RESTORATION AND RENEWAL OF THE PALACE OF WESTMINSTER:

PRE-FEASIBILITY STUDY AND PRELIMINARY STRATEGIC BUSINESS CASE

OCTOBER 2012

Contents

About this study

This report is the output of the Study Group appointed by the Management Boards of both Houses in January 2012 to:

- review previous documentation relating to the modernisation of the building services of the Palace of Westminster; and
- describe the preliminary strategic business case for a general modernisation of the Palace

In papers approved by the House of Commons Commission and the House of Lords House Committee the Group's task was specified in the following terms:

> "**Document review** A great deal of directly relevant documentation already exists, including a Building Services Infrastructure Vision produced by the Principal Engineer and various engineering reports and study reports, dating back over a number of years. The study team will collate all of this paperwork in order to derive maximum benefit from previous spending, work and thinking; and to ensure that existing work is not replicated.
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> **Pre-Feasibility Study** The output of the study should be a Preliminary Business Case[1], to establish the Modernisation Programme under appropriate governance arrangements and secure funding for the feasibility studies needed to develop an Outline Business Case. The study will address Parliament's business needs as well as the material condition of the Palace. An important early task for the study team will be to gather lessons from the experiences of Parliaments in other countries that have recently faced similar challenges. (...).
>
> At this stage, the full range of possibilities should be included: from either a new build Parliament or a completely modernised Palace at one end of the spectrum, to a programme of managed replacement and condition-based maintenance at the other. The study will therefore consider Full Decant, Area Decant (perhaps one House at a time) or Minor Decant; and Major, Intermediate or Minimum levels of modernisation."

The Group consisted of
- Dr Richard Ware (Study Director)
- Mel Barlex (Parliamentary Director of Estates)
- Mary Ollard (Lords Representative)
- Tim Ainger[2] (Industry input)

The Group was assisted by 4 Members, two from each House:
- Lord Brabazon of Tara
- Mr Thomas Docherty MP
- Lord Faulkner of Worcester
- Sir Alan Haselhurst MP

The Group is grateful to these Members who provided guidance and advice on the presentation of the issues. They are not responsible for the report's contents.

The Group was also assisted greatly by the staff of the Parliamentary Estates Directorate (PED) and by many other staff in both Houses.

The Group held two days of confidential discussion with professional experts from the construction industry and organisations concerned with historic buildings. Participants received no fee nor any commitment to future involvement. The Group received valuable insights from these groups which are summarised in Annex 4.

While the study was being undertaken a contract was let by PED for a new survey by consultant engineers to fill gaps left by previous surveys and create a comprehensive record base of all the building services in the Palace, their current condition and efficiency. The new survey and its conclusions will be available early in 2013 to form part of the proposed full options evaluation.

1 Following Treasury Green Book methodology

2 A Partner of Gardiner & Theobald LLP; non executive member of the Parliamentary Estate Board and the Medium Term M&E Programme Board

1. Executive summary

1. The study has been undertaken at the request of the House of Commons Commission and the House Committee of the House of Lords. It is concerned with the strategic case for carrying out a fundamental renovation of the Palace of Westminster and with making an early assessment of the feasibility of such an undertaking. The Study Group was also asked to review existing documentation on the issues and to gather lessons from the experiences of parliaments in other countries that have recently faced similar challenges.

2. The Palace of Westminster was designed in the 1830s to be the purpose-built home of the British Parliament. Completed in the 1860s, it quickly became, and has remained, one of the world's most famous and recognisable buildings, the hub of one of the busiest national parliaments in the world and an international symbol of parliamentary democracy. As the practice of democracy in the UK has evolved, the Palace has been constantly adapted. Serious war-time damage was repaired as a national priority after 1945 and the opportunity was taken to create some new facilities, consistent with the original design. From the 1960s onwards the requirement for individual Members of Parliament to have offices and the expansion of other parliamentary services led both Houses to acquire additional buildings and the Palace became the core of a much larger Parliamentary Estate. In 1992 responsibility for maintaining the Palace on behalf of the nation transferred from the Government to Parliament itself. **[History and context]**

3. Since 1992 further additions and adaptations have been made to the Palace. Its building services (heating, cooling, water, sewage, electricity, cabling for specialised systems) have been kept functioning, albeit with increasing difficulty and growing risks. However, there has been no general renovation of the building and its services since the partial rebuilding of 1945-50 and some of the services are older still. The original basements and vertical shafts are now crammed with pipes and cables making further work difficult and expensive. Asbestos is present throughout the building and, although it remains safe if treated with great care in compliance with safety regulations, it complicates and prolongs any intervention. Much of the work undertaken over the past half-century is undocumented and since many areas are inaccessible, the state of dilapidation and therefore of risk is largely uncharted. The condition of the building impedes modern fire safety approaches and it has proved impossible so far to implement effective fire compartmentation. The original roofs are no longer watertight and there is extensive evidence of penetrating damp in many parts of the Palace as well as damage from interior leaks and floods.

4. While the precise cost of rectifying these deficiencies is still unknown, investigations conducted in recent years indicate that it is already in excess of 40% of the insurance reinstatement value of the Palace (approximately £1.8bn). If the Palace were not a listed building of the highest heritage value, its owners would probably be advised to demolish and rebuild. **[Condition of the Palace in 2012]**

5. First attempts to survey and tackle the state of the basement plant rooms were made in 2000. Advice was taken from successive consultants on what could and should be done, but those responsible for these matters in the Parliamentary Estates and Works Services directorates struggled to present a convincing business case to the Parliamentary authorities. There had been persistent underinvestment in the fabric and services of the Palace for many years, and the various problems, all becoming acute, were tackled in isolation from each other. The management arrangements were not strong enough to meet the challenge and the failure to tackle the renewal of building services, alongside other major renovation programmes, convinced the Tebbit Review in 2007 that the splitting of Parliamentary Works into two separate directorates in 2002 had been a mistake.

6. During 2007-09 a programme board of senior officials from both Houses initiated a plan to deal with the basements and risers over a ten-year period without disrupting the work of Parliament, but the management boards in both Houses were unable to give it their backing. The risks inherent in the approach were too high and the plan took no account of the need to deal also with secondary services throughout the Palace. Instead the two management boards advised the Parliamentary authorities in 2009 to agree to a medium-term programme of risk reduction in order to buy time to plan the fuller modernisation that was now essential. Important lessons can be learned and applied from the abortive attempts to modernise the building services between 2000 and 2009. **[Annex 1 Document Review]**

7. Parliament is, above all, a working institution which has to provide decent accommodation for all those who work there and access for those who visit as citizens, including young people on educational visits. The Palace is also, however, an international visitor attraction and its unique historical qualities must be protected for the enjoyment of future generations. The fundamental requirement of all stakeholders is that the Palace should remain safe from fire (which destroyed its predecessor), water damage, security threats, decay and dilapidation. This is the overwhelming driver for modernisation. Other potential benefits, such as opportunities to improve security, access, circulation and wireless access to information, could be by-products of essential renovation. **[Strategic case for change; Annex 3 Experience of other Parliaments]**

8. The current poor condition of the Palace and the backlog of maintenance and renewal that has built up over a long period of time, are due in part to the *great difficulty of carrying out fundamental renovation work on the inside of the Palace while Parliament remains in continuous occupation*. A previous study of this issue in 2009 favoured decanting half of Parliament at a time. But this did not take account of the great practical problems and near insurmountable security risks of dividing the Palace into a building site in one half and a functioning Parliament in the other. It also assumed that all temporary accommodation would have to be found outside the Parliamentary Estate at commercial rents, and on a like for like basis.

9. An alternative approach, recognising the great advantages of modernising the Palace in a single well-planned exercise as quickly as realistically possible, would be to emulate the plans of the Canadian Parliament (faced with a similar dilemma) and construct a temporary Chamber building for at least one of the Chambers within the existing Parliamentary Estate, to make use of existing conference facilities in the vicinity for the other Chamber and otherwise limit the need for additional commercially leased buildings to the absolute minimum. Early feasibility work has demonstrated that decant strategies based on these ideas are realistic for both Houses. **[Decant strategy and issues; Annex 3 Experience of other Parliaments; Annex 4 Consultations with external professionals]**

10. The economic case for four options has been reviewed. The absence of firm data on many relevant issues means that all figures presented are merely orders of magnitude, subject to further analysis. Until there is an opportunity to carry out full intrusive investigation, the full costs of modernising the Palace can only be presented on worst, most likely and best case scenarios.

11. The first option is to continue indefinitely with the holding position that was adopted in 2009 in order to buy time. This involves a rolling programme of partial interventions to reduce specific risks by means of projects that have only localised impacts on the Palace and minimise disruption to Parliament as a whole. Given the requirement to address essential health and safety requirements, this is as close as is possible to a "do nothing" option. Antiquated services and fabric would eventually be replaced, but only over a very long period (possibly 50 years+ at the current rate of progress). During this time the risks to the fabric of the building and to the operation of Parliament within it would continue to grow. Moreover, this option is expensive because the rolling programme would rely heavily on extensive use of temporary services. **[Economic case: Option 1]**

12. As a second option the case has been reviewed for moving Parliament out of the Palace of Westminster to a new purpose-built building on a site close enough to retain some of the advantages of proximity to Whitehall. Few potential sites are likely to be available and the cost of a new building would be substantial, besides which it seems likely that renovation and maintenance of the historic Palace would remain in some way or another a charge on the Treasury. On the other hand, a new building could be designed according to Members' current requirements to reflect the UK constitution in the twenty-first century, rather than the early nineteenth century, and the running costs of such a building could be much lower than those of the Palace. **[Economic case: Option 2; Annex 3 Experience of other Parliaments]**

13. A third option involves returning to the pre-2009 idea of modernising the Palace to a new over-all blueprint over an extended period. This would involve much disruption over a long period, but no period of complete closure. The pre-2009 plan was to deal with mechanical and electrical services over a ten-year period, taking advantage of non-sitting periods. It

did not provide for essential fire safety work, nor for replacement of roofs, nor for secondary services. With these elements included, full modernisation by this route would have a very long duration (possibly 15-20 years) and during this time the risks to the fabric of the building and to the operation of Parliament would continue to grow. As with Option 1, there would be heavy reliance on temporary services. There would be no benefits of scale, and the project costs would remain high over a long period. **[Economic case: Option 3]**

14. The fourth option would be to plan and implement a staged comprehensive modernisation with full decant when essential. In the early years this option would have a higher financial cost profile than the others because of the need to fund temporary accommodation but, depending on some variables and assumptions to be confirmed by further investigation, it might have the lowest long-term cost. This would be owing to the benefits, which are inherently of greater value and would be realised earlier than with Options 1 and 3. These would include, crucially, an earlier mitigation of fire and other risks. Legacy benefits would include significantly lower maintenance costs and reduced carbon footprint, the possibility of permanent design and conservation improvements, the removal of asbestos, prolongation of the interval before the next round of disruptive refurbishment, stimulus to specialist crafts with benefit to other historic buildings in the future, and creation of an "exemplar" effect for sustainable conservation in the UK. **[Economic case: Option 4]**

15. A key requirement for a full renovation and modernisation would be the creation of a single client authority to oversee it and to be politically accountable for decisions, costs and risks. A temporary authority has been suggested, with some of the attributes of the Olympic Delivery Authority. This would be likely to require legislation. The proposed authority would take responsibility for the contracts with highly capable commercial partners that would be needed to carry out the work successfully. Strategies would also be required to reduce, manage and allocate risks. **[Commercial case]**

16. Modernisation of the Palace of Westminster would require a substantial capital investment. Consideration would need to be given not only to major capital investment projects, but also to costs across the whole life cycle. After a period of renovation Parliament could expect to enjoy a period of substantially lower routine maintenance costs. Energy costs might also be lower, though this would depend on future trends in energy prices. Other cashable and non-cashable benefits would also be enjoyed during this period.

17. There may be ways of reducing the cost of Option 4 by economising on the costs of temporary accommodation. Whatever the cost, there will be a strong interest in value for money. **[Financial case]**

18. The Parliamentary authorities will wish to see a full outline options appraisal and business case for modernisation before deciding in principle whether to proceed. This will need to include further feasibility studies and will take at least six months to prepare. This activity will require more formal programme management than has been needed for the pre-feasibility study, not least because it will require a larger team and will begin to incur significant costs. The programme will require a Senior Responsible Officer (SRO) who should be a very senior accountable official. During this phase the SRO and programme team will be accountable to the authorities of the two Houses separately.

19. If the recommendation to create a single client authority to oversee modernisation is accepted, then the governance would change once implementation begins. Activity focused on designing and implementing the modernisation of the Palace would move to the responsibility of the new authority, once established. While the client authority would be likely to delegate some powers to its chief executive, ultimate responsibility would sit with a main board representing both Houses and exercising political judgement in a non-partisan way on their behalf. It will be important also to ensure that all of those involved in the political governance of modernisation should have suitable training and advice. This was a key lesson from the experience of building the Scottish Parliament. **[Commercial case, Management case and Annex 3: Experience of other Parliaments]**

20. The modernisation of the Palace of Westminster will be a matter of direct concern to all who work in the Palace. Effective communication with Members, their staff and staff of both Houses, will be necessary at every stage and a strong understanding will

need to be developed of the human impacts of the programme.

21. Modernisation will also be of great interest, and potentially concern, to the public and the media. Many will be concerned for the future of the building, which is admired around the world and is fundamental to the image of London and the UK. There will also be concern about the cost of modernisation and a desire to see the process well managed.

22. A draft communication strategy and plan is being developed by the communications teams of both Houses and will be submitted in parallel to this study. **[Management case; Annex 3 Experience of other Parliaments]**

2. History and context

The Palace of Westminster: a purpose-built Victorian home for Parliament

1. The present "new" Palace of Westminster was built as the home of the British Parliament following the fire of 1834, which had destroyed most of the agglomeration of buildings now referred to as "the old Palace of Westminster". The new Palace was conceived as a purpose-built Parliament House, reflecting the constitutional position and nature of Parliament in the early Victorian era. The buildings that had survived the fire - Westminster Hall, parts of St Stephen's Chapel (including the undercroft chapel) and fragments of St Stephen's Cloister - were incorporated into the design. The result has been described as "the most important Victorian building in the UK".[1]

2. Charles Barry[2] (1795-1860) and Augustus Welby Pugin (1812-1852) are generally acknowledged as the co-creators of the new Palace. Barry had been appointed architect in 1836 following a public competition. He was succeeded in 1860 by his son, Edward Middleton Barry, who coordinated further work on the building until architectural responsibility was reclaimed by the government Office of Works in 1870. Barry senior relied heavily on the skill and creativity of Pugin, the genius of the revived Gothic Perpendicular style in which the Palace was built and decorated.[3]

3. The creation of the Palace spanned more than 30 years. Preparation of the site began in 1837 and a foundation stone was laid in 1840. The House of Lords began to sit in its new Chamber in 1847, the Commons in 1852. The rest of the new building was largely finished by 1870, although Barry's plan to enclose the north and west edges of New Palace Yard with extensions of the Palace had been abandoned in 1864. Instead a colonnade was constructed by Edward Barry along the east edge of New Palace Yard and the boundary was finished with a secure decorative railing and carriage gates.

