field.

5.9. There is no generally accepted policy regarding the proportion of maintenance work to be carried out by contract or by directly employed labour. Practice varies widely and is perhaps dependent on past history. Cost comparisons between D.E.L. and contract are made infrequently and sometimes on inadequate data. R.H.B.s keep a close watch on increases in complement arising out of the creation of new facilities such as District General Hospitals.

5.10. Except in parts of Scotland, R.H.B. staff have no authority over H.M.C. works staff but there is some link, particularly on the engineering side, and Building Supervisor and Group Engineer are free to seek advice from Regional Architect and Regional Engineer if they need it. There are said to be no posts at R.H.B. which could be filled by the Building Supervisor and Group Engineer with benefit to both R.H.B. and H.M.C.

5.11. The building and engineering maintenance organisation comprises two separate departments in the majority of H.M.C.s which employ both Building Supervisor and Group Engineer. The arrangements whereby a part of the hospital estate has no qualified building staff to look after it are generally deplored both at R.H.B. and H.M.C. level.

5.12. In many H.M.C.s the maintenance programme is carefully built up, starting at hospital level and covering a period of at least two years, but the funds finally allocated are governed by financial considerations rather than need. Very few H.M.C.s succeed in making a thorough inspection of their property even once a year but on the engineering side planned preventive maintenance is being applied in new facilities in most H.M.C.s.

5.13. There is some variation in practice as regards what is chargeable to revenue and what is to be regarded as capital.

5.14. Funds allocated to maintenance are not subdivided between engineering and building, and financial control is mainly exercised by the Group Secretary or Treasurer. Expenditure is recorded in a manner that separates engineering and building.

5.15. Co-ordination between engineering and building trades is effected by the major interest: co-ordination between "works" and "clients" generally is effected by the administrative staff where both Building Supervisor and Group Engineer are in post.

5.16. Contract documents and invitations to tender are prepared by building and engineering maintenance staff: tenders are returnable to the Group Secretary. When the contract is placed the Building Supervisor or Group Engineer administers it and provides site supervision, issues certificates and may authorise deviations which do not involve increased cost or involve substantial change.

5.17. Training facilities are held to be inadequate both for new entrants and for officers requiring refresher courses on the building side.

6. Instances could be quoted which contradict practically every one of these seventeen propositions.

APPENDIX 5

Statistics

1. *PREAMBLE TO STATISTICAL TABLES 4 TO 10 INCLUSIVE*

1.1. *Source of Information*

1.1.1. The information provided in statistical tables 4 to 10 inclusive, apart from table 4B which was produced by the Scottish Home and Health Department, has been collected and presented to the Committee by the Statistics and Research Division of the Department of Health and Social Security; and the Department have accepted full responsibility for the content and accuracy of the tables.

1.1.2. *Table 4.* The figures contained in table 4 are, in the main, rough rounded approximations based on information derived from a variety of sources: column (1) is very approximate and has been built up by reference to, *inter alia*, Whitaker's Almanack; column (2) is based on the General Register Office—mid 1969 estimate; columns (4) (5) (6) and (7) for England and Wales are Department of Health and Social Security figures as at 31 December 1968—for Scotland the figures are as at 31 March 1969; column (8) for England and Wales are D.H.S.S. figures as at 30 September 1968—for Scotland as at 31 March 1969; columns (9) and (10) for England and Wales are D.H.S.S. figures as at 31 December 1968—for Scotland as at 31 March 1969.

1.1.3. *Tables 5 to 10 inclusive.* The information was provided by hospital authorities in England, Scotland and Wales in response to the questionnaire enclosed with the attached letter dated 29 April 1969 distributed on behalf of the Committee. The questionnaire was designed by the Committee in consultation with D.H.S.S. and all the replies have been analysed and the information distilled into table form by D.H.S.S.

1.2. *Notes for Guidance—Tables 4 to 10 inclusive*

1.2.1. *Tables 4A, B and C.* All the information contained in these tables is self explanatory, subject to paragraph 1.1.2. above.

1.2.2. *Tables 5A, B and C.* Column (1) "Hospital Region" includes all B.G.s within the geographical area in which they are situated; column (3) includes five posts in England and Wales and six posts in Scotland where the post is shared between more than one H.M.C. and excludes Chartered Surveyors who may be appointed as Building Surveyors with a correspondingly wider range of duties in some of the teaching hospitals; columns (5) (6) and (7) also include technical qualifications resulting from courses of equivalent content and (7) includes all the "desirable" qualifications listed in P.T.B. Circular 215 paragraph 3(*b*); column (8) includes all technical qualifications in building which are lower than those listed as "desirable" and (9) excludes any technical qualifications which are not related to building. Some B.G.s make other arrangements for dealing with building maintenance works, e.g. use of private consultants. No Building Supervisors possess the Higher National Diploma (H.N.D.) The figures in columns (5) (6) and (7) may include some technical qualifications which result from, e.g. election as opposed to examination, and may be slightly inflated for other similar reasons which it was not practicable to establish. No Building Supervisors were shown as carrying responsibility for Building and Engineering Departments—question 4 on questionnaire.