4. The interior layout of the Palace reflected Barry's understanding of the "dignified" aspects of Parliament as expressed symbolically through the ceremony of State Opening, but this was combined with a strong practical grasp of the more mundane requirements of the two Houses as a working Parliament. There were five horizontal layers, with mezzanine floors in some areas. The "principal" floor, like the *piano nobile* of an Italian-style palace, was raised above ground level and contained the main ceremonial and formal working areas, linked by fine corridors and lobbies with high ceilings. The floor above provided an additional formal layer dedicated to Parliament's committees. Above this again were some additional committee rooms, together with unoccupied attics and towers, some of them designed to disguise service vents and water tanks. Under the principal floor, the ground floor was mainly allocated to service functions, including kitchens, store rooms and "servants" quarters. Below ground level there was a vast area of basement cellars and corridors. Significant parts of the Palace were set aside as residential accommodation for 17 office-holders. Many of the residences occupied all five levels from basement to attic and taken together they originally had almost 300 rooms.

5. The New Palace was in many respects a modern and innovative building at the time of its construction, despite its deliberately archaic styling. Unfortunately the first attempts to address issues of heating and ventilation in new ways were almost entirely unsuccessful, partly because responsibility for the systems was divided between Barry and ventilation expert Dr David Reid, but mainly because the science of ventilating large public buildings was still in its infancy. The enduring legacy of that period is the very extensive labyrinth of vertical and horizontal air shafts and tunnels incorporated into the fabric of the building. New primary services for heating, cooling and ventilation were inserted into these spaces in the 1860s, renewed in the early twentieth century and again in the 1940s. Also, by 1956 more than 1,000 open fires had been replaced by around 3,000 radiators.

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1 *Palace of Westminster Conservation Plan*, second edition, October 2007, Vol 1, p4.

2 Knighted in 1852

3 The Gothic Perpendicular is characterised by soaring vaults and arches, with strong branching vertical lines and tracery ornamentation somewhat reminiscent of trees. It was considered authentically English and consistent with the adjacent Henry VII Chapel of Westminster Abbey and with the hammerbeam roof of Westminster Hall. Versions of Gothic Perpendicular originally developed between the later fourteenth century and the mid sixteenth century, so its use in the nineteenth century represented the deliberate revival of an archaic "picturesque" style.

6. The extensive basements, numerous riser shafts and under-floor compartments were initially to provide ample space for new systems to be installed. This included gas for lighting and other purposes, electric wiring, used initially for the division bells, and then more widely for lighting from the 1880s onwards. Twentieth-century additions included cabling for telephones and computer systems. By the late twentieth century these spaces had become extremely congested.

The Palace as an evolving Parliamentary Building

7. The Palace has evolved continually as a parliamentary building. In the words of MH Port, "Charles Barry's masterpiece has proved enormously adaptable".[4] Sir Robert Cooke described it as "changeless, yet subtly changing".[5]

8. Some features seemed out of date almost immediately, which was perhaps inevitable given the elapse of time between the design of the Palace (1835-6) and its completion (1860s). A key complaint in the 1860s, a time of heightened parliamentary activity, was the shortage of dining facilities for Members. Port notes that the Commons dining room was originally designed in 1835 to seat 30 people, but "thirty years later, there were many MPs who did not have their own establishments in London, and who did not, apparently, dine at the clubs which in some measure supplied that lack".[6] As a result a larger Commons dining room was created out of a conference room in 1871. This was followed by the creation of the Churchill (formerly Harcourt) Room in 1907 and the Terrace Cafeteria (formerly Stranger's Cafeteria) in 1915. The Peers Dining Room was greatly enlarged in 1974 and the re-designed River Restaurant opened in 2006.

9. Barry had not been required to provide individual Members of either House with private rooms, unless they were parliamentary office-holders. The two libraries and the smoking rooms were thought to provide ample and comfortable space for reading and for writing letters. The group most obviously in need of offices were ministers, who were required to attend on Parliament, but also had to transact official business that could not readily be done in communal areas. During the later 19th century several of the residences within the Palace that had originally been allocated to office-holders were divided up and converted into offices – mainly for the benefit of ministers. After the Second World War the reconstruction of the Commons Chamber block would provide an opportunity to create an entirely new lower floor dedicated to ministers' accommodation and a ministerial conference room.

10. Port also comments on the absence in the original plans of any provision for Members of either House to have their own "private secretaries" or "clerks".[7] The practice of employing typists had nonetheless become widespread during the mid twentieth century and some small areas were allocated to their accommodation – at first off Westminster Hall and later on a second additional floor inserted by Sir Giles Gilbert Scott, underneath the Ministers' Floor and two layers below the Commons chamber. This was the first phase of a new requirement for Members to employ personal staff which grew rapidly in the latter part of the twentieth century and which could be satisfied for the Commons only by creating the new estate north of Bridge Street.

The decision to rebuild after 1945

11. The decision to rebuild the Commons Chamber after its destruction in 1941 was not taken lightly, given the economic austerity of the period and competing demands for homes and factories to be rebuilt. After some heart-searching the preferred choice was to rebuild, albeit in a more modest decorative style, and to take such limited opportunities as were available to make improvements in the immediate vicinity of the Chamber.

12. The Commons Chamber had been completely destroyed by bombs and fire on the night of 10 May 1941, a fact reported by the Prime Minister to the House of Commons assembled in Church House three days later. The Lords Chamber had suffered less serious damage, but also removed to Church House for a period. The immediate preoccupation was to ensure "that the work of our Parliamentary institutions will not be interrupted by enemy action".[8]

4 MH Port, *The Houses of Parliament* 1976, 193
5 Sir Robert Cooke, *The Palace of Westminster*, 1987, 13
6 Port, 185
7 Port, 193
8 HC Deb 13 May 1941 c 1086

The Commons continued to sit, sometimes in the House of Lords Chamber and sometimes in the Church House "annex" for the remainder of the war.[9] The Lords moved temporarily to the Robing Room to make way for the Commons.

13. On 28 October 1943 the Prime Minister moved "that a Select Committee be appointed to consider and report upon plans for the rebuilding of the House of Commons and upon such alterations as may be considered desirable while preserving all its essential features." Sir Winston Churchill argued forcefully for building a new Chamber in the same position, oblong in shape and intimate in scale like the previous one. He also made the case for urgency: "I must tell you, Mr. Speaker, that it would be a real danger if at the end of the war we find ourselves separated by a long period from the possibility of obtaining a restored and suitable House of Commons Chamber. We are building warships that will not be finished for many years ahead, and various works of construction are going forward for war purposes. But I am bound to say that I rank the House of Commons—the most powerful Assembly in the whole world—at least as important as a fortification or a battleship, even in time of war. Politics may be very fierce and violent in the after-war days. (...) We must have a good, well-tried and convenient place in which to do our work. The House owes it to itself, it owes it to the nation, to make sure that there is no gap, no awkward, injurious hiatus in the continuity of our Parliamentary life."[10]

14. While the majority accepted Sir Winston Churchill's proposal, there were also voices in the House pointing out that the Commons was outgrowing the Palace of Westminster. Members expressed almost evenly divided opinions on their sentimental attachment to the old Chamber and the architectural style of the Palace. James Maxton MP proposed building elsewhere: "I should like to see premises built on a fine site, in good English parkland, as near to London as the kind of land can be got—some 20 miles out, I should say, is not an impossible distance—and there I would erect the finest building that British architecture can devise."[11] Major Petherick wished to see private offices for Members: "I think there is one amenity which the House of Commons has very gravely lacked in the past and that is private rooms in which Members could work and keep their papers. (...) In addition, it would be a very great advantage if it were possible for Members to receive guests in a private room. Often constituents come with troubles and wish to express them privately."[12] The call for better accommodation for Members was echoed by seven other Members in the course of the debate.[13]

15. The select committee report was debated on 25 January 1945. Again the outcome was heavily influenced by the participation in the debate of the Prime Minister, Sir Winston Churchill, who welcomed the Committee's endorsement of his preference for an "intimate" chamber, made the case again for urgency in the rebuilding and asked for the damaged archway leading into the Chamber to be preserved as a reminder of what had occurred in 1941. The decision to rebuild was made by 121 votes to 21.

16. Similar points about the lack of amenities for Members were made as in the 1943 debate. For example, Sir John Wardlaw-Milne MP compared facilities unfavourably with Canada, where "Practically every Member of the Ottawa Parliament has his own room, or shares a room with another Member, in which there is ample facility for Members to meet and deal with correspondence and interview their constituents."[14] Major Peto pleaded: "I am only a soldier, but I believe that in no business, however small, and certainly not in my constituency, would the board of directors, or the managing director, not have an office in which he could install a typewriter, a telephone and his files so that he could do his job properly."[15]

9 Church House had already been prepared for this purpose in November 1940 and both Chambers had sat there occasionally during the winter of 1940-41 without any public announcement, the Commons in the Hoare Memorial Hall and the Lords in the Hall of Convocation. State Opening had been held in Church House on 21 November 1940. From J Tanfield, *In Parliament 1939-50: The effect of the war on the Palace of Westminster* (1991), 1-5, 22, 31.

10 HC Deb 28 October 1943 vol 393 c408

11 c 412

12 c 422

13 Valentine McEntee , c 428, Rhys Davies c 434, Col Henry Guest c 435-6, George Buchanan c 443-4, John Wilmot c449, Earl Winterton c457, Sir Percy Harris c 459.

14 HC Deb 25 January 1945 c1010

15 The same, c1022

The adaptability of the Palace of Westminster from 1870 onwards

"Charles Barry's masterpiece has proved enormously adaptable".[16]

1871	Principal floor Conference Room converted to Members' Dining Room
1883-4	First telephones and electric lighting introduced
1889	Westminster Hall annex completed
1893	First of 28 lifts installed
1900-2	Clerk of the House residence converted to ministers' offices
1907	Additional dining room (now Churchill Room) created from housekeepers' offices
1915	Terrace cafeteria created from offices
1945-50	New Commons Chamber block created with offices above and below
1960	Removal of four old floors in Victoria Tower, and their replacement by seven new ones
1963	Creation of Cholmondeley Room from former library stores
1964	New office accommodation created on Upper Committee Corridor
1966	New office accommodation created on South Bridge and inner courts
1967	Star Chamber Court offices added
1972	Raising of the Terrace Wall for flood defence
1973	Peers' Dining Room extended by converting other rooms
1974	New office accommodation created in Lords' courtyards and above Commons Members' Tea Room
1974	Completion of underground car park under New Palace Yard
1977	Restructuring of Westminster Hall annex to create Jubilee Room
1985	Chancellor's Court "glass box" added as pass office, later used by security staff
1991	Conversion of former SAA residence to offices
1995	Conversion of former Black Rod apartment to offices
1996	Attlee Room created from former kitchens and mess room
2001	Palace colonnade linked by escalators to Portcullis House
2002	Visitors' (Jubilee) Cafeteria opened in Westminster Hall annexe
2004	Security screen introduced into Commons Chamber
2006	House of Lords River Restaurant opened
2008	Visitor Reception Building opened on Cromwell Green
2008	Introduction of automatic access control on selected internal and external doors

16 MH Port, 193. Extensions to dining areas have been included, but periodic re-fashioning of kitchens and dining areas has been omitted.

17. In the event the chosen architect, Sir Giles Gilbert Scott, was able to provide some additional space without making the new Chamber block tower over Barry's Palace. Additional accommodation was provided above and to the north of the Chamber for the Clerks and Hansard reporters directly supporting the work of the House; the public gallery was enlarged and facilities for journalists improved; and two new floors were inserted below the Chamber, one for Ministers' offices and the other for working rooms for Members. The opportunity was also taken to install a new heating and ventilation system with plant rooms above and below the Chamber and riser shafts built into the walls. The site was cleared as soon as the war ended and the work was completed in 1950.

The development and maintenance of the wider Parliamentary Estate

18. By the 1950s and 1960s the role of Members of the House of Commons had changed so much since the nineteenth century that the requirement for Members to have office accommodation had become overwhelming. Similar pressures were to be felt somewhat later by the House of Lords. An effort was made in 1964-66 to create more offices in the Palace by converting roof-space on the Upper Committee Corridor, but it was clearly impossible to provide sufficient private offices in the Palace for all Members of both Houses.

19. The only solution was for Parliament to burst out of the Palace into neighbouring buildings. For the Commons this turned into a long campaign through the 1960s and 1970s, with debates over the architectural relationship between the Palace and any new outbuildings to the north and also over cost. This eventually led to the acquisition of the Norman Shaw buildings, the Parliament Street frontage and other buildings that could be re-developed along Bridge Street.[17] Finally, it led to full-scale redevelopment of the area north of Bridge Street in two phases, the second of which involved the construction of Portcullis House, opened in 2001. In the case of the House of Lords it led to the acquisition of 6-7 Old Palace Yard (1994), the leasing of a part of Millbank House (2000), the acquisition of Fielden House (2001) and the eventual acquisition of the whole of the Millbank "Island Site" (2005).[18]

20. The Palace itself also continued to evolve to meet new requirements. A chronology of these is provided on page 12. Perhaps the biggest change of all is that, with the acquisition, construction or conversion of additional buildings nearby, the Palace of Westminster has ceased to be a self-contained Parliament House as originally conceived and has become instead the centrepiece of a much larger Parliamentary Estate.

21. Another major change has been the renewed interest in Victorian architecture since the 1960s and the formal acknowledgement of the heritage value of the Palace of Westminster. The Palace was formally listed as a Grade I building (denoting exceptional interest) in 1970[19] and became part of the Westminster World Heritage Site in 1987.

22. A building on the scale of the Palace was bound to require constant maintenance, a need exacerbated by the "pernicious London atmosphere"[20] which continuously attacked the stone work until the Clean Air Act of 1956. Major projects to renew and conserve the stonework were undertaken in the 1930s and again in the 1980s, concluding in 1994. There was also non-accidental damage, such as that caused by terrorist bombs in 1885 and 1974. The Victoria Tower underwent major reconstruction 1958-61. The boiler house and boilers under Black Rod's Garden (originally built in 1951) were replaced during 2002-04. The condition in which the Palace is left today and the extent to which it may be considered fit for its current purpose are reviewed in section 3.

17 Including St Stephen's Club, which had been bought by the Government in 1960 with a view to future Parliamentary requirements north of Bridge Street.

18 HL Deb: 10 July 2000 vol 615 cc8-9WA; 29 March 2001 c 437; 21 January 2002 c1334; 22 March 2005 WS17. Although the House of Lords acquired the whole of the Millbank Island Site in 2005 and Millbank House reopened after refurbishment in 2011, a portion of the building at the rear is occupied by a third party on a lease which expires in 2015.

19 The current legislation is the Planning (Listed Buildings and Conservation Areas) Act 1990

20 *PP* 1861 (504) XXXV Report of the Committee on the decay of the Stone of the New Palace at Westminster, quoted in Port, p 169

Government responsibility for the Palace of Westminster 1870-1992

23. From 1870 to 1992 the government Office of Works and its successor organisations were responsible for the upkeep of the Palace of Westminster. The same arrangement applied to the other Royal Palaces and to the Government estate and it was rarely questioned until the 1980s. The split responsibility for representing Parliament's interest in the Palace and for allocating space was generally seen as a greater irritant, involving as it did the Speaker and Leader of the House of Commons, the Lord Chancellor, the Lord Great Chamberlain and the Serjeant at Arms.[21]

24. The issue of control over the use and occupation of the Palace was resolved in 1965 when the Prime Minister announced that the Queen had agreed that the use of the Palace and its precincts should be permanently enjoyed by Parliament, with control vested in The Speaker for the Commons and the Lord Chancellor for the Lords. The Lord Great Chamberlain, representing the monarch, was also recognised as having a continued interest in Westminster Hall, the Crypt Chapel and the Robing Room.[22] At this stage responsibility for maintaining the fabric of the Palace remained with the Minister of Public Building and Works.

25. When it came to extending the House of Commons into new buildings north of Bridge Street in the 1960s and 1970s the frustration with the management arrangements began to grow.[23] Eventually, after several false starts, the Norman Shaw Buildings (formerly New Scotland Yard) were acquired and "Phase 1" of the new building development began in 1985. However, the Ibbs Review of 1990 commissioned a survey among Members of the House of Commons which found widespread concern at the long delays in implementing the plans for the area north of Bridge Street and doubts about whether the design of the new buildings would "fully meet the requirements of Members and staff".[24] The report also noted that a substantial backlog of essential Palace maintenance had built up, with an estimated cost of around £220m at 1990 prices.

26. The management of the fabric of the Palace by the Government was in any case becoming anomalous because during the 1989-90 session Parliament had passed the Property Services Agency and Crown Suppliers Act. This paved the way for the privatisation of PSA services and freed government departments from dependency on the PSA for works and estates services. In the second reading debate in the Commons the Secretary of State for the Environment (Chris Patten) noted: "The PSA has a mixed reputation within Government. It often gets the blame when Government buildings appear badly maintained, although I concede immediately that that can sometimes be the result of its budget having been constrained because of general pressures on public expenditure. In the past, the customer Departments have been free to make the complaints and the PSA was there to receive the brickbats. In future the decisions about what to spend—the point that I made earlier—will lie with the customer departments. If they decide to spend less on maintenance or more on a new building, it will be their own choice."[25]

27. The remedy recommended for Parliament by Sir Robin Ibbs was to bring both the budget for Parliamentary estates and works together with management responsibility under the control of the House of Commons Commission, while recognising the parallel interest of the House of Lords. The House of Lords agreed on 26 March 1991 that it should assume responsibility for its portion of the costs of the Parliamentary Estate and appoint the Director of Works jointly with the House of Commons.[26]

Responsibility for the Palace transferred to Parliament in 1992

28. The transfer of responsibility was implemented from 1 April 1992 following the entry into force of the Parliamentary Corporate Bodies Act 1992. The Act empowered the Clerk of the Parliaments and the Clerk of the House to act as corporate officers in relation to buildings and related contracts. It also allowed for the responsibilities of the Parliamentary Works Office in the Department of the Environment to be transferred to the parliamentary corporate officers. A Director of Parliamentary Works was subsequently appointed under the supervision of the

21 For example, Lord Winterton's speech in the debate of 25 January 1945, cc 1058-9

22 HC Deb 23 March 1965, vol 709 c 328

23 See, for example, an insider account: Barnett Cocks, *Mid-Victorian Masterpiece*, 1977, 64-5, 140-1, 164, 184.

24 *House of Commons Services: Report to the House of Commons Commission* November 1990, HC 38

25 HC Deb 6 December 1989 c340

26 HL Deb 26 March 1991 c 958

Commons Serjeant at Arms and in cooperation with the House of Lords.

29. The Ibbs Review outcomes were themselves reviewed in 1999 by a team led by Mr Michael Braithwaite. In setting the scene it noted again that the centre of operation of the House of Commons "is not a modern building but an inconvenient and expensive World Heritage Site".[27] It also commended the "repatriation" of the Works Vote as "a major political achievement which emphasised the principle of the House's financial independence."[28] Braithwaite found that about half of the maintenance backlog identified by Ibbs in 1990 had been completed, but further work estimated at £285m would require to be carried out by 2007.[29]

30. Braithwaite was much concerned to achieve value for money in parliamentary works and expressed concern about the "blurring" of client and supplier functions, recommending a separate review of this issue.[30] A "Braithwaite 2" review was subsequently commissioned and resulted in the Parliamentary Works Directorate being split into two separate directorates for "Estates" and "Works Services" from 2002 to 2008.

31. The next general review of House of Commons management and services, by Sir Kevin Tebbit in 2007, did not wait for its final report to tell the House of Commons Commission that "in the virtually unanimous opinion of those interviewed, the organisation put in place following the Braithwaite report had not proved satisfactory, and significant problems remained in the planning, management and control of the Parliamentary works programme."[31] Once again, one of the symptoms of the problem was found to be "the growing backlog in maintenance of the Estate, including the roof of the Palace and the Basement Mechanical and Electrical project..."[32] Tebbit made a series of recommendations, including that the Estates and Works Services Directorates should be reintegrated under one Director who would provide overall leadership and ensure coherence, consistency, team working, professionalism and delivery.[33] The subsequent decisions of the House of Commons Commission in response to the Tebbit review led to a comprehensive restructuring of responsibilities, including the appointment in 2008 of a new Director-General of Facilities for the House of Commons, and a new Parliamentary Director of Estates responsible for the whole of the Parliamentary Estate.

32. The House of Lords administration also reviewed the management of its interest in Parliamentary estates and works in the wake of the Tebbit review and the House agreed to transfer responsibility for accommodation and works from Black Rod to a newly appointed Director of Facilities, with effect from 2009. The change was intended to "complement in part" the outcome of the Tebbit review in the House of Commons.[34]

The approach to the question of major renovation since 2000

33. The mechanical and electrical (M&E) systems that provide essential services to the users of buildings have a finite life and need to be replaced on a cyclical basis. This issue was neglected at the Palace of Westminster during the half century that followed the post-1945 reconstruction. There are several possible explanations for this: the systems, although increasingly antiquated, continued to work; a higher priority was given to more visible aspects of maintenance, such as the condition of stonework; and management effort was focused on the acquisition and development of Parliamentary outbuildings. When serious attention was given to M&E issues towards the end of the 1990s the precise condition of the basement systems was unknown, but the fact that they had not been renewed for almost 50 years (longer in some instances) was known to the Parliamentary Works Directorate and its maintenance teams.

34. The first systematic attempt to address the "M&E problem" came with a basement condition survey in 2000. This revealed that much of the equipment was antiquated and would need to be replaced

27 *Review of Management and Services: Report to the House of Commons Commission* July 1999 HC 745, para 2.3.

28 Ibid para 3.15

29 Ibid para 7.12

30 Ibid para 7.27

31 *Review of Management and Services of the House of Commons,* June 2007, HC 685, para 158.

32 Ibid para 166

33 Ibid 169.i

34 *House of Lords Annual Report 2007/08*, p21. The report also noted the reunification of Parliamentary Estates and Works from 1 January 2008.

within 5-10 years. The survey prompted two lines of investigation: one considering whether to move away from steam to hot water as the primary medium for transporting heat from the basement to the upper floors; the other looking at the scope for rationalising primary services in the basements.

35. While the first of these eventually arrived at a decision in principle to retain steam distribution, neither reached the point of proposing new designs and implementation plans. In 2005 new consultants were appointed to proceed through feasibility and design to implementation, with a scope that was widened during 2006 to take in risers and plant-rooms above the basement level, and sustainability issues, but not secondary services. The consultants were asked to work within the assumption that parliamentary work in the Palace could not be disrupted, thereby limiting noisy or otherwise disruptive work to summer recesses.

36. The consultants delivered substantial reports during 2007. A final volume on the condition of the risers and a strategy for dealing with them was held up until early 2008 by the difficulty of access caused by the presence of asbestos. By this time, however, there was growing concern about the widening scope and escalating costs of the project. The M&E Programme Board, and newly appointed Director-General of Facilities, decided in 2008 to revisit the assumptions behind the work done so far, and in particular to challenge the assumption that the work must be done without disrupting the business of Parliament in the Palace.

37. A feasibility study of decant options was carried out by a combination of consultants and officials from both Houses and reported in July 2009. It concluded that the previous approach to M&E modernisation which had tried to schedule all necessary work over a ten year period without disrupting the work of Parliament actually entailed high risks to business continuity. It suggested that a different approach would be preferable, delivering modernisation of primary and secondary services (and other improvements) over a shorter period, while accepting that parliamentary functions would have to be relocated while the work was done. In the light of this advice, the authorities of both Houses agreed to halt previous plans, adopt a medium-term strategy to buy time, and to begin work on a fully integrated long-term strategy.[35]

38. The Medium-Term M&E Programme is now under way. One of its components, begun in 2012, is a survey exercise designed to fill the gaps in previous surveys and provide a comprehensive view of all the existing building services in the Palace, their condition and efficiency. The results should be available early in 2013.

35 A fuller account of the approach to modernising mechanical and electrical (M&E) services at the Palace of Westminster is provided in Annex 1 (Document Review).

3. The condition of the Palace of Westminster in 2012

Introduction

1. This section summarises the condition of the Palace of Westminster as of mid-2012. Some of what is described here is readily apparent to those who work in or visit the building; more is visible to those who visit the basement areas; more again is known as the result of surveys carried out by specialist consultants over recent years.

The state of knowledge

2. It is one thing to understand how the Palace of Westminster was intended to be and quite another to understand the state it is now in, taking account of the incremental installation of infrastructure over many years, of the life cycle of materials and systems, the effects of the climate and intensive wear and tear.

3. The National Archives at Kew contain the 19th century working drawings for the Palace – numbering over 3,000 – with construction details of all kinds. The Parliamentary Estates Directorate (PED) Archive contains further drawings which show alterations and additions to the building as well as mechanical and electrical installations.[1]

4. Unfortunately, the documentation of alterations to building services and systems over the last half century has been far from comprehensive, with the result that it has taken more than a year to identify only 50% of the services in Riser J.[2] Even routine tasks, such as unblocking down pipes and sewage outlets, are problematic in this environment, where pipes disappear into inaccessible voids and are entangled with other uncharted services and asbestos.[3]

5. The condition of the fabric in accessible places is also largely unknown unless it is manifested in visible damp patches or falling objects. Everything in this section is therefore stated tentatively on the basis of known evidence and what can be assumed from the age of particular systems.

1 Information from PED archivist

2 See paragraph 10

3 Steady progress has been made by PED in the production of drawings of selected areas using laser scanning which is particularly useful for high level measurements, voids and other inaccessible places, but information is still far from complete.

Mechanical & Electrical services

6. Detailed surveys of the condition of M&E services were carried out between 2006 and 2008. These built on previous surveys of the basement plant rooms conducted in 2000. The consultants experienced significant difficulties in obtaining access to all the necessary areas, in many of which asbestos was already known to be present.

7. Key findings from the survey work were that the steam and condensate system was well beyond its normal life expectancy, that the chilled water system was hydraulically unstable, that the network of basement corridors and risers was heavily congested, that there were some other significant risks to health and safety, and that there was a serious lack of ventilation in areas of the basements due to the original ventilation shafts having been filled with building services over the years. The main consultants' conclusions were corroborated by a second team brought in to carry out "due diligence" in 2008. The second team concluded: "without urgent and significant intervention a major failure of the existing service infrastructure is inevitable, which will disrupt the function of the Palace and is likely to require extended periods to recover the service".[4]

8. The main Palace boilers were replaced in 2004, but the estimated 4km of pipes carrying steam onwards from the boilers date in some cases from the 1930s and otherwise from 1947-52. The pipe-work is known to be corroding and sampling suggests that the inside diameter of the pipes is sometimes severely reduced by limescale deposits. Despite a precautionary reduction in steam pressure in 2004, and other remedial work since 2009, leaks of steam occur continuously while the system is in operation, with around 7-8 significant incidents each year, mainly in the autumn when the heating is turned back on.[5]

9. Steam leaks are generally repaired quickly by the maintenance teams, without impacting the operations of Parliament, but there is a concern that a fracture in a confined space could lead to a sudden release of steam at very high temperature which would destroy other services (such as electricity or computer cabling and water pipes) and distribute

4 *Mechanical & Electrical Modernisation Project; Due Diligence "The Way Forward"* 16 July 2008, p 7

5 Information from PED maintenance teams.

asbestos fibres. Consultants warned in 2005 that an event of this nature in the vicinity of the Plant Room servicing the House of Commons Chamber could put that chamber out of commission for some months because of the statutory controls on dealing with asbestos safely.[6]

10. The state of the vertical risers has caused particular concern in recent years. There are 98 in the Palace and almost all contain asbestos. Twenty risers are classified as complex (housing more than one service) and "essential"; and ten were regarded in 2007 as "requiring attention at the earliest opportunity".[7] Riser J was regarded as "in a very dangerous situation" and requiring urgent attention.[8] In addition to the asbestos issue, there was a general difficulty of access to the risers, which had not been built with service maintenance in mind.[9] There were few access points and risers were typically congested with multiple services, obstructing the ladders that had sometimes been provided. There was also little to prevent fires spreading vertically through the risers.

11. Plans for a comprehensive modernisation of M&E in the Palace were put on hold in 2009.[10] Instead a medium-term programme of "aggressive maintenance" and high-risk reduction was agreed in order to reduce the risk of system failure to an acceptable level pending longer term decisions. The programme, which was to run from 2009 to 2013 (now 2014), was designed with the assistance of the consultants who produced the 2008 condition reports and included the two plant rooms that had given greatest cause for concern.

12. In all the programme addresses 15% of plant rooms by number (19 out of 127), but because some of the bigger plant rooms are included this represents around 34% by area. Of the risers, J is addressed, as the most critical for steam distribution to the upper floors, and also the riser judged in 2007 to be in the worst condition for congestion and asbestos. The chilled water system is also to be upgraded and electrical power capacity expanded.

13. As of summer 2012 the medium-term M&E programme agreed in 2009 is broadly on track but, due to the constraints of undertaking work of this nature in an occupied building, without disrupting either House, the work to remedy Riser J has taken significantly longer than expected, at significantly higher cost.[11]

14. Large areas of the basement, the remaining risers, and the majority of plant rooms on the upper floors are not touched by the current programme. Fuller information on the condition of these areas will be derived from a new phase of consultancy initiated in early 2012.

Water penetration and drainage

15. Water penetration, whether in the form of small leaks or serious floods, has become a relatively common occurrence in the Palace. Some incidents are caused by leaking roofs (see cast iron roofs, paragraph 34 below) or faulty guttering, others by faults in water tanks, pipes and toilets.[12] The quadrennial inspection (QI) condition reports on the Palace reflect this, with frequent references to both historic and recent signs of damp and staining in walls and ceilings.[13]

16. The Victorian drainage pipes and culverts under the Palace cope with waste water, rain water, sewage and cooking by-products on a scale for which they were not originally intended and these are pumped upwards into the London sewers at the north end of the Palace. The system still works, but requires continual maintenance to keep the channels clear.

6 Palace of Westminster M&E Modernisation Project, February 2007, section 7.5; "leaking steam under pressure is a serious hazard particularly in a confined space such as a riser or duct" (from letter from EA Goddard to Keith Gregory 30/8/07 – reproduced in the annex to the Report on secondary distribution risers, 11.9).

7 Palace of Westminster M&E Modernisation Project, February 2007, Section 6: M&E Services Distribution, 6.30, 6.31

8 Primary Riser Survey, 2008, p6.78

9 As a matter of good practice all risers should be accessible at top, bottom and middle. Few in the Palace currently meet this requirement.

10 See Annex 1.

11 See Annex 5. Work takes place mainly at night, at weekends and during less busy periods, such as recesses. There is a general requirement that it must always be possible to restore the areas affected to normal use within 48 hours if necessary.

12 Analysis of daily logs for 2011-12. For the maintenance staff of the Palace there has been a strong emphasis over many years on fixing problems and mitigating their impact on users of the Palace, rather than on systematically logging incidents and analysing their root cause. As a consequence the information base is incomplete and in some respects unreliable.