1.2.3. *Tables 6A, B and C.* Column (1) "Hospital Region" includes all B.G.s within the geographical area in which they are situated; column (3) includes 12 posts in England and Wales and six posts in Scotland where the post is shared between more than one H.M.C.; columns (5) (6) and (7) also include technical qualifications resulting from courses of equivalent content and (7) includes all the "required" qualifications listed in P.T.B. Circular 179 paragraph 1(*c*); column (8) includes all technical qualifications in engineering which are lower than those listed as "required" and (9) excludes any technical qualifications which are not related to engineering; column (10) includes two Group Engineers who do not possess the technical qualifications in engineering "required" of a Group Engineer. In reply to question 7 on the questionnaire, 160 Group Engineers in England, four in Scotland and four in Wales were shown as carrying responsibility for Building and Engineering Departments. The figures shown in columns (5) to (8) may include some technical qualifications which result from, e.g. election as opposed to examination, and may be slightly inflated for other similar reasons which it was not practicable to establish.

1.2.4. *Tables 7A, B and C, and 8A, B and C.* Column (1) "Hospital Region" includes all B.G.s within the geographical area in which they are situated.

1.2.5. *Tables 9A, B and C, and 10A, B and C.* Column (1) should be interpreted in accordance with the further information provided in paragraphs 1,2.2. and 1.2.3. above.

Committee of Inquiry on Hospital Building Maintenance and the work of Building Supervisors

1 Alexander Fleming House, Elephant and Castle, London, S.E.1

Telephone: 01-407 5522, *ext.* 392

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5 Lurgan Mansions, Sloane Square, LONDON S.W.1

Executive Investigator:

C. F. MARSHALL, ESQ., O.B.E., B.SC., M.I.C.E.
Tudor House, 89 High Street, Bottisham, CAMBRIDGE
Telephone: 0220-28 296

Reference S.E.C. 12

29th April 1969

Dear Secretary,

It will be generally known that this Committee has been continuing inquiries and that Mr. Marshall, the Executive Investigator, is in the course of visiting all Regional Hospital Boards in England, Scotland and Wales, and a number of Boards of Management, Hospital Management Committees and Teaching Hospitals. It is hoped that he will complete his visits by the Autumn of this year.

2. Meanwhile the Committee would like to have up-to-date information on the number of Building Supervisors and Group Engineers on the establishment of Groups, their qualifications and other details and would be grateful if you would complete the enclosed questionnaire, an additional copy of which is enclosed for your retention.

3. The Chairman and Committee Members are most pleased with the response they have received in their inquiries and are being urged to complete their Report at the earliest date possible. To assist them in this task they would be grateful for your co-operation in returning the completed questionnaire, to me at the above address, by 14th May, 1969, at the latest.

4. Further copies of this letter and the questionnaire are available on request.

Yours faithfully,

E. EMERY,
Secretary.

To Secretaries
Boards of Governors
Boards of Management (Scotland)
Group Hospital Management Committees (England and Wales)
Regional Hospital Boards (for information)

Committee of Inquiry on Hospital Building Maintenance and the work of Building Supervisors

Hospital Works Organisation

.....H.M.C./B.G./B.O.M.

This form to be completed to show the position as at *31st March 1969*.

Where the services of a Building Supervisor or Group Engineer are shared with other Authorities, only the Authority responsible for paying the officer's salary should complete the questions 1-5 or 6-10. Nil returns should be submitted if appropriate.

For Committee of Inquiry use only

BUILDING SUPERVISOR

1. Does the Establishment allow for a Building Supervisor as defined in P.T.B. Circular 215, Part I, para. 3(*a*) YES/NO*
2. If answer to 1 is yes
   Duties of Post
   (*a*) Responsible for Building Department only*
   (*b*) Responsible for Building and Engineering Departments*
3. If the Building Supervisor's services are shared with other hospital authorities please state the additional authorities concerned.

   .....
   .....
   .....

4. Was the post occupied at 31st March 1969 YES/NO*
5. If the answer to 4 is yes please state
   (*a*) Age of occupant .....years
   (*b*) Qualifications held .....
   .....
   .....