13 E.g Area D9 Report (Committee Corridor) and Area D12 Report (House of Lords, SE corner), both March 2012

Asbestos

17. Asbestos was commonly used in all types of buildings in the UK from the 1940s to the 1980s. In the Palace of Westminster this included the period of extensive rebuilding following the Second World War when asbestos was used for thermal insulation.[14] According to the Health and Safety Executive (HSE) asbestos materials are safe unless asbestos fibres become airborne, which happens when materials are damaged or disturbed.[15] Damage may be caused by leaking steam or water and is almost unavoidable whenever significant building or engineering work is being done.

18. The general conclusion of the specialist consultants looking at asbestos in the Palace in 2007 was "As a result of our inspections of the risers and ducts we became aware of significant dangers and risks to the health and safety of persons not only gaining access and working in risers and ducts but generally to all persons within the Palace of Westminster." One of the reasons for this conclusion was that, although accessible asbestos had been encapsulated to make it safe, the encapsulation did not continue where pipes pass through walls and voids, or under floors. Examples were also found where the encapsulation was itself damaged, or where the passing of cables through risers and voids had dislodged asbestos dust and debris.[16]

19. Asbestos is perceived as a major problem, not because it presents an immediate threat to health (a few areas where staff might potentially be exposed to asbestos fibres were identified and dealt with in 2008), but because it impedes investigation and makes remedial work both difficult and very expensive, with the constant threat of cleared areas being re-contaminated from un-cleared areas.[17] There is also evidence that some of the initial attempts to remove asbestos actually exacerbated the problem by spreading it further.[18] Asbestos is believed to be present in almost every riser, as well as in many plant rooms, corridors and under-floor voids. 2007 costings for full M&E modernisation assumed that some 30 risers would require to be cleared of asbestos; for full future-proofing asbestos would require to be removed from all 98.

Fire safety

20. Because of the fate of the old Palace of Westminster the new Palace was designed by Charles Barry with fire-proofing in mind. The main structural materials were stone and iron and the roofs were made from cast-iron in order to counter the risk from numerous smoke flues.[19] On the other hand a great deal of combustible material was used for interior decoration and the building was designed with "a comprehensive network of pathways" in the form of ventilation shafts and inter-floor voids, unintentionally creating ideal conditions for fire and smoke to spread through the building.[20]

21. Systematic fire protection became a higher priority in the 1970s, reflected in the Fire Precautions Act 1971, which set up a system of fire certificates issued by Her Majesty's Inspectorate of Fire Safety (HMI). Weaknesses were identified in fire safety at the Palace, but a certificate was eventually issued in 1995. Enhancements were made subsequently in a piecemeal fashion in response to compliance orders from HMI.

22. The Regulatory Reform (Fire Safety) Order 2005, which repealed the 1971 Act, introduced a new regime whereby the Clerks of the two Houses, as corporate officers, acquired a duty to take fire precautions for the Palace and undertake "suitable and sufficient assessment of the risks".[21] This led to a reassessment of fire safety strategy, moving towards a more risk-based approach. The previous approach, with periodic measures to retain external certification, had led to a complex and only partially-documented range of fire safety measures that made

14 The most hazardous type of asbestos - Crocidolite or "blue asbestos" - was generally used for insulation in the Palace as it was elsewhere.

15 Health and Safety Executive website, Asbestos basics [on 16 March 2011]. This section also draws on "Asbestos: damage, control and policy" House of Commons Library standard note 22 March 2011.

16 Goddards *Consulting summary report on H&S Jan 08*, section 11.2

17 The long void under the main committee corridor is known to have been cleared of asbestos and re-contaminated on 11 separate occasions between 2000 and 2009 – *Delivering a vision for building services infrastructure*, PEB 21 March 2011, Appendix 2, para 2.26.

18 Source: PED Medium Term M&E Programme

19 MH Port, 198-200.

20 Estate Wide Fire Programme Lot B: Palace of Westminster Hidden Voids and Compartmentation, p12.

21 Regulatory Reform (Fire Safety) Order 2005, articles 8, 9, 49

risk assessment problematic.[22] Moreover, the main fire detection system dated from 1995 and some of its components were by now obsolete.[23]

23. The condition of fire safety systems in the Palace was reviewed by independent consultants during 2007-09. The consultants confirmed that the coverage of automatic fire detection and voice alarm systems was incomplete and that the infrastructure network was in need of upgrade, without which the already high level of alarm system failures could be expected to increase. A fire safety programme has been established to implement the necessary upgrades in coming years.

24. Another major cause of concern is the lack of effective compartmentation between sections of the Palace. Compartmentation is needed to slow the spread of a fire through the building, providing time for occupants, including disabled occupants, to be safely evacuated and for the London Fire Brigade to get firefighters and specialised equipment on site. It should contain a fire within a single "compartment" of the building for at least 30 minutes in order to safeguard lives and at least 60 minutes to minimise damage. Compartmentation is intended to protect human life, but it should also have the effect of containing the impact of fire on the building and its artefacts.

25. Compartmentation was one of the key strategies recommended by Sir Alan Bailey in his report following the Windsor Castle fire.[24] In response to this recommendation, the Parliamentary Fire Safety Committee decided in 1994 to adopt compartmentation of the Palace in 12 vertical blocks.[25] However, full implementation was never achieved. According to the consultants who surveyed the Palace in 2007-09, compartmentation had never progressed beyond 65% implementation, meaning that few compartments can be relied on in the event of a major fire, and furthermore some of the work done early on is now believed to have been compromised by subsequent building work. There is in addition an un-quantified risk created by the numerous hidden voids in the building which are in many cases un-surveyed and inaccessible.

26. The basement is considered to be the highest fire risk area because of congested M&E services, the difficulty of access for the fire brigade and the absence of smoke clearance provision.[26] Automatic fire suppression (i.e. a sprinkler system) had been previously suggested, but the Principal Engineer concluded in 2008 that such a system "would be virtually impossible to install without first resolving the already grossly overcrowded corridors".[27] Alternative technologies are currently under investigation.

27. Fortunately there have been no major outbreaks of fire in the Palace in recent years. Forty minor fires have been recorded, however, since 2008. All have been quickly dealt with.

28. Although these have been minor incidents, there has been some evidence of smoke travelling through architectural voids, confirming that current compartmentation is unreliable. [28]

Secondary services

29. There has been no recent over-all survey of the secondary services in the Palace, which distribute heating and (in some instances) cooling to rooms and corridors, electricity and data services to sockets, water and drainage to and from bathrooms and kitchens.

30. Secondary services were excluded from the scope of the consultancy work on M&E undertaken during 2007 and from the medium-term programme which commenced in 2009. Limited work on secondary services is undertaken in connection with planned and unplanned maintenance, usually in response to faults and breakdowns. The availability of air cooling is very patchy. All committee rooms now have it, but it is currently available in only 40% of offices in the Palace.

22 Fire Safety Committee –12 September 2011: FSCOCT4, 4.1

23 The planning and implementation of fire safety measures had suffered from many of the same weaknesses as the approach to M&E issues prior to 2007 – see Annex 1, Document Review. Indeed, the fire safety programme was for a while combined with the M&E programme for management purposes. One of the consequences of unmanaged obsolescence, even when systems continue to operate, is that it becomes increasingly difficult to source spare parts.

24 *Fire protection Measures for the Royal Palaces*, 1993

25 Vertical blocks were preferred to horizontal because of reluctance to alter the historic structure of the floors.

26 Estate Wide Fire Programme Lot B: Palace of Westminster Hidden Voids and Compartmentation, pp 17-20

27 "M&E Mod Prog: Review Update" April 2008

28 Information from Houses of Parliament Fire Safety Team.

31. The lack of a general programme to upgrade secondary services in recent decades inevitably means that problems are building up. For example, radiators gradually replaced open fires in the Palace from the early twentieth century to 1956, when the last open fires were de-commissioned in anticipation of the Clean Air Act entering into force. While individual radiators have been replaced, there has been no general programme to replace the first generation radiators, nor the pipe work that connects them.

32. Electrical distribution requirements have grown over the years, but capacity is limited by the size of the distribution boards for which there is little space in the congested basements.

33. Electrical wiring is also a problem in inaccessible and asbestos-affected areas. There are still remnants of vulcanised india rubber (VIR) cabling from the early 1950s in use because of difficulties over access. VIR cabling is now regarded as a fire risk because of the tendency of the insulation to harden, decay and carbonise. There is also a good deal of wiring in use from the 1960s, which is not necessarily at risk, but has been allowed to run on well beyond its normal replacement cycle of around 25 years.[29]

Cast iron roofs

34. A comprehensive survey carried out in 2004 showed that the original cast iron roofs of the Palace were approaching end of life, with evidence of unacceptable water penetration and decaying iron supports. There was advice that continued corrosion of the trusses could lead to the partial collapse of sections of the roof if nothing were done.[30] The cost of reactive maintenance would also rise sharply and lead to unpredictable disruption for the occupants of the building.

35. The first phase of a repair and replacement programme was carried out successfully in 2009-11 around Speaker's Court. There is a plan to continue and complete the programme in four further project stages over the next decade, starting early in 2013. The process is inevitably noisy and therefore some work will be carried out at night, allowing the occupants of offices in the roof space to remain in place during the day.[31]

Lifts

36. The Palace has 28 lifts, the oldest dating from 1893. Several are now well beyond their refurbishment dates and contain obsolete components that are difficult to replace. The lifts are becoming increasingly prone to failure and only 9 are fully compliant with Building Regulations for access by wheelchair users. [32]

ICT services

37. The current data network in the Palace dates from 1999. It copes with current requirements, but is unlikely to remain fit for purpose beyond 2015, given the new IEEE 802.11ac wireless computer networking ("ac") standard and the rapid proliferation of mobile devices in use in the Palace.

38. Wireless access to the parliamentary network and to the internet is currently limited to the chambers, committee rooms and restaurants, and is not available elsewhere. A new wireless solution, offering faster connectivity (a theoretical 1Gigabit per second connection speed) is due to be installed in 2013, but it will need to be connected to existing data points for wireless access because of the difficulty of installing a new backbone network of cables in the already congested basement corridors, risers and under floor voids (see section on asbestos above).

39. For the longer term a new generation fibre network is likely to be needed with a backbone capacity of 10-30 Gigabit per second that would be capable of dealing not only with wireless access, but also audio-visual data from the chambers and committee rooms.

29 Information from maintenance teams

30 *Outline Programme Business Case for Cast Iron Roofs Overhaul,* 20/02/2012, p11. The roofs over the two Chambers are currently excluded from the programme, the Commons Chamber roof dating only from 1950 and the Lords Chamber roof having been refurbished in 1996. The roofs of the Elizabeth Tower and Victoria Tower are also excluded, having been refurbished in 1985 and 1996 respectively. The intention is to review the condition of these excluded roofs again when the current programme is concluded in approximately 2020. There are already indications that the roof of the Elizabeth Tower will need further attention.

31 The additional costs incurred through night work are expected to be off-set by the avoidance of decant accommodation costs.

32 Not all of the 9 compliant lifts access all floors. Another lift (HOP 12) is due to be adapted for DDA compliance during the summer of 2012. Where the lift shafts are too narrow, compliance would involve extensive rebuilding.

40. Several other wired systems are also facing obsolescence, including fire alarms and annunciators. These could eventually be run on a single converged network, but this will be difficult to achieve unless the old systems and widespread asbestos are removed.

Conservation, decoration and state of repair

41. From a conservation perspective the Palace of Westminster is in a vulnerable state, despite the efforts of staff in the Estates Directorate to maintain the historic legacy of the buildings, its decoration and interiors, and despite the existence of a *Conservation Plan* approved in 2007 by English Heritage and the Parliamentary authorities. Conservation concerns fall into two broad categories: dilapidation and inappropriate treatment.

42. The most tangible evidence of dilapidation comes from occasional and unpredictable incidents such as the falling of a boss from the ceiling of the House of Lords Chamber in 1980, small pieces of timber falling from the roof of Westminster Hall several times each year, or loose stonework both in Westminster Hall and in some of the interior courtyards. The stonework in some of the smaller courtyards is visibly crumbling and badly stained.

43. There is also tangible evidence of water penetration in almost every part of the building. Recent surveys have documented damage from both historic and recent penetration at the Sovereign's entrance, high up in the Central Lobby, in the Upper Waiting Hall and along the main committee corridor. The current long-term programme to replace the cast iron roofs of the Palace is partly driven by the knowledge that rainwater penetration of the roofs is an increasingly frequent occurrence.

44. There is also evidence of water penetration through the belfry of the Elizabeth Tower (formerly the Clock Tower), causing damage lower down and previous treatment of corrosion in the roof of the tower appears not to have arrested the problem.[33]

45. In addition to these structural issues, many parts of the Palace are in a shabby condition, reflecting their age and the high level of wear and tear caused by intensive use.

46. There is a long list of twentieth-century additions to the Palace, some never intended to be permanent, which could be said to detract from the architectural value of the site.

47. The first conservation priority in a future modernisation would be to rescue those parts of the Palace in danger of dilapidation and eventual collapse. A second priority, less urgent, but worthwhile given the opportunity, would be to remove as many as possible of the poor-quality accretions.

48. An active conservation strategy, in line with modern thinking about how to achieve both conservation and sustainability in living buildings, would identify more clearly what is historically significant about the Palace of Westminster and its surroundings and seek to protect those features and qualities so that they can be experienced and understood by present and future generations.[34]

Environmental performance

49. The Palace of Westminster currently accounts for 55% of Parliament's Scope 1 carbon emissions (i.e. from energy consumption) and 66% of Parliament's water consumption from the mains supply.[35] The environmental performance of the Palace has improved in recent years through better management, and some further improvement should be possible through better temperature monitoring and control, but for Parliament to achieve its environmental targets for 2020/21 based on the Climate Change Act 2008, more radical steps may be required.[36]

33 Information from PED conservation team

34 English Heritage now define conservation as "the process of managing change to a significant place in its setting in ways that will best sustain its heritage values, while recognising opportunities to reveal or reinforce those values for present and future generations." *Conservation Principles: Policies and Guidance for the Sustainable Management of the Historic Environment*, English Heritage, 2008, p7 (http://www.english-heritage.org.uk/content/publications/publicationsNew/conservation-principles-sustainable-management-historic-environment/conservationprinciplespoliciesandguidanceapril08web.pdf)

35 The Palace relies disproportionately on mains supply because it has no borehole source, unlike Portcullis House.

36 This was the conclusion of a consultancy review commissioned by PED which reported in 2007 and received some publicity at the

50. Because of its unique history, structure and usage, it is difficult to rate the Palace objectively for energy efficiency against comparable buildings. Further work is being done on benchmarking, but current indications are that the Palace at best achieves energy certificate levels E/F on the A-G scale, where A represents best practice.

51. There is no doubt that the current antiquated M&E services could be made more efficient using modern equipment. Significant improvements will be implemented in the course of the medium-term M&E programme, mainly by installing more modern pumps, sensors and controls in the plant-rooms that fall within that programme. However the full benefit of these improvements will only be felt as and when secondary services can be fully modernised as well.

52. Another source of energy inefficiency is poor insulation, especially around windows and in the roof spaces. Some secondary glazing has been introduced for security reasons, but the majority of the approximately 3,400 windows retain their original design, allowing significant infiltration of cold air in the winter and leakage of artificially cooled air in the summer.

53. This raises some significant issues because "sealing" the building to improve heating and cooling efficiency might increase the need for ventilation and humidity control, which might in turn reduce or negate the energy savings. A full programme of fabric improvements to reduce energy consumption would also have to be sensitive to heritage considerations and, because it would involve disruptive work in rooms and corridors, would be best undertaken as part of a general refurbishment. As with other similar issues, progress is dependent on decisions about modernisation.

54. Other sustainability measures could also be undertaken as part of a comprehensive modernisation of the Palace, including the use of boreholes as an additional source of water. Drilling boreholes under the Palace would be a major engineering project, but there may be usable sites to the south of the Palace.[37]

time. The selection of recommendations to implement was put on hold pending decisions on modernisation of M&E services.

37 A feasibility study examining all of these issues is due to report later in 2012.

"Fitness for Purpose"

55. Buildings are designed and created for a purpose. Fitness for purpose is sometimes referred to in the architect's contract and when buildings are new or in the early years of use we can legitimately measure fitness for purpose against the expressed statement of purpose. The brief for entrants in the competition of 1835 was to design the new Houses of Parliament. It contained "a specification of the general accommodation required, of the dimensions of the principal offices, of the number of persons which either House of Parliament should be calculated to hold on the floor, of the space to be allowed for each Member, and a description of the form of each House, so far as may have been determined by the respective Committees."[38]

56. The nature and workings of Parliament have changed since 1835. In June 2006 the Administration Committee of the House of Commons reported:

> *There are legal, practical, aesthetic and historic reasons which mean that it is both difficult and undesirable to make significant alterations to the Palace; but the accommodation within it leaves a great deal to be desired. In the words of a Committee of more than 60 years ago:* "it naturally does not contain the conveniences of a modern building, nor can it readily be adapted to meet the changed and changing needs of Members of Parliament."[39]

57. The emphasis in these expressions of frustration should perhaps fall on the words "significant" and "readily". The leading historian of the building has commented on its adaptability and this study has noted elsewhere that many adaptations have in fact been made to the original design and concept over the years,[40] but it is true that the scope for adaptation is constrained by legal, practical, aesthetic and historic considerations. On the other hand it is demonstrable that other Victorian buildings, such as the British Museum, St. Pancras Station and the Royal Albert

38 HL Deb 15 June 1835 c335 (http://hansard.millbank-systems.com/lords/1835/jun/15/new-houses-of-parliament#S3V0028P0_18350615_HOL_2)

39 http://www.publications.parliament.uk/pa/cm200506/cmselect/cmadmin/1279/127907.htm#a18 In 1964, before the development of the Commons northern estate, a long serving Member gave a personal view of the problem: "This is a scandalous place in which to work.... (). Hon. Members are scattered round the place like so many passengers at a great railway terminus which Beeching has closed without telling them about it." HC Deb 13 July 1964, Vol 698 c922

40 See page 12

Hall, have been successfully modernised in the face of similar constraints. It is not impossible that an imaginative architect could achieve at least some improvements to the Palace of Westminster.

58. The particular concern of the 2005-06 Commons Administration Committee inquiry was the standard and quantity of Members' accommodation. It argued that: "no Members or predominantly desk-based staff should be in windowless accommodation". [41] The recent report of the same committee on *Visitor Access and Facilities* also highlights persistent sources of concern and frustration.[42]

59. The list of potential improvements would be long. At this early stage, the following table notes some of the issues that have caused frustration in recent years, without any claim to completeness.

41 http://www.publications.parliament.uk/pa/cm200506/cmselect/cmadmin/1279/127908.htm

42 http://www.publications.parliament.uk/pa/cm201213/cmselect/cmadmin/13/1302.htm

Issue	Source and commentary
Forty four offices in the Palace have no natural light.	The Commons Administration Committee concluded in 2006 that "No Members or predominantly desk-based staff should be in windowless accommodation at the beginning of the next Parliament."[43]
Limited access for disabled people	Many lifts are too narrow for wheelchair access. Remedying this would often involve widening the lift-shafts, with major structural implications. The lack of suitable lifts, combined with steps and changes of level, means that wheelchair users have unduly long journeys to move around the building and are particularly vulnerable to lift failures.
Lack of space dedicated to education	There has been a debate over several years about the optimum location for such a facility. Whether or not the Palace would be the optimum location for the main education centre with classrooms, the future design of the Palace needs to take account of the presence of around 40,000 educational visitors each year and there are aspirations to increase this number in the future.
Congestion at the escalators between the Palace and Portcullis House	An unintended consequence of the expansion of the Commons northern estate.
Congestion and delays in processing visitor entrance to the Palace (including design flaws in the visitor reception building)	See paragraphs 39-45 of the Commons Administration Committee report on Visitor Access and Facilities
Gaps in wireless provision and lack of adequate re-charging points for Members' mobile devices	Wireless access to data services and the ability to charge mobile devices are becoming critical to the way that people work
Lack of an effective visitor route, including adequate toilet facilities and exit via souvenir shop	Required to optimise the flow of visitors, minimise disruption to the business of Parliament, improve the visitor experience and maximise revenue.
Difficulties in management of public access	Security implications
Shortage of space for Members to hold informal meetings and provide refreshment for their visitors	The success of Portcullis House atrium has highlighted lack of equivalent spaces in the Palace. Portcullis House facilities are already close to capacity at peak times.
Deficiencies in heating and cooling	The cooling system is generally unstable and unreliable. Of the individual offices in the Palace, 206 out of 541 have air cooling.

43 http://www.publications.parliament.uk/pa/cm200506/cmselect/cmmadmin/1279/1279.pdf para 125

The cost of maintaining the Palace of Westminster

60. Parliament currently spends around £26m annually on maintaining the Palace of Westminster. This total includes the staffing of the maintenance function and additional work that is contracted for both planned and reactive maintenance.

61. The internal and contracted maintenance teams do an excellent job in difficult circumstances. They work in an uncongenial environment with poor ventilation and temperature control. The congestion of the service corridors and plant rooms means that engineers have sometimes to become contortionists to carry out repair work. Access to the water tanks in the roof is especially difficult. Asbestos, although encapsulated, is very widespread, and great care has to be taken not to disturb it in the course of planned and unplanned maintenance.

62. These factors undoubtedly increase the cost of both planned and reactive maintenance.

63. The insurance replacement value or reinstatement value of the Palace of Westminster is assessed by the Valuations Office Services as £1.766 billion (2010). An industry-accepted benchmark for day-to-day or "Business as Usual" [BAU] maintenance is that the ratio of BAU maintenance costs to the reinstatement value should be 1.5% and the ratio of Total Maintenance costs versus the Reinstatement value should be a minimum 4.5%.[44]

64. Analysis of maintenance costs in relation to insurance replacement value provides a "rule of thumb" benchmark for how well we are looking after a valuable building asset which, without maintenance, would steadily deteriorate and depreciate in value. The table below indicates that expenditure on the Palace in recent years has been significantly below the 4.5% annual level that would maintain the long-term value of the asset. The "rule of thumb" is generic and there is evidence that historic and listed buildings should expect maintenance to be above the average.

65. A growing body of specific condition survey evidence confirms that the backlog is now very substantial. It is not yet possible to cost the "backlog" with precision. Estimates from 2009 are more reliable for the basement than for the upper floors, but "order of magnitude" assessments indicate £330m for the basement and risers, £600m for the upper floors, £60m for roofs and at least £100m for fire safety measures. Another way to analyse this information is to calculate property asset liability per square metre. Latest estimates put this at over £6,000 for the Palace, whereas for the other buildings on the Parliamentary Estate the average asset liability is around £1,000 per square metre.[46]

66. If the Palace were a commercial building of no historic value, these figures would justify demolition and rebuilding. The "rule of thumb" is that if accumulated maintenance costs reach 40% of the replacement cost, or higher, the organisation using the building is better advised to start again with a building reflecting new technologies and ways of working, with much lower running costs.

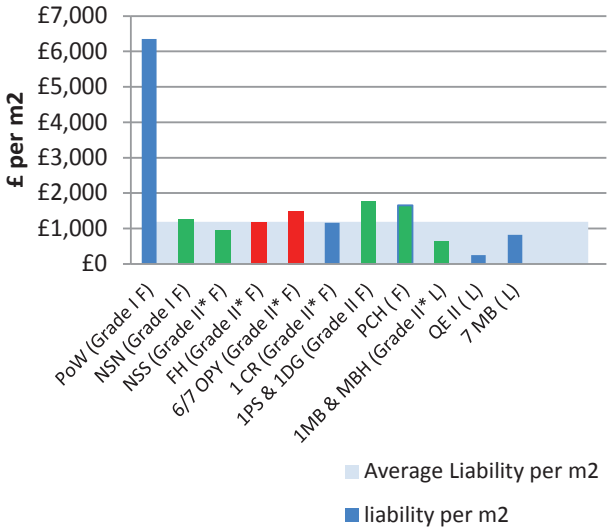
Palace of Westminster Maintenance[45]

	2007/08	2008/09	2009/10	2010/11	2011/12
Description	£,000	£,000	£,000	£,000	£,000
Reactive Maintenance	1,378.6	1,462.8	2,776.9	1,536.5	1,339.0
Planned Maintenance (PPM)	2,965.9	3,398.5	6,081.8	8,278.9	4,289.3
Resource Projects	10,487.8	4,386.4	3,674.3	-	2,715.1
Staff	7,120.7	7,419.9	7,521.1	7,729.4	7,866.8
Overheads	-	-	16.6	99.8	101.1
Subtotal Business as Usual (BAU) Maintenance	21,953.0	16,667.6	20,070.7	17,644.5	16,311.4
Capital Projects	5,608.0	1,734.9	11,528.0	11,547.6	12,996.1
Total Maintenance	27,561.0	18,402.4	31,598.7	29,192.1	29,307.5
Insurance replacement value (IRV)	1,749,711.8	1,749,711.8	1,749,711.8	1,667,730.8	1,766,383.0
BAU Maintenance/IRV Ratio	1.25%	0.95%	1.15%	1.06%	0.92%
Total Maintenance/IRV Ratio	1.58%	1.05%	1.81%	1.75%	1.66%

44 JM Consulting for HEFCE (2006), *Future Needs for Capital Funding in the Higher Education Sector.*

45 Information from PED

46 See chart on p27



67. If demolishing the Palace is not a credible option, then benchmarking of this kind is mainly of value in indicating the levels of re-investment that are needed over the long-term to preserve it as a living building.

Risks and risk management

68. Risks to business continuity and health and safety have been mentioned at several points in this summary of the condition of the Palace. There is no method available that would quantify these risks with precision. For example, fire risk depends on a complex set of factors including infrastructure, alarm systems, the use of the buildings and human behaviour, such as the extent to which safety rules are observed. Although the risk is difficult to quantify, fire is generally regarded as the greatest single threat to heritage buildings and there is a long list of historic buildings in the UK that have been destroyed or badly damaged by fire.[47]

69. Risks arising from long-term underinvestment and dilapidation are also very difficult to quantify. They combine a high probability/low impact risk of general shabbiness, characterised by frequent minor break-downs and inconvenience; and a lower probability but higher impact risk of catastrophic failure. There is already some evidence of break-downs that had a low impact because they were detected quickly and/or occurred on non-sitting days in less critical locations. Similar occurrences taking place on sitting days in more critical locations would cause significant disruption to the functioning of Parliament.

70. In the insurance industry it is normal to assess major risks according to the probability that a particular event could occur within a two hundred year period. Calculations based on this are used to determine risk exposure and premiums, but may equally be used to identify the proportion of the replacement value of an asset that it would be economically rational to spend on mitigating risks that could destroy the asset.

71. If the risks are judged to put human lives at risk then the duty of organisations to manage those risks under Fire Safety and Corporate Manslaughter legislation must also be factored into the business case. It implies that there is a case for investing in risk mitigation over and above the potential cost of restoring material damage to buildings and artefacts and avoidance of disruption to normal business.

Summary – the condition of the Palace in 2012

72. Considering the age of the Palace of Westminster, the 60+ years that have passed since the partial post-war refurbishment, the long-term under-investment in the fabric and the intensive use to which the Palace is put, it is remarkable that it continues to function. The signs of wear and tear, the number and frequency of relatively minor floods and mechanical breakdowns, the high cost of maintaining obsolescent equipment and the large sums that are now having to be spent on aggressive maintenance and risk reduction all provide tangible evidence of the looming crisis. A growing body of surveys, consultancy reports and risk registers point to the further deterioration that will occur and the severe hazards that could occur if fundamental renovation is delayed indefinitely.

73. It is hard to imagine how the Palace will survive for future generations to use and admire without a major mid-life overhaul.

47 S Kidd, *Risk improvement in historic and heritage buildings,* Colvin Trust Paper 2003 http://www.risk-consultant.com/assets/Files/Colvin_Trust_paper.pdf; Heritage under Fire, Fire Protection Association second edition 1995 - http://www.heritagefire.net/heritage_fire_wg_papers/wg1/app03.pdf

4. The strategic case for change

1. This study has reviewed the context in which the Palace of Westminster was created and the way in which its use as the home of the UK Parliament has evolved. It has also reviewed the current condition of the Palace and the backlog of maintenance work that has built up over a long period of time, in part because of the way in which the Palace has been managed, but above all because of *the great difficulty of carrying out fundamental renovation work on the inside of the Palace while Parliament remains in continuous occupation.* Parliament is a highly-demanding user of the building. This includes not only the formal proceedings of Parliament, but also its informal processes, the large number of Members' offices in the Palace, ceremonial events and distinguished visitors, banqueting operations, educational activities and Parliament as a magnet for tourists.

2. Parliament is the custodian of the Palace of Westminster on behalf of the nation and it will be for Parliament to decide how to proceed. This will be a complex decision because there is no single perspective on the Palace. For some it is a "workshop", for others a "shrine".[1] In the words of the recent report of the Commons Administration Committee:

   "Two conceptions of Parliament are required: the working institution and the visitor attraction. The two should be complementary, not in conflict..."[2]

3. As a working institution, "Parliament in the Palace" has to provide decent standards of accommodation for all those who work within it, or visit as citizens, as school children on educational trips or as witnesses to Parliamentary business, and the building has to support the modern ways in which Parliaments work with informal as well as formal meetings, digital information and mobile devices.

4. As a visitor attraction, whether for UK or international tourists, enthusiasts for democracy or specialists in the Victorian and medieval heritage, the Palace is part of the UK brand, instantly recognised and appreciated around the world.

5. For both sets of stakeholders, a fundamental requirement is for the Palace to remain safe from fire (which destroyed its predecessor), water damage, security threats, decay and dilapidation. This is the overwhelming driver for modernisation. Other potential benefits would be by-products of essential renovation.

6. Neither set of stakeholders would expect conservation to mean "stopping the clock" at 1870 when the Palace was "finished" for the first time, nor at 1950 when it was restored after war damage. Other iconic Victorian buildings have been successfully modernised, serving their old purposes in new ways.[3] There could be an opportunity to re-think the part that the Palace plays in the whole ensemble of the Westminster World Heritage Site.

7. There will be choices to be made about the ambition for this modernisation. Because of the backlog of essential work and the severity of some of the risks of inaction it will inevitably be a highly-invasive and disruptive intervention, the first such since 1950. Once completed, a similar intervention should not be necessary again for up to 40 years. Consequently, the opportunity to achieve other desired improvements may not arise again until, perhaps, the 2060s. The debate should, therefore, be about the opportunities as well as the risks.