GROUP ENGINEER

6. Does the Establishment allow for a Group Engineer as defined in P.T.B. Circular 179, Part 1, 1(*a*) YES/NO*
7. If answer to 6 is yes
   Duties of post
   (*a*) Responsible for Engineering Department only*
   (*b*) Responsible for Engineering and Building Departments*
8. If the Group Engineer's services are shared with other hospital authorities please state the additional authorities concerned

   .....
   .....
   .....

9. Was the post occupied at 31st March 1969 YES/NO*
10. If the answer to 9 is yes please state
    (*a*) Age of occupant .....years.
    (*b*) Qualifications held .....
    .....
    .....

The completed form should be sent to the Secretary:

E. EMERY,
B 1312, 1 Alexander Fleming House,
Elephant and Castle,
LONDON, S.E.1

*delete as appropriate

TABLE 4

AREA, POPULATION DENSITY AND OTHER HOSPITAL STATISTICS AT 31 DECEMBER 1968 OR 31 MARCH 1969
ANALYSIS BY HOSPITAL REGIONS SHOWING NUMBER OF HOSPITAL AUTHORITIES, RESOURCES AND ATTENDANCES

Hospital Region	Approx. Area (sq. miles) (1)	Population (thous.) (2)	Population Density (persons/ sq. mile) (3)	No. of H.M.C.s or Boards of Management (4)	No. of B.G.s (5)	No. of Hospitals (6)	No. of staffed Beds (7)	No. of Hospital Staff (8)	No. of In-Patients Discharged and Died (9)	No. of Out-Patients Attendances (thous.) (10)
A. England										
Newcastle	5,320	3,092	580	32	1	157	28,520	33,000	333,460	1,899
Leeds	4,240	3,216	760	21	1	182	33,560	37,010	358,780	1,899
Sheffield	5,690	4,621	810	29	1	212	34,890	41,910	405,220	2,643
East Anglian	5,180	1,714	330	12	1	96	14,480	15,430	151,000	826
North West Metropolitan	1,310	4,192	3,195	22	15	138	41,490	57,250	520,140	4,306
North East Metropolitan	1,660	3,397	2,040	19	2	118	32,170	41,920	365,180	2,726
South East Metropolitan	2,400	3,536	1,475	24	3	159	34,440	43,290	378,590	2,645
South West Metropolitan	1,350	3,255	2,411	25	6	143	44,080	45,980	373,900	2,616
All Metropolitan Regions	6,720	14,380	2,140	90	26	558	152,180	188,440	1,637,820	12,292
Oxford	3,770	1,901	505	13	1	109	15,440	19,250	213,690	1,053
South Western	7,000	3,092	440	28	1	262	33,040	35,720	323,560	1,554
Birmingham	5,820	5,084	870	18	1	206	43,410	47,960	487,800	3,090
Manchester	2,700	4,552	1,685	31	1	195	41,340	47,810	477,140	2,992
Liverpool	730	2,256	3,090	15	1	89	23,980	28,680	270,350	1,585
Wessex	3,010	1,964	650	12	0	107	17,210	19,110	189,420	1,058
ENGLAND	50,540	45,873	620	301	35	2,316	438,050	514,340	4,848,224	30,890
B. Scotland										
Northern	10,177	191	19	10	—	27	2,602	2,311	24,825	203
North Eastern	4,368	474	109	9	—	49	6,228	5,621	64,163	620
Eastern	3,430	408	119	7	—	36	6,695	6,899	61,304	595
South Eastern	2,943	1,173	398	15	—	82	13,967	15,632	152,982	1,920
Western	8,728	2,942	337	34	—	175	35,927	35,019	382,407	3,917
SCOTLAND	29,646	5,188	175	75	—	369	65,419	65,482	685,681	7,255
C. Wales										
WALES	8,020	2,720	340	15	1	195	26,850	32,620	301,606	1,539

BUILDING SUPERVISORS—ESTABLISHMENT AND NUMBER IN POST AT 31 MARCH 1969
ANALYSIS BY HOSPITAL REGIONS SHOWING NUMBER OF POSTS, TECHNICAL QUALIFICATIONS OF HOLDERS AND VACANT POSTS