8. The Palace is reaching the point where its condition is deteriorating, risks are growing and partial patching and mending interventions are no longer sufficient. Fundamental renovation can no longer be avoided. The strategic choice is therefore whether to renew the Palace as the principal home of Parliament or to move Parliament to a new site. If the decision is to renew the Palace for Parliament, then the questions are: How? How much? and When? This study takes a preliminary view of the options and their implications in the following sections.

1 Tony Benn, HC Deb 13 July 1964, Vol 323 c 907.

2 http://www.publications.parliament.uk/pa/cm201213/cmselect/cmadmin/13/1303.htm, paragraph 7

3 Kings Cross and St Pancras stations, the Royal Albert Hall, the British Museum.

5. Decant strategy and issues

Introduction

1. It is clear from the review of the previous handling of the building services issue[1] that the political and practical constraints on the temporary relocation of parliamentary functions need to be explored and clarified at this pre-feasibility stage in order to avoid a further period of planning based on a false assumption. It is also clear that any proposals for temporary relocation need to be acceptable to the Members of both Houses.

2. The House of Commons and the House of Lords returned to their respective places in the Palace of Westminster in 1950, following the post-war reconstruction, and have remained there ever since, apart from a short period in the summer of 1980, when the House of Lords moved to the Royal Gallery.[2] All of the maintenance work that has taken place since 1950 and all of the improvements and additions to facilities that have been provided have been achieved without disrupting the work of Parliament, mainly by taking advantage of weekends, recesses and night-time working.

3. There has always been an understanding that both Houses must be capable of being recalled at short notice for emergency sittings and therefore that essential areas, such as the Chambers, and essential services supporting them, would always be restorable at 48 hours notice. This understanding has significantly limited the scale of maintenance or improvement which it has been possible to contemplate.

4. The issue of a possible future emptying or "decant" of the Palace of Westminster in order to allow major works to take place on the building first came to the surface in 2008-09. This was because the Parliamentary Estates Directorate and its advisors were struggling with the problem of how to carry out a major renovation of M&E services in the Palace without disrupting parliamentary business. Plans were drawn up for a ten-year programme of work on the assumption that, as usual, it would be carried out when the Houses were not sitting. These plans, however, did not take account of all the other major work required on the Palace – such as fire safety works, upgrade of secondary services and replacement of the cast iron roofs, nor of the fact that many Members have their offices in the Palace and there is a great deal of activity that continues during non-sitting periods.

How the issue was handled in 2009

5. In 2008 the Programme Board set up to oversee the modernisation of Palace building services ("Mechanical and Electrical") commissioned a review and due diligence report on the work done so far. The report gave a broad endorsement to the existing plans for a phased rolling programme as providing "the least disturbance to the Palace's day to day business" and accepted that the alternative – a full or partial closure of the Palace for a prolonged period – would present a very demanding and risky logistical challenge.

6. Nonetheless the report noted reasons for considering the full or partial closure options:
   - The opportunity to upgrade and invest in secondary services associated with environmental benefits
   - A shorter programmed period and lower construction costs
   - Earlier reduction of risks to business continuity

7. Following consultation with the authorities of both Houses over the summer of 2008, a Feasibility Study for a Decant of the Palace of Westminster was commissioned, the purpose being to investigate "the benefits and dis-benefits of the different closure alternatives". The study was carried out by a combination of consultants and officials from both Houses and reported in July 2009. It concluded that the previous approach to M&E modernisation, which had tried to schedule all necessary work over a ten-year period without disrupting the work of Parliament, entailed high risks to business continuity. It suggested that a different approach would be preferable, delivering modernisation of secondary services (and other improvements) over a shorter period, while accepting that parliamentary functions would have to be relocated while the work was done.

1 See Annex 1

2 This followed the incident when a wooden boss fell from the ceiling. While the Lords sat in the Royal Gallery, scaffolding and a temporary ceiling were installed in the Chamber.

8. The report noted:

> Many stakeholders interviewed in connection with this study have expressed the view that if a decant is agreed as the most sensible approach to carrying out the M&E Modernisation Project, then as much work as possible should be carried out to the Palace of Westminster during a single period of Decant, and this should include the 'secondary services' to avoid the Palace of Westminster having to be decanted a second time.[3]

9. The report examined a total of nine decant options, ranging from an emptying of the basement level only to the full removal of both Houses and all of their associated offices. The options were subjected to elaborate economic, benefit and risk analysis. The conclusion was that although Option 7 ("Both Houses decant entirely within Westminster") carried the least risk and the greatest potential benefit, Option 4 ("Peripatetic Commons, relocated Lords") appeared to offer the best over-all value for money. Option 4 meant that the House of Lords would be found an alternative home for the entire duration of the programme, while the House of Commons would move between Chambers, allowing first one half of the Palace to have its M&E services modernised, then the other.

10. Although the study recognised that there would be benefits and savings from doing other work at the same time, the costs and savings factored into the cost/risk/benefit analysis were only those estimated at the time for M&E primary services. The costs and savings associated with essential work on secondary services, fire safety and other disruptive programmes were not included.[4]

11. The key difference between Options 4 and 7 was that the additional cost of decant accommodation to cover the requirements of both Houses exceeded the savings to be made by completing M&E modernisation over a shorter period. This was based on the assumption that decant accommodation would have to be found at full commercial cost close to Westminster. The possibility that some decant accommodation might be created in spaces already belonging to the Parliamentary Estate was not pursued.

12. According to this methodology, Option 7 (both Houses decant entirely) was a distinct winner on risks and benefits and definite advantages were seen in offering the contractors a "clear run" of the Palace, for example to strip out asbestos. Option 4 was rated as significantly higher risk, with risks both to the success of the M&E work and to the business continuity of the two Houses. Questions about how to seal off one half of the Palace from the other, how to maintain heating, electricity, data and other services to the occupied site, how to share access and logistics between contractors and the "peripatetic Commons", whether the optimal re-design of services could be achieved, and how to maintain security, were not explored.

13. The findings of the decant study were reported to the House of Commons Commission in July and November 2009 without a specific recommendation on that issue. Instead the management board noted the case for a fundamental modernisation of the Palace that would almost certainly involve a future decant, but argued that the costs, risks and opportunities were such that serious consideration would have to be given to the political significance of the whole undertaking. Steps would be taken to build a vision for the future use of the Palace and to establish the engineering brief for a fundamental overhaul. In the meantime, a programme of aggressive maintenance and risk reduction would be developed in order to keep essential systems going and buy time for a bigger set of decisions.[5]

A fresh look at the decant issue

14. For the purposes of this study we have reviewed all the documentation that lay behind the 2009 decisions, we have consulted widely (and confidentially) with construction and heritage experts and we have also considered the experience of some other Parliaments faced with similar issues. We can now benefit in addition from the experience to date of the Medium-Term M&E Programme.[6]

3 *Feasibility Study for a Decant of the Palace of Westminster*, 16 July 2009, p2

4 *Feasibility Study for the Decant of the Palace of Westminster*, p26

5 The House of Lords House Committee took note of this approach at its meeting on 27October 2009

6 Lessons learned from the medium-term M&E programme are summarised in Annex 5

15. A detailed analysis of the previous handling of the long-term M&E problem is given in Annex 1. The conclusions drawn from this include:
    - The business case for a fundamental renovation of the Palace needs to be addressed holistically rather than service by service with the likelihood of almost non-stop disruption over many years;
    - The real constraints on the temporary relocation of Parliamentary functions need to be explored and clarified at the pre-feasibility stage in order to avoid a further period of planning based on a false assumption (either way);
    - Proposals for temporary relocation need to be acceptable to both Houses.

16. The evidence of the current Medium-Term M&E Programme is that even a limited intervention such as the remediation of Riser J will take much longer and cost much more than expected. This is not only because work has to take place at "quiet" times, mainly at night and on Sundays, but also because all of the services that pass through Riser J have to be maintained by bypassing them to temporary pipes and cables outside the building and in an adapted stair well. At no time can the contractors take full control over the site: every move has to be agreed with those responsible for keeping both Houses fully operational. Although the programme is only dealing with one riser and 15% of the plant rooms it is already close to the edge of what can be achieved in the midst of a working Parliament. It does not create confidence that this approach could be scaled up in future years to permit the full-scale renovation and modernisation of the Palace.

17. It is notable that other parliaments facing similar dilemmas have reached the same conclusion and are planning to empty their historic buildings for essential work in coming years.[See Annex 3]

18. The experts whom we consulted were able to cite some cases of major buildings (the Royal Albert Hall, some major railway stations) that stayed "open for business" during major renovation works. These cases may merit further investigation in the next phase, but on current information none seems a close parallel to the position of the Palace of Westminster.

19. All saw great advantages in working on an unoccupied site:
    - A single clear authority over the site
    - Opportunity to carry out invasive investigation of normally inaccessible parts of the building
    - Opportunity to strip out redundant machinery, infrastructure and asbestos without having to maintain services to the building at the same time
    - Shorter duration of disruption
    - Lower cost
    - Opportunity to re-instate the building and its services with consistent designs and strategies

20. The scale of the necessary modernisation work also points to this conclusion. The Mechanical and Electrical infrastructure of the Palace may be summarised as:
    - Intake of utility services and other connections (e.g. data networks) from outside the Palace at various points
    - Approximately 90 basement plant rooms
    - 4 km of steam pipes; 13 km of cold water pipes
    - 150 km of low voltage cabling; 180 km of data cabling: 98 risers – i.e. vertical service shafts taking pipes and cables to and from the upper floors
    - Approximately 40 plant rooms located on the upper floors (including in roof spaces)
    - Horizontal distribution networks on the upper floors taking services to rooms (usually concealed in floors, walls or ceilings)

21 When the roof spaces, secondary services to all rooms in the Palace and essential conservation of the fine rooms on the Principal Floor are added to the list, there are few parts of the main structure of the Palace that would be unaffected.[7]

22. In short, it makes no sense to take issues such as M&E primary services, M&E secondary services, fire safety, environmental performance improvement, asbestos removal and general conservation in isolation from each other. In addition, the broader issue of modernised design and use of the building could be considered. Rather than disrupt the work of Parliament repeatedly for different reasons there would be benefits in developing a single programme

7 There are a few parts of the Palace that are relatively self-contained, such as Westminster Hall (including the structures along its western edge), the Elizabeth Tower and the Victoria Tower. The extent to which these areas could be kept safely accessible and in use during major works on the main structure of the Palace is still to be investigated.

of modernisation, reducing the period of disruption to the essential minimum and planning a single set of temporary arrangements. This approach would be different to the scenario investigated for the Decant Study in 2009 because it would allow the benefits and savings arising from several inter-related programmes to be set against the costs of a single period of temporary relocation.

23. Not all of the work that needs to be done on the Palace requires an unoccupied site. The first phase of the cast iron roofs overhaul programme and the progress made so far with the medium-term M&E programme have demonstrated that some categories of work can be completed taking advantage of night-time, weekend and recess working, albeit at higher cost than would otherwise be the case.

24. A rational approach to modernisation would therefore seek to minimise the period of temporary relocation by scheduling as much as possible of the less disruptive work for the years immediately before and immediately after that period.

An approach to the problem of temporary relocation: three critical success factors

25. The most fundamental requirement for the temporary relocation of Parliamentary functions is that **legislative and political work should be unimpeded at all times**. Neither House is constitutionally obliged to sit in its present Chamber and both have sat elsewhere in the past. Few historical accounts of the Factory Acts and the repeal of the Corn Laws find it necessary to recall that the memorable debates and votes of that era actually took place in temporary Commons and Lords Chambers following the fire of 1834.[8] Similarly, it is immaterial where committees of either House meet and take evidence, although if those meetings coincide with plenary sittings it cannot be too far from the Chambers.

26. In order to meet this fundamental requirement, satisfactory alternative arrangements need to be made for the chambers, for committees and for the essential services that support them. Equally, because politics takes place also in lobbies, corridors, reading rooms and refreshment places, equivalent spaces need to be provided in the vicinity of temporary locations for chambers and committees. Similarly alternative accommodation would need to be found for those Members and staff of the Houses who currently occupy offices in the Palace.

27. One of the flaws identified in the proposals for M&E modernisation prior to 2008 was that they tried to fit essential engineering and building work into weekends and recesses, with the consequence that any unplanned over-run of work would have had the potential to disrupt Parliamentary activity. Similarly, under those plans, it might have been difficult or impossible for Parliament to reassemble at short notice to deal with an emergency. The great merit of a full decant (and the reason that it scored a very low risk rating in the 2009 study) is that Parliament can be sure of operating unimpeded in its temporary locations.

28. A second essential feature of a temporary relocation strategy is that it must allow **the greatest possible freedom to those carrying out the modernisation work in the Palace**. Annex 4 (lessons learned from the Medium-term M&E programme) demonstrates the extra costs and risks arising from the attempt to carry out fundamental engineering work, including asbestos removal, in confined spaces within an occupied and busy site. A fundamental modernisation would involve a large contractor force on site, together with their equipment and statutory amenities. The Construction Design and Management Regulations 2007 would apply and there would have to be a strictly coordinated plan for managing risks on the site.

29. The third critical factor is **minimising cost**. The cost of modernising the Palace of Westminster will inevitably be high. The cost of maintaining a large, complex, iconic, heritage building will always be high and is increased in the present case by the neglect of key infrastructure in recent decades. The costs of providing alternative accommodation for Parliament should be taken into account as an essential enabler of modernisation, but would need to be kept to an essential minimum.

8 The same could be said of the memorable debates and votes of the 1945-50 Parliament.

30. The cost of temporary accommodation will be determined by:
    - The scale of the requirement (whether it fully replicates the facilities of the Palace of Westminster, or only to a degree)
    - The extent to which new sites have to be acquired (as opposed to using space available on the Parliamentary or Government estate)
    - Proximity to Westminster and Whitehall
    - The extent to which the accommodation requires modification for Parliamentary use
    - The cost of securing the site or sites
    - The standard of the accommodation
    - The duration of the decant

31. Some of these factors are more discretionary than others. The range of possibilities is illustrated by the plans of the Canadian and Austrian Parliaments in the face of similar dilemmas, the first using a combination of temporary structures on its existing estate and nearby vacant buildings, the second proposing to take over temporarily a vacant university campus five km from the Parliament site.[9]

The possible sequencing of a decant

32. As noted in paragraph 11, in 2009 Option 4 scored highest in the cost/risk/benefit analysis because it reduced the cost of decant accommodation. On several grounds this conclusion should now be challenged:
    - It assumes that it would be necessary to replicate all of the facilities of the Palace in alternative accommodation at commercial rates
    - It is based on pre-recession property values
    - It assumed that no additional space could be found on the Estate for functions temporarily displaced from the Palace

33. Option 4 also implied that it would be feasible to split the Palace into two halves, entirely sealed off from one another and to operate one as a fully functioning Parliamentary building while the other became a building site. Given that the current M&E services of the Palace are indivisible, this implies that the "live" half of the Palace would have to run entirely on temporary services during the first phase. The logistics of this scenario are very difficult to imagine, and the security challenge would be almost insurmountable.

34. Consultation with external experts has emphasised the need for a rolling "discovery" phase of renovation, during which redundant infrastructure and asbestos would be stripped out and contractors would have uninterrupted invasive access to all areas of the building, including the inter-floor voids, risers and roof spaces. Scaffolding would afford access to the ceilings (for example in the Central Lobby and Westminster Hall) which is normally impossible. Given the largely undocumented nature of these areas at the moment, this phase would be an essential prerequisite to modernisation. Although designs for new services, for conservation and for approved adaptations to the Palace could be drawn up during the planning phase in advance of decant, it would not be possible to finalise them without full access for investigation.