Hospital Region	Number of H.M.C.s and B.G.s	Number of Building Supervisor Posts	Number of officers in post						Number of Building Supervisors Holding Hospital Engineers' Technical Qualifications	Number of Vacant Posts
			Total	Number holding Technical Qualifications				Not holding Technical Qualifications		
				A.R.I.C.S.	H.N.C. (Building)	O.N.C. (Building)	Others			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A. England										
Newcastle	33	16	16	—	3	3	—	10	—	—
Leeds	22	19	18	—	4	4	4	6	1	1
Sheffield	31	20	18	—	6	6	2	4	—	2
East Anglian	13	7	5	—	1	2	2	—	—	2
North West Metropolitan	37	27	25	1	5	9	2	8	—	2
North East Metropolitan	22	18	17	1	4	4	—	8	—	1
South East Metropolitan	27	24	23	1	3	9	2	8	—	1
South West Metropolitan	30	26	26	—	4	8	4	10	—	—
Oxford	14	9	9	—	1	3	—	5	—	—
South Western	30	14	14	—	3	7	—	4	—	—
Birmingham	26	13	12	3	2	5	—	2	—	1
Manchester	32	26	26	1	11	5	1	8	—	—
Liverpool	16	12	12	—	5	4	—	3	—	—
Wessex	12	8	7	1	1	3	—	2	—	1
England	345	239	228	8	53	72	17	78	—	11
B. Scotland										
Northern	10	2	2	—	—	—	—	2	—	—
North Eastern	9	3	3	—	2	—	—	1	—	—
Eastern	7	5	5	—	1	1	1	2	—	—
South Eastern	15	13	13	—	2	6	—	5	—	—
Western	34	24	24	—	3	4	1	16	1	—
SCOTLAND	75	47	47	—	8	11	2	26	1	—
C. Wales										
WALES	17	12	12	1	1	1	2	7	—	—

TABLE 6

GROUP ENGINEERS—ESTABLISHMENT AND NUMBER IN POST AT 31 MARCH 1969
ANALYSIS BY HOSPITAL REGION SHOWING NUMBER OF POSTS, TECHNICAL QUALIFICATIONS OF HOLDERS AND VACANT POSTS

Hospital Region	Number of H.M.C.s and B.G.s	Number of Group Engineer Posts	Number of Officers in Post						Number of Group Engineers holding Building Supervisors' Technical Qualifications	Number of Vacant Posts
			Total	Number Holding Technical Qualifications				Not Holding Technical Qualifications		
				Chartered Engineers	H.N.D. (Engineering)	H.N.C. (Engineering)	Other			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A. England										
Newcastle	33	30	30	1	—	10	16	3	—	—
Leeds	22	22	22	6	—	9	7	—	1	—
Sheffield	31	27	27	6	—	10	11	—	1	—
East Anglian	13	13	13	3	—	8	1	1	—	—
North West Metropolitan	37	35	31	12	1	7	8	3	—	4
North East Metropolitan	22	21	21	7	—	9	4	1	—	—
South East Metropolitan	27	26	26	4	—	13	6	3	1	—
South West Metropolitan	30	29	29	10	—	5	10	4	—	—
Oxford	14	14	14	2	—	2	8	2	—	—
South Western	30	25	25	8	—	6	10	1	—	—
Birmingham	26	24	23	4	—	12	7	—	1	1
Manchester	32	30	30	4	—	12	10	4	1	—
Liverpool	16	16	16	3	1	8	3	1	—	—
Wessex	12	12	12	6	—	2	3	1	—	—
ENGLAND	345	324	319	76	2	113	104	24	5	5
B. Scotland										
Northern	10	2	2	1	—	—	—	1	—	—
North Eastern	9	7	7	2	—	—	4	1	—	—
Eastern	7	6	6	—	—	2	3	1	—	—
South Eastern	15	9	9	1	—	3	5	—	—	—
Western	34	28	26	7	—	7	10	2	—	2
SCOTLAND	75	52	50	11	—	12	22	5	—	2
C. Wales										
WALES	17	16	15	2	—	6	4	3	1	1

TABLE 7

BUILDING SUPERVISORS—NUMBER IN POST AT 31 MARCH 1969
ANALYSIS BY HOSPITAL REGION AND AGE

Hospital Region (1)	Total all Ages (2)	Age Group: 24 and under (3)	25 to 29 (4)	30 to 34 (5)	35 to 39 (6)	40 to 44 (7)	45 to 49 (8)	50 to 54 (9)	55 to 59 (10)	60 to 64 (11)	65 and over (12)
A. England											
Newcastle	16	—	1	1	1	—	5	2	2	4	—
Leeds	18	—	—	1	2	2	4	1	6	2	—
Sheffield	18	—	1	2	2	3	3	1	4	2	—
East Anglian	5	—	—	—	—	1	—	3	1	—	—
N.W. Metropolitan	25	—	—	1	4	2	5	4	3	6	—
N.E. Metropolitan	17	—	—	1	—	3	3	2	6	2	—
S.E. Metropolitan	23	—	—	1	2	2	3	4	7	3	1
S.W. Metropolitan	26	—	1	2	2	—	1	7	6	7	—
Oxford	9	—	—	—	—	1	1	2	2	3	—
South Western	14	—	—	2	—	3	4	2	1	1	1
Birmingham	12	—	—	—	3	—	1	3	3	2	—
Manchester	26	—	1	3	5	3	5	3	3	3	—
Liverpool	12	—	—	4	—	—	2	3	1	2	—
Wessex	7	—	—	—	—	—	1	1	4	1	—
ENGLAND	228	—	4	18	21	20	38	38	49	38	2
B. Scotland											
Northern	2	—	—	—	—	1	—	—	1	—	—
North Eastern	3	—	—	—	—	—	—	—	2	1	—
Eastern	5	—	—	—	—	—	—	—	2	3	—
South Eastern	13	—	—	2	2	—	1	3	4	1	—
Western	24	—	1	1	1	2	1	3	9	6	—
SCOTLAND	47	—	1	3	3	3	2	6	18	11	—
C. Wales											
WALES	12	—	—	—	—	1	3	4	1	3	—

TABLE 8

GROUP ENGINEERS IN POST AT 31 MARCH 1969
ANALYSIS BY HOSPITAL REGION AND AGE

Hospital Region	Total all Ages	Age Groups									
		24 and under	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 and over
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
A. England											
Newcastle	30	—	2	3	7	5	5	2	3	3	—
Leeds	22	—	—	1	1	4	4	5	4	2	1
Sheffield	27	—	—	3	4	4	6	—	4	6	—
East Anglian	13	—	—	—	—	5	3	3	—	1	1
N.W. Metropolitan	31	—	—	1	5	5	8	5	4	2	1
N.E. Metropolitan	21	—	—	2	1	2	7	4	3	1	1
S.E. Metropolitan	26	—	—	1	2	2	6	2	4	8	1
S.W. Metropolitan	29	—	—	—	3	4	4	4	8	5	1
Oxford	14	—	—	2	2	3	2	—	4	1	—
South Western	25	—	—	1	4	4	3	1	7	5	—
Birmingham	23	—	—	—	2	5	6	3	3	4	—
Manchester	30	—	1	2	4	6	3	2	6	6	—
Liverpool	16	—	1	—	3	2	2	3	2	3	—
Wessex	12	—	—	—	3	—	2	1	5	—	1
ENGLAND	319	—	4	16	41	51	61	35	57	47	7
B. Scotland											
Northern	2	—	—	—	—	1	—	—	1	—	—
North Eastern	7	—	—	—	—	1	1	1	2	2	—
Eastern	6	—	—	1	1	1	1	1	1	—	—
South Eastern	9	—	—	—	1	1	3	—	4	—	—
Western	26	—	—	1	8	2	7	4	1	3	—
SCOTLAND	50	—	—	2	10	6	12	6	9	5	—
C. Wales											
WALES	15	—	—	2	2	2	1	1	6	—	1

TABLE 9

BUILDING SUPERVISORS—NUMBER IN POST AT 31 MARCH 1969
ANALYSIS BY TECHNICAL QUALIFICATION AND AGE

(1)	Total all Ages (2)	Age Groups: 24 and under (3)	25 to 29 (4)	30 to 34 (5)	35 to 39 (6)	40 to 44 (7)	45 to 49 (8)	50 to 54 (9)	55 to 59 (10)	60 to 64 (11)	65 and over (12)
A. England and Wales											
Number of Building Supervisors	240	—	4	18	21	21	41	42	50	41	2
Number holding Technical Qualifications	155	—	4	17	18	19	23	24	31	19	—
A.R.I.C.S.	9	—	—	—	—	—	1	—	5	3	—
H.N.C. (Building)	54	—	2	12	12	4	11	5	4	4	—
O.N.C. (Building)	73	—	2	4	2	12	8	18	16	11	—
Others	19	—	—	1	4	3	3	1	6	1	—
Number not holding Technical Qualifications	85	—	—	1	3	2	18	18	19	22	2
Number holding Hospital Engineers' Technical Qualifications	1	—	—	—	—	1	—	—	—	—	—
B. Scotland											
Number of Building Supervisors	47	—	1	3	3	3	2	6	18	11	—
Number holding Technical Qualifications	21	—	—	3	3	1	1	3	6	4	—
H.N.C. (Building)	8	—	—	2	2	1	—	—	3	—	—
O.N.C. (Building)	11	—	—	1	1	—	1	3	3	2	—
Others	2	—	—	—	—	—	—	—	—	2	—
Number not holding Technical Qualifications	26	—	1	—	—	2	1	3	12	7	—
Number holding Hospital Engineers' Technical Qualifications	1	—	—	—	—	—	—	—	—	1	—