35. These factors strengthen the case for a complete emptying of the building once alternative accommodation is ready to be brought into use.

36. Once a preliminary phase of stripping out and discovery is complete, it is conceivable that the installation of new services, fitting out and reinstatement could be on a prioritised basis, allowing re-occupation to be phased. This could, for example, allow the West Front and the two Chambers to be brought back into use ahead of the River Front. A detailed feasibility study to examine sequencing issues of this kind should be carried out in the next phase of planning.

9 See Annex 3 on the experience of other Parliaments.

Some decant scenarios

37. A preliminary feasibility study suggests that it would be possible to create a temporary building to house the Commons Chamber within the existing security perimeter on the Parliamentary Estate. Three sites on the northern estate have been found to be feasible and outline estimates of cost have been provided.[10]

38. The main advantage of a temporary Chamber block for the Commons would be that full use could still be made of the northern estate – including Members' offices, and the library reading rooms in Derby Gate. If Westminster Hall remained available for use and new accommodation had entered use in 53 Parliament Street (currently due in 2013), the requirement for additional temporary accommodation and catering facilities in the vicinity would be relatively limited. A realistic decant scheme could therefore be drawn up for the House of Commons.[11]

39. The House of Lords could also retain its outbuildings in Old Palace Yard, Millbank House and Fielden House and is accustomed to these buildings being outside the Palace security perimeter. Potential sites have also been identified for a temporary Lords Chamber, either as a free-standing structure, or within existing conferencing accommodation in the vicinity. A realistic decant strategy is available therefore for the House of Lords. As with the Commons there would be a need to provide some office accommodation and identify additional catering facilities, but there is evidence that sufficient space would be available to lease for these purposes in nearby buildings.[12]

40. It is axiomatic that if the Palace of Westminster is to be emptied in order to allow major renovation work to proceed, it will be necessary to remove valuable heritage artefacts to safe storage and take active steps to record and protect heritage features that cannot be removed. Some moveable objects might be put on public display elsewhere during renovation.

Conclusions

41. It would be unwise to cost specific scenarios at this very early stage, given the likely fluctuations that will take place in commercial values and the availability of particular buildings in the time that will elapse before firm decisions are made on Palace of Westminster modernisation.

42. The options are therefore considered at this stage only in terms of very high-level aggregated costs and to illustrate the key strategic choices outlined in the preliminary consideration of the economic case.

43. Early research and feasibility studies demonstrate that, if the case for emptying the Palace in order to facilitate fundamental renovation and modernisation some years from now were to be accepted, there are feasible options for temporary relocation that could accommodate this and ensure the continuity of parliamentary work.

10 See also Annex 3 on the experience of other Parliaments; Canada

11 A total of 828 people had working desks in the Commons part of the Palace as of 1 May 2012. This total consisted of 254 Members, 321 Members' staff and 253 others (mainly House of Commons staff). Source: HC Deb 21 May 2012 c376W

12 365 Members of the House of Lords share 110 offices in the Palace of Westminster (Information from HoL Department of Facilities, June 2012)

6. Economic case

1. The following broad options have been considered:
   1) Continue indefinitely with reactive maintenance, occasional partial decants for specific projects, risk reduction and postponement of comprehensive modernisation (the "base case")
   2) Plan and build a new Parliament building elsewhere
   3) Plan and deliver a comprehensive modernisation without major decant
   4) Plan and implement a staged comprehensive modernisation with full decant when essential

2. No true "do nothing" option has been considered because a certain level of remedial activity and expenditure is essential for reasons of health, safety and business continuity. The first option (which is effectively the current position) is as close to minimal as can reasonably be considered.

Option 1: Continue indefinitely with reactive maintenance, occasional partial decants for specific projects, risk reduction and postponement of comprehensive modernisation

3. This is broadly the option that has been pursued since 2009, except that there has been an explicit understanding that it is only a holding strategy, pending a comprehensive modernisation which would need to begin by around 2020. It has never been the expectation that this could become a permanent strategy, rolling forward indefinitely.

4. Were it to be continued indefinitely, this option would come to resemble Option 3, with the difference that Option 1 would accept that comprehensive designs and approaches were unachievable. A high level of disruption would be inevitable and there would be a continuous rolling programme of remedial work designed to mitigate the areas of highest risk in time to avoid disasters. The scale of current problems and obsolescence means that the strategy would be in danger of failing at a point in the future, because, given the age of the infrastructure, risks would rise at a faster rate than the remedial work needed could be accomplished. Furthermore, because the capacity of the Palace to absorb contractors and their cabins and to carry out noisy work out of hours are limited, priority would always have to go to risk reduction, leaving little opportunity for any other improvements.

5. This option implies many years of partial interventions, delivered under separate contracts with risks to continuity and coordination. For this reason it is likely to be the most expensive option over the long run, particularly if it exposes the Palace to a higher risk of calamitous failure, for example from fire, which would have to be followed by unplanned relocation and rebuilding. Another possibility is that the Palace might simply have to be closed at some point on grounds of health and safety and unacceptable fire risk.[1]

Option 2: Plan and build a new Parliament building elsewhere

6. The terms of reference of the Study Group required a review of the full range of possibilities, including "new build" Parliamentary accommodation.

7. This is not a new idea. In 1943 James Maxton MP proposed that after the war a new Parliament building should be erected "in good English parkland" outside London and that it should be "the finest building that British architecture can devise".[2] In 1966 James Dickens MP asked the prime minister to establish a Royal Commission "to consider the feasibility of building a new administrative capital, including new Houses of Parliament, at a suitable location north of the River Trent".[3] Debating the Ibbs Report in 1990, Hugo Summerson MP commented "This place is a museum, and that is how it should be in future. We need a brand new facility, and we should leave this place to the Americans and the Japanese."[4]

8. More recently, Lord Adonis has suggested that "If the House of Lords is going to be reformed next year, part of the reform should be to move it out of London to a city in the Midlands or the north, perhaps next to the relocated BBC in MediaCity in Salford Quays."[5]

9. Since 1945, there have been many examples around the world of new purpose-built parliamentary buildings, including those created for the Scottish Parliament and the Welsh Assembly. Most have been the result of a new constitutional settlement (such as devolution in the UK) or of a decision to move the

1 See Annex 3. Other parliaments in a similar situation have concluded that piecemeal maintenance ceases to be viable beyond a certain point.
2 HC Deb 28 October 1943 vol393 c412
3 HC Deb 17 May 1966 vol728 c1126. The answer was "no".
4 HC Deb 17 January 1991 vol183 c1071
5 The Spectator, 19 April 2012.

seat of government, as in Brazil and Nigeria. Australia opened a new Federal Parliament building in 1988, the long-delayed result of a decision made in 1909 following the creation of the Federation.

10. Few countries locate their national parliaments and their centres of government in different cities.[6] In the UK, where ministers of the Government are simultaneously Members of Parliament, where the Prime Minister derives his political authority from his ability to command a majority in the House of Commons, and where one of the primary tasks of Parliament is to subject the work of government to political scrutiny, the geographical proximity of Parliament to Government is of significance. If Parliament were to be located at a distance from the work of government, substantial additional costs would be incurred in arrangements to enable the necessary interactions to be continued.

11. For these reasons, it has been assumed for the purposes of this study that a new Parliament building for the UK Parliament would have to be located in central London.

12. In the event that the UK Parliament were to move to a new site, the existing freehold parliamentary outbuildings could be sold and used for other purposes, but the Palace of Westminster would continue to be a Royal Palace and a listed building of immense historical and cultural significance. It might become a museum and fulltime visitor attraction, but it is unlikely that the costs of essential refurbishment and future maintenance could be fully recovered from visitor tickets and other forms of commercial income generation. In modelling this option it has therefore been assumed that the Palace remains in some way a charge on the public purse, whether or not it sits for accounting purposes with the House of Commons and the House of Lords, as at present.[7]

Option 3: Plan and deliver a comprehensive modernisation without major decant ("the slow track")

13. This option would require all necessary works to be planned and implemented in such a non-disruptive way that the essential business of Parliament could continue with only moderate and acceptable negative impacts. This would be very challenging and non-essential activities, such as weekend and recess opening and other events, would almost certainly have to be curtailed for many years.

14. Current programmes, such as medium-term M&E and cast iron roofs, provide some experience of the techniques that this approach would require. But the evidence is that in achieving only a small percentage of the overhaul that the Palace requires, these programmes have already gone to the edge of what is possible on an occupied site. Each of these projects has taken much longer at higher cost than would have been the case on an unoccupied site.[8]

15. If the solution were to slow down modernisation to the pace that an occupied Palace can accept then, as with Option 1, the risks associated with obsolescence and dilapidation would rise faster than the remedies could be implemented. On the basis of recent experience, the duration of such a programme could be 20-30 years or more. This would imply a willingness to accept risks which was not demonstrated by any of the stakeholders consulted by the Study Group.

16. An alternative approach might be to tackle the Palace in smaller chunks, emptying each in turn with a succession of "mini-decants", but, again, time would be against a rolling programme of this kind. Moreover, given that the Palace is a highly-integrated building and that many of the services are inter-connected, like the basements, voids and risers, it is difficult to see how part of the Palace could continue to function, with acceptable levels of risk and security, while another part is comprehensively refurbished. Such an approach would also have substantial implications for the efficiency of the renovation, since it is unlikely that truly optimal designs of services could be achieved in discrete sections.

6 Chile is an exception. Since 1990 the National Congress has met at Valparaiso, 75 miles from Santiago.

7 See Annex 3 on the experience of other parliaments. Although new-build may be a cheaper or more efficient option, the symbolic importance attached to the historic seat of a parliament and the importance of proximity to the institutions of government often preclude that option.

8 See Annex 5 for lessons from the medium-term M&E programme.

Option 4: Plan and implement a staged comprehensive modernisation with full decant when essential

17. This approach would unfold in four broad stages. In the first stage, as much work as possible would be done without causing major disruption to the Palace. This would include design and planning of modernisation, any work that can sensibly commence without causing major impacts and preparation in parallel of temporary accommodation.

18. In the second stage the Palace[9] would be emptied and activities would move into temporary accommodation elsewhere. Depending on the nature of the contracts agreed, responsibility for the site could transfer to the prime contractor and an intense process of "discovery" would begin to ascertain the condition of inaccessible areas and confirm implementation plans. This would be followed by the stripping out of old services and asbestos.

19. In the third stage renovation would take place, giving priority as far as technically feasible to the two Chambers and adjoining areas.

20. In the fourth stage the Palace would be reopened and reoccupied, either in a single exercise, or in phases with priority given to restoring the two Chambers and adjacent areas to use at the earliest opportunity.

21. In the early years this option has a higher financial cost profile because of the need to fund temporary accommodation but, depending on some key variables and assumptions which are discussed elsewhere, it may have the lowest long-term cost. The benefits would be of inherently greater value and would be realised earlier than with Options 2 and 3. Legacy benefits would include significantly lower maintenance costs and reduced carbon footprint, the possibility of permanent design and conservation improvements, the removal of asbestos, reduction in fire risk, prolongation of the interval before the next round of disruptive refurbishment, stimulus to specialist crafts with benefit to other historic buildings in the future, and creation of an "exemplar" effect for sustainable conservation in the UK.

22. The lower risks arise mainly from two sources. By removing Parliamentary activity to temporary alternative locations, Option 4 reduces the risk of system breakdown caused by obsolescence while protecting Parliament from the range of risks arising caused by sharing the Palace with contractors carrying out major engineering work.[10]

23. It also reduces the risk that the engineering work will be delayed or disrupted by Parliamentary activity, leading to cost and time over-runs.

Comparing the options: costs, risks and benefits

24. Comparing the four options is not a straightforward exercise because they would unfold over different periods with different outcomes and risk profiles. All four options are intended to achieve the essential minimum renovation of the Palace which is the fundamental driver for this exercise.

25. Options 2 and 4, by contrast with Options 1 and 3, provide opportunities for what might be described as "improvement benefits", that is, benefits that are additional to the like-for-like replacement of building services that would only prolong the life of the Palace with its current configuration.

26. The most promising areas for such "improvement benefits" appear to be:

- Improved accessibility for disabled people
- More informal meeting places for Members of both Houses and their visitors
- Better management of public access with improved security
- Making the history of the building more visible and accessible
- More flexible wireless ICT, enabling new ways of mobile working
- Synergies with the enhancement of the Westminster World Heritage Site as a whole

27. Option 4 would create opportunities to achieve some or all of these benefits at Westminster; Option 2 would achieve some of them in a new Parliamentary building elsewhere and others in a preserved historic

9 This means all or most of the Barry/Pugin structure. Subject to further investigation, Westminster Hall might be kept open, as might some peripheral parts of the nineteenth century Palace, such as the Elizabeth (Clock) Tower and colonnade.

10 See Annex 3 for similar approaches adopted by other parliaments in a similar situation.

Palace of Westminster, which would no longer be the normal home of Parliament. These benefits (and any others that are subsequently identified) would require further evaluation in the next phase of carrying out a full options appraisal.

28. The table below provides a high level comparison of the benefits and disbenefits (that is, positive and negative impacts, including potential impacts) of the four options.

Comparison of costs, optimism bias, strategic risks and benefits

29. HM Treasury guidance requires certain risks to be built into an "optimism bias" in outline construction project costings. Optimism bias compensates for the human tendency to estimate on the assumption that things will go well, whereas the lesson from experience is that this is not always the case. Treasury guidance requires explicit percentage adjustments to be made to project estimates to take account of this tendency.

Benefits and disbenefits – high level comparison

Benefit Description	**Option 1** (continue holding position indefinitely)	**Option 2** (transfer Parliament to new building)	**Option 3** (attempt to modernise without decant)	**Option 4** (modernise with planned decant)
The risk of severe or catastrophic disruption of the work of Parliament caused by service failure is reduced	√	√√√	√	√√√
At the conclusion of the programme the configuration of Parliamentary buildings and facilities corresponds more closely to Parliament's requirements at that time and its emerging requirements for the future (see below).	No	√√√	√	√√
At the conclusion of the programme the environmental efficiency of the Palace of Westminster is improved.	√	?	√	√√
The maintenance and energy costs of Parliament are reduced	√	√√	√	√√
The Palace of Westminster is preserved in good condition for future generations.	√	?	√√	√√√
[significant dis-benefit] During the implementation phase of the programme the operation of Parliament in its current environment is significantly,(though temporarily) inconvenienced by major works and/or relocation of functions.	Yes, in the event of an unplanned failure.	No	?	Yes
[significant dis-benefit] During the implementation phase of the programme opportunities to visit the Palace of Westminster are likely to be curtailed.	No	No	probably	Yes

30. At the outset the guidance recommends that there should be an assumed optimism bias of 51% in the case of non-standard building projects to take account of the particular uncertainties that arise when dealing with old buildings, specialised business processes, complex interdependencies, innovative designs and multiple stakeholders. The optimism bias may be reduced only as the risk factors that could affect costs are analysed and mitigations adopted. In the preliminary strategic case this can be done only at a high level. In the full options appraisal and outline business case the actual risks and mitigations would be modelled in a much more systematic way.

31. In the table on page 40 the full optimism bias of 51% has been applied to Options 1 and 3 because the refurbishment of the Palace of Westminster inherently entails virtually all of the risk factors associated with non-standard building projects.