TABLE 10

GROUP ENGINEERS—NUMBER IN POST AT 31 MARCH 1969
ANALYSIS BY TECHNICAL QUALIFICATION AND AGE

(1)	Total All Ages (2)	Age Groups: 24 and under (3)	25 to 29 (4)	30 to 34 (5)	35 to 39 (6)	40 to 44 (7)	45 to 49 (8)	50 to 54 (9)	55 to 59 (10)	60 to 64 (11)	65 and over (12)
A. England and Wales											
Number of Group Engineers	334	—	4	18	43	53	62	36	63	47	8
Number holding Technical Qualifications	307	—	4	18	42	52	58	34	57	37	5
Chartered Engineers	78	—	—	1	12	18	22	9	10	6	—
H.N.D. (Engineering)	2	—	—	—	—	1	—	1	—	—	—
H.N.C. (Engineering)	119	—	4	13	22	19	24	13	16	7	1
Others	108	—	—	4	8	14	12	11	31	24	4
Number not holding Technical Qualifications	27	—	—	—	1	1	4	2	6	10	3
Number holding Building Supervisors' Technical Qualifications	6	—	—	—	—	2	—	—	3	1	—
B. Scotland											
Number of Group Engineers	50	—	—	2	10	6	12	6	9	5	—
Number Holding Technical Qualifications	45	—	—	2	9	6	11	5	7	5	—
Chartered Engineers	11	—	—	—	3	3	2	2	—	1	—
H.N.D. (Engineering)	—	—	—	—	—	—	—	—	—	—	—
H.N.C. (Engineering)	12	—	—	2	3	2	4	—	1	—	—
Others	22	—	—	—	3	1	5	3	6	4	—
Number not holding Technical Qualifications	5	—	—	—	1	—	1	1	2	—	—
Number holding Building Supervisors' Technical Qualifications	—	—	—	—	—	—	—	—	—	—	—

APPENDIX 6

The General Objectives of Estate Management relating to Property Maintenance in the Private Sector

1. *The objectives of sound estate management in relation to property can be defined as follows:*

1.1. To maintain and improve the value of capital assets.

1.2. To ensure long-term, trouble-free investment in order to provide a continuous and satisfactory return on capital employed.

1.3. To maintain property in such a condition that it continues at all times to fulfil its function efficiently.

1.4. To carry out the above requirements effectively with the minimum expenditure necessary.

1.5. To plan expenditure so that future capital and revenue commitments can be assessed and an even flow of expenditure programmed over a period of years.

2. *In order to achieve these objectives consideration must be given to the following main areas:*

2.1. The proper definition of property maintenance status within an organisation and the management of such maintenance as a separate activity with an established policy.

2.2. The assessment of maintenance expenditure at the design stage of a building by the capitalisation of operating and maintenance costs using discounting techniques.

2.3. The creation and constant review of property portfolios in order to eliminate the unremunerative items by demolition, disposal or replacement. Major repair and renovation costs always being weighed against replacement costs.

2.4. The integration of maintenance management and related supervisory functions.

2.5. The establishment of uniform management practice and control throughout an organisation.

2.6. The exercise of strict budgetary control by professional and technical staff responsible for the execution of maintenance work at whatever level this occurs.

2.7. The formulation of comprehensive maintenance plans covering all properties and extending over a minimum period of 5 years.

2.8. The maintenance of records of all annual expenditure under different maintenance heads and their retention over as long a period as necessary for review and future reference.

2.9. The establishment of standard feed back systems between maintenance and design to report on performance of construction and materials employed.

APPENDIX 7

A suggested procedure for "Feed Back" and "Feed Forward" of Building Maintenance information between Hospital Management Committees and Regional Hospital Boards

1. The basic exchange of information would be from maintenance manager back to design unit, that is, from Group Building Officer to Regional Architect (feed back). Information on new construction should also flow from Regional Architect to Group Building Officer (feed forward).

2. The staff required to deal with these matters under the Regional Architect would be an Architect and a Building Surveyor, both probably of Principal Assistant grade, whose duty it would be to deal with "feed back" in addition to their normal role. There must be complete liaison between these two officers.

3. *The duties of the Principal Architect should include the following:*

3.1. Collecting physical details of poor performance and failures in components, finishes and construction in new hospitals up to 5 years old. Such information to be obtained from the H.M.C.s within the Region with the primary purpose of ensuring that past design mistakes are not repeated.

3.2. Collecting maintenance cost data from H.M.C.s in order to highlight excessive maintenance expenditure on components with particular reference to non-traditional construction and finishes. Again the purpose would be to avoid the further use of such items in new construction and to apprise the Principal Building Surveyor of these causes of extraordinary maintenance costs.

3.3. Obtaining as required current performance data on materials and construction from the Building Research Station, Fire Research Station, Technical Press, Departments, other R.H.B.s and any further organisations who publish the results of tests on components and structures.

3.4. Editing the collated reports from all sources in order to sift out the irrelevant and repetitive items. The Regional Architect should subsequently publish bi-annual directives to his staff and to all Group Building Officers, and advise all private practising architects, quantity surveyors and structural engineers employed by his Board.

3.5. Advising Consultants and Private Architects retained by R.H.B. regarding materials, fittings, finishes and forms of construction which are not acceptable within the hospital service.

3.6. Conducting regional seminars for the purpose of technical up-dating, dissemination of information and exchange of experience.

4. *The duties of the Principal Building Surveyor should include the following:*

4.1. Assisting in compiling building maintenance manuals for all new projects, as instructed by the Regional Architect and in conjunction with the job architect, as the case may be.

4.2. Collecting physical details and cost data on performance and failures of components, finishes and structures for buildings of all ages.

4.3. Establishing a maintenance frequency cycle for all components, from the information on performance and costs, and calculating replacement dates when further maintenance becomes uneconomical as described below.

4.4. Carrying out cost analyses from the data supplied in order to extract components for which maintenance costs are high in terms of repairs, renovation and depreciation. Establishing a "norm", by the use of discounted cash flow analysis, beyond which replacement of a component becomes more economic than repair. (On unplanned maintenance work it is quite possible for maintenance costs of some components to exceed replacement costs within a very short period of time).

4.5. Establishing deterioration rates and calculating the expected useful life of materials and forms of construction in order to arrive at the maintenance frequency cycle or to plan obsolescence for components which are not of indefinite life.

4.6. Illustrating in tabular form, from the cost and performance data supplied, the disproportionate increase in costs resulting from maintenance deferred beyond a certain period.

5. *The duties of the Group Building Officer should include the following:*

5.1. Collecting details of reported failures of components from Heads of Departments within the H.M.C. and carrying out a full biennial inspection of all construction five years old or less.

5.2. Collating these details with his own findings and submitting a bi-annual report to the Regional Architect incorporating any testing programme data, performances and failures in buildings and components erected during the last five years and the relevant maintenance cost data.

5.3. Providing the Regional Architect with an annual report giving physical details and cost data on undue deterioration, failures and latent defects in hospital buildings of all ages, where these are of special significance; and collecting this information during his annual inspection of all properties prior to compilation of the annual maintenance programme.

5.4. Assisting the Regional Architect and his staff in the compilation of maintenance manuals for new construction.

6. Reports and criticisms from all Heads of Departments should be collected by the Group Secretary and, after discussion with all concerned including the Group Building Officer, should be submitted to the R.H.B.

7. The Regional Architect should advise the Group Building Officer on immediate action to be taken on reported defects and failures, as well as on action which is to be taken at design stage to avoid repetition of faults and failures.

8. It is to be stressed that the above system will only work with the willing participation of all parties concerned and the operation of planned building maintenance systems throughout all H.M.C.s in the Region. The design staff, at R.H.B.s in particular, would have to treat the bi-annual publications from the Regional Architect as directives and not just as information sheets. The use of a computer would most probably be necessary at some stage in connection with cost analysis and the establishment of "norms".

9. In conclusion, "feed back" is not a one-way process and it is just as important for the Group Building Officer to receive full instructions from the Regional Architect concerning the maintenance of new buildings (feed forward) as it is for him to feed back information on performance and failures from H.M.C. to R.H.B.

APPENDIX 8

Bibliography

1.1. *Department of Health and Social Security and Scottish Home and Health Department—Publications*

1.1.1. The Hospital Surveys—(H.M.S.O. 1945—Out of Print).

1.1.2. Scottish Hospitals Survey (H.M.S.O. (Edinburgh) 1945/46).

1.1.3. Report of the Committee of Enquiry into the cost of the National Health Service (CMD 9663 1956 Guillebaud).

1.1.4. The Cost of the National Health Service in England and Wales—Abel-Smith and Titmuss (1956).

1.1.5. Report of the Study Group on the Work, Grading, Training and Qualifications of Hospital Engineers (Tyler Report H.M.S.O. 1962).

1.1.6. The Hospital Plan (CMND 1604—1962).

1.1.7. The Hospital Plan for Scotland (C.M.N.D. 1602—1962).

1.1.8. Hospital Technical Memorandum 12—Maintenance of Buildings, Plant and Equipment (H.M.S.O. 1964).

1.1.9. Hospital Technical Memorandum 13—Planned Preventive Maintenance: A System for Engineering Plant and Services (H.M.S.O. 1965).

1.1.10. Hospital Building Programme (CMND 3000—1966).

1.1.11. Review of the Hospital Plan for Scotland (CMND 2877—1966).

1.1.12. National Health Service: The Future Structure of the N.H.S. (Green Paper) (H.M.S.O. 1970).

1.1.13. Administrative Reorganisation of Scottish Health Services (Green Paper) (H.M.S.O. 1968).

1.1.14. Short Version of the Report of the Royal Commission on Local Government in England and Wales (CMND 4039—1969—Redcliffe—Maud).

1.1.15. Report of the Royal Commission on Local Government in Scotland (CMND 4150—1969—Wheatley).

1.1.16. National Health Service (Functions of Regional Hospital Boards, etc.) Regulations 1969 (H.M.S.O.). SI 297.

1.1.17. Hospital Building in Great Britain—Estimates Committee (Sub-Committee B) —Part of Minutes of Evidence 8 12 69 (H.M.S.O. 1969).

1.1.18. *Current Circulars and Hospital Memoranda* (Separate covering Memoranda issued in Scotland)

Building Supervisors and Assistant Building Supervisors	P.T.B. Circular 215	H.M.(67)36
	P.T.B. Circular 229	H.M.(68)68
	P.T.B. Circular 239	H.M.(69)31

Hospital Engineers (All Grades)	P.T.B. Circular 179	H.M.(65)8
	P.T.B. Circular 191	H.M.(65)49
	P.T.B. Circular 195	H.M.(65)89
	P.T.B. Circular 223	H.M.(68)14
	P.T.B. Circular 239	H.M.(69)31
	Advance Letter (P.T.B.) 12/69 to be issued as P.T.B. Circular 248	
Works Assistants	P.T.B. Circular 207	H.M.(66)42
	P.T.B. Circular 222	H.M.(68)15
R.H.B. Works Organisations Staff	P.T.B. Circular 225	H.M.(68)24
	P.T.B. Circular 232	H.M.(68)94
	P.T.B. Circular 236	H.M.(69)26
	Advance Letter (P.T.B.) 7/69 to be issued as P.T.B. Circular 245	
	Advance Letter (P.T.B.) 1/70 to be issued as P.T.B. Circular 250	
Post-Entry Training — R.H.B. Works Organisations Staff and certain other Professional & Technical Staff		H.M.(63)36
Special Leave & Expenses		H.M.(54)55
Hospital Engineers Training		H.M.(65)15
Local Authority Engineers	P.T.B. Circular 202	P.T.B.(LA)83
	P.T.B. Circular 224	L.A.(68)93
Administration of Hospital Authorities		H.M.(68)28
Closure and Change of Use of Hospital Buildings		H.M.(68)31
Relationship between the Secretary of State, Regional Hospital Boards and Hospital Management Committees		H.M.(69)59

1.2. *M.P.B.W. and other Government Department Publications in Print*

1.2.1. The Interim Report of the Committee on Building Maintenance, Directorate of Research and Information, M.P.B.W. (R. & D. Bulletin).

1.2.2. "Studies of Maintenance Costs at the Building Research Station" by W. J. Reiners, B.Sc. The Chartered Surveyor, March 1962.

1.2.3. "Administration and Costs of Hospital Maintenance" by P. A. Stone, M.Sc. (Econ.) Ph.D.

1.2.4. "The Maintenance of Buildings", Conference Report, London, March 1965. Directorate of Research and Information, M.P.B.W.

1.2.5. "Building Maintenance", Conference Papers, Manchester and Edinburgh, 1966. Directorate of Research and Information, M.P.B.W.

1.2.6. "Profitable Building Maintenance", Conference Papers, London, 1967. Directorate of Research and Information, M.P.B.W.

1.2.7. "Technology of Building Maintenance", Conference Report, Bath University, 1968. Directorate of Research and Information, M.P.B.W.

1.2.8. "An Introduction to Incentive Schemes in Building Maintenance", Directorate of Research and Information, M.P.B.W.

1.2.9. "Contractual Policies and Techniques for Maintenance Works in M.P.B.W.", Directorate of Research and Information, M.P.B.W.

1.2.10. "Glossary of Training Terms" (Ministry of Labour—H.M.S.O. 1967).

1.3. *M.P.B.W. Publications in Preparation.*
The following two R. & D. Bulletins are also in preparation by the Directorate of Research and Information, M.P.B.W.:

1.3.1. "Maintenance Manuals".

1.3.2. "A Review of Good Practice in Property Management".

1.4. *Other Publications.*

1.4.1. Glossary of general terms used in Maintenance Organisations—(British Standards Institute—B.S.3811—1964).

1.4.2. The Organisation of Demand—Report of a Joint Working Party of the Economic Development Committees for Building and Civil Engineering (National Economic Development Office—1969).

1.4.3. Notes for guidance—Supervisory Training—Construction Industry Training Board.

1.4.4. "The Management and Maintenance of Industrial and Commercial Buildings", The Industrial Society.

1.4.5. Organising Maintenance—British Institute of Management—1963.

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