32. For Option 2 optimism bias is reduced to 22% because a) this option avoids parliamentary and building activities taking place at the same time on the same site; and b) decisions could be made to ensure that the proposed new parliamentary building follows a standard low risk design.

33. For Option 4 the optimism bias has been reduced to 30% on the grounds that it separates parliamentary activity from building activity, but all of the other risk factors still apply at this stage.

34. Long-term strategic risks would also arise from allowing the Palace of Westminster to become more dilapidated, with unreliable and potentially unsafe building services and un-modernised fire protection measures. These risks are likely to rise steadily as long as they are un-mitigated or only partially mitigated. They are therefore greater for Options 1 and 3 which take significantly longer to implement than Options 2 and 4.

35. Risks of this nature can be assessed in terms of the probability that they will occur and the potential impact if they do, but it is not easy to place monetary values on the potential impact. In the comparison table the strategic risk assessment is therefore made below the financial bottom line as a red/amber/green flag. Similarly, the scope for additional benefits with each option is rated only as high, medium or low. The intention is to arrive at a balanced "early view" of the strategic options rather than a single quantitative measure.

60-year costing of the main options and risks

36. The following table presents a high-level comparison of four options for the total cost of ownership of the whole Parliamentary Estate over a 60 year period, including capital investment and maintenance of owned buildings, and the costs of leasing buildings not owned by Parliament. Data from the Parliamentary Estates Directorate and an external consultancy were used to model the options.

37. The estimated capital investment requirement of £1.5bn for the Palace (reduced slightly in the event that the Palace were to become a "museum" rather than a working Parliament) is built up from a combination of projects that are relatively well understood and already have outline costings attached (e.g. M&E primary services, cast iron roofs, fire safety) and requirements that as yet have only speculative costings (e.g. secondary services, network renewal, security-related works). No allowance is made for future building costs inflation, although some of the costings date back to 2009 or earlier.

38. No allowance has been made at this stage for the extra planned costs likely to be incurred in Options 1 and 3 as a result of working in an occupied building. There is evidence, set out in Annex 5, that this factor has added approximately 23% to the cost of the current Mechanical and Electrical Medium-Term programme. There is insufficient evidence at this stage, however, to apply an additional cost of this order of magnitude consistently to Options 1 and 3. This and other issues would be explored in greater depth in a full options appraisal.[11]

39. An optimism bias for non-standard construction is applied with the mitigations set out in paragraphs 31-33 applied to the capital investment elements.

40. As explained in paragraphs 34 and 35 no attempt is made to quantify protection from strategic risks or scope for additional benefits, but these are indicated in broad terms below each option.

11 As noted on p61, consultants working for the Canadian Public Works Department estimated the additional cost factor if major refurbishment were to take place in a partially occupied Centre Bloc at a minimum of 50%, more if there were to be numerous unscheduled interruptions to avoid disrupting the work of the Parliament.

Preliminary strategic analysis of costs with adjustments for optimism bias and discounted present value

	Option 1 continue reactive maintenance indefinitely without major decant (£bn)	**Option 2** new building for Parliament; basic renovation of Palace; sell existing owned outbuildings (£bn)	**Option 3** modernise to a new blueprint without major decant (£bn)	**Option 4** renovate and modernise with a planned decant and return (£bn)
Capital investment (Palace)	1.5	1.4	1.5	1.5
Capital investment (New Building)		0.8		
Investment in temporary facilities				0.1
Optimism bias	0.8	0.5	0.8	0.5
Capital costs with optimism bias	2.3	2.7	2.3	2.1
Discounted capital investment (without optimism bias)	Over 25 years: 1.0	Over 13 years: 1.7	Over 25 years: 1.0	Over 12 years: 1.2
Discounted capital costs adjusted for optimism bias	1.5	2.0	1.5	1.6
Other discounted costs and receipts over 60 years	2.4	2.2	2.4	2.4
Lifecycle costs over sixty years (discounted with optimism bias)	3.9	4.2	3.9	4.0
Optimism bias (%)	51%	22%	51%	30%
Exposure to strategic risks	High: Red	Medium: Amber	High: Red	Medium: Amber
Scope for improvement benefits	Low	High	Low	High

Sensitivity Analysis

41. For the purposes of the modelling and calculation of present value it was necessary to make certain assumptions about future costs and the years in which they would be incurred. It is therefore important to understand which assumptions make a significant difference to the present value outcome.

42. Although it was necessary for the purposes of modelling the options to assign events such as the opening of a new Parliament building and the commencement of major renovation in the Palace to specific future years, small variations in the assumed timescales do not generally make a big difference to the outcome. By contrast, the difference between spreading capital costs over 10 years or 25 years is very significant when costs are expressed at present value.

43. Other assumptions that could have a significant impact on the calculations include:

- Growth in energy costs – the new building in Option 2 is assumed to be more energy efficient than the Palace. Rising energy costs would therefore make the new building option more attractive.
- A new building is also assumed to be cheaper to maintain and secure throughout the 60 year cycle. Small variations in the costing of this assumption will therefore make a material difference to present value.
- Use of the Palace after the departure of Parliament to a new site: in Option 2 it is assumed that the Palace would remain a charge on the public sector, but that its use would be less intensive, and some of the costs of renovation and maintenance could be reduced or offset by income. Other buildings owned by Parliament are assumed to be sold at market rates. All of these assumptions affect the estimated present value of Option 2 significantly.

Reducing costs

44. Some of the costs that have been built into the financial modelling could be reduced, for example by reducing quality expectations of the buildings, or by providing alternative accommodation for the decant options with lower standards.

Additional analytical tools

45. The costing model described above allows for a broad comparison of options at a high level. It should be developed and refined in the course of drawing up the full options appraisal. It does not attempt to take into account factors such as reputation and social impact, that cannot be readily translated into cash flows.

46. A range of tools have been developed to allow the comparison of options against a broader canvas of financial and non-financial data. These include tools for "triple bottom line" analysis as developed by the National Trust and others, where "triple" refers broadly to human, economic and sustainability criteria.[12]

47. Applied to the case of the modernisation of the Palace of Westminster, a triple bottom line analysis might look at the impacts of the proposal in terms of:

People

- Those who routinely work in the Palace
- The UK public as "users" of Parliament
- The wider public as stakeholders in UK and world heritage

Conservation and sustainability

- Conservation
- Environmental footprint
- Significance[13]
- Reputation

Economic

- Efficiency and effectiveness of Parliament
- Value for Money
- Risk and business continuity
- Impact on UK economy

48. These approaches can be developed in the full options appraisal, alongside whole-life costing of the options in cash terms.

12 Katy Lithgow, Sarah Staniforth and Paul Etheridge, "Prioritizing access in the conservation of National Trust collections", 2008

13 Seeks to value the uniqueness of the Palace. If there were several other Palaces of Westminster in better condition than this one, we might rationally devote less resources to conserving it.

7. Commercial case

1. The commercial case for the modernisation proposal will need to be developed in depth if the decision in principle is made to move towards a full outline business case, but certain key factors and principles are already clear.

The scale of the problem

2. Modernisation of the Palace of Westminster will require engineering and construction capability way beyond what the Palace retains for routine maintenance and the current scale of project activity. Already most Estates projects are carried out by commercial third parties under contract. While the Estates Directorate has internal resources to carry out planning and asset management, procurement, and a degree of programme and project management, it already relies on a range of commercial third parties to provide additional professional services under contract.

3. Comprehensive modernisation of the Palace will require capability above and beyond anything that Parliament has done since it assumed responsibility for the Estate in 1992, including the design and building of Portcullis House. Many different specialist capabilities will be required and a multitude of contracts over a long period. The preparatory team will need to research the supply chain and understand the opportunities and constraints. Commercial partners, once selected, will need time to mobilise their forces to meet Parliament's needs and timescales.

4. Procurement strategies and issues such as risk transfer or retention will therefore be fundamental to the success of the undertaking.The Study Group has already taken some advice on this subject from individuals and organisations with experience of refurbishing major historic buildings and there is also much to be learned from the experience of other parliaments and organisations faced with similar problems. Particular attention has been paid to the lessons learned from creating new parliamentary buildings in the UK, such as Portcullis House and the Scottish Parliament. Much more work will need to be undertaken on this set of issues before the commercial strategy can be finalised.

Cost certainty

5. It is highly unlikely that the whole task could be undertaken on the basis of a single fixed-price contract with a prime contractor. Too much is unknown about the scale of some of the challenges and will remain unknowable until contractors gain full access to the site and are able to open up inaccessible places. This will inevitably become an issue in the decision-making process and in communications because stakeholders and the public will naturally wish to know at the outset what modernisation is going to cost. While total cost certainty will be unachievable, everything possible will have to be done to provide responsibly for risks and contingencies. A possible approach to this would be to assign confidence levels to costings, or to cost on three scenarios: best case, worst case and most likely case.[1]

Risk

6. A key issue in the procurement strategy will be the understanding and sharing of risks between the parties. Risks may be parcelled out and shared as part of the contracts and procurement strategy, but some of the larger risks need to be addressed and where possible reduced at the outset.

7. Some of the risks are generic and have been very well analysed in the contest of other major public sector projects, including the building of the Scottish Parliament: incomplete or ambiguous definition of the brief; scope creep; lack of continuity in governance; changing strategic context over time; political change; weak programme and project management. Any of these could threaten the success of the programme and its chances of completing on time and budget, with negative impacts on client and suppliers alike. Indeed, it has been suggested that one of the greatest risks to the whole undertaking is indecision.

8. Risks of this nature cannot be transferred to the suppliers, but they can be reduced, if not eliminated, by "the client" adopting certain decisions and behaviour.

1 The outline business case will also begin to quantify risk allowances and contingencies.

Creating the client

9. The study group has taken advice on the use of special purpose vehicles (SPV), of which the Olympic Delivery Authority (ODA) is a topical and instructive example. Special purpose vehicles are legal vehicles created in order to achieve a specific and usually temporary objective, either public or private. The ODA was an accountable public body set up with the objective of creating the infrastructure and venues for the 2012 Games.

10. At present there is no single client for the modernisation of the Palace of Westminster. The House of Commons and House of Lords are separate corporate bodies,[2] one managed by a statutory Commission, the other not. The Palace remains a Royal Palace and the Lord Great Chamberlain retains a particular interest in certain areas of the Palace.[3] English Heritage, Westminster City Council and UNESCO have strong stakeholder interests for planning and conservation purposes. The various London authorities and Parliament's Westminster neighbours also have interests, for example in tourism, crowd control, traffic and security that could be affected by modernisation of the Palace.

11. The creation of a single client body to serve as the investment decision-maker with full authority for the modernisation of the Palace of Westminster would go a long way towards mitigating and reducing the client-side risks to a modernisation programme. The authority would need to be in place before major contracts were let and would remain in place to oversee the budget, business case and delivery through to the end of the modernisation process. This would be likely to require special legislation. As with the ODA the authority would be responsible for creating a "legacy", in this case a modernised Palace of Westminster, which would be handed back to its normal owners and users. For the duration of the programme the special client authority would have to take full legal responsibility for the Palace, including its security and conservation. As with the ODA the authority would be accountable for its own budget and would oversee all aspects of procurement strategy and contract letting. It would be likely to identify and let contracts to a range of individual commercial partners or consortia.

12. While the authority would be likely to delegate some authority to its chief executive, ultimate responsibility would sit with a main board representing both Houses and exercising political judgement in a non-partisan way on their behalf.

2 Parliamentary Corporate Bodies Act 1992

3 As set out in the Prime Minister's statement of 1965: HC Deb 23 March 1965, vol 709 c 328

8. Financial case

1. A first analysis of the costs of several options has been presented under the heading of Economic Case.

2. Consideration could be given to a Private Finance Initiative (PFI) deal, which would require private interests to raise the capital requirement and spread the cost to the public in the form of annual payments over many years. For example, the HM Treasury building was refurbished under a PFI deal in 2002 with annual payments for 35 years.

3. Whether a similar arrangement would be appropriate for the Palace of Westminster is for political debate. The long-term cost of the arrangement and the allocation of risk are likely to be controversial.

4. Under a conventional public funding arrangement modernisation of the Palace of Westminster is likely to require capital funding spread over at least 10 years, with the heaviest expenditure in the second half of this period. This assumes that there would be a requirement for professional services throughout the programme, and that construction costs would fall primarily in the second half, along with the costs of temporary accommodation.

5. After that Parliament could expect to enjoy a period of substantially lower maintenance costs for a period of, perhaps, 25-30 years. Energy usage might also be lower, but cash savings would depend on future trends in energy prices.

6. It is too early to put figures on the capital cost of modernisation, other than as orders of magnitude. As suggested elsewhere, an outline estimate should be prepared in the next phase based on worst case, best case and most likely scenarios.

7. The capital cost will be high, reflecting the scale of the building, its historic features and a long period of underinvestment. The affordability of the undertaking will be for political consideration. There may be ways of reducing the cost by minimising the risks discussed in the section on the commercial case, and by economising on the costs of temporary accommodation, but there will come a point at which there is a choice between renovating the building or relinquishing it.

8. There will be a very strong interest in achieving value for money. No one will want to see scarce resources squandered on nugatory expenditure during the period before modernisation, or caused by changes of direction during modernisation. Similarly no one will want to see resources and time wasted on sub-standard work that has to be re-done. There will need to be an emphasis throughout on quality strategy, due diligence and assurance on these issues.

9. Management case

1. The Study Group on the Modernisation of the Palace of Westminster has created this pre-feasibility study based on research and initial stakeholder consultation to a broad remit agreed by the House of Commons Commission and the House Committee of the House of Lords. The Study was sponsored by the Director General of Facilities in the House of Commons (overall, and on behalf of the Commons Management Board) and the Director of Facilities in the House of Lords (on behalf of the Lords Management Board and as current chairman of the Parliamentary Estate Board).

2. The study group has benefited greatly from the advice and guidance of two Members nominated by each House.

3. The Study Group has also benefited from the expertise of the Parliamentary Estates Directorate and from survey and consultancy work that had been previously commissioned or planned by the Estates Directorate in support of the medium-term M&E programme and the 25 year Estates Strategy under the auspices of the Parliamentary Estate Board.

4. The Parliamentary authorities will wish to see a full options appraisal and outline business case for modernisation before deciding in principle how to proceed. This will include further feasibility studies and will take at least six months to prepare. This activity will require more formal management controls than have been needed for the pre-feasibility study, not least because it will require a larger team and will begin to incur significant programme costs.

5. As and when a decision to proceed is made on the basis of a full options appraisal and outline business case, the process of implementation will require carefully crafted management arrangements at every future stage.

6. Recommendations follow for the next stage (i.e. preceding a decision in principle) and then (more tentatively) for implementation.

The next stage

7. The next stage is likely to involve:
   - Managing consultation on the core modernisation proposal through to a political decision in principle
   - Developing and documenting the modernisation business case (including further feasibility studies, procurement and supply chain issues, governance, possible need for legislation, timescales)
   - Developing a plan for dependencies (for example, managing the impact of future modernisation on current programmes and projects, and on operational matters; determining how to continue the mitigation of risks pending modernisation while minimising nugatory expenditure)
   - Beginning to build the organisational capability that will be needed for modernisation
   - Managing communications (stakeholder and public)
   - Adapting the Parliamentary Estates Strategy and identifying opportunities to provide alternative accommodation if needed

8. The following paragraphs draw on what the study group has distilled from past experience of managing major works issues in Parliament, advice received from external professionals in the fields of construction and historic buildings, and from the experience of other parliaments and comparable organisations.[1]

9. The scale, significance and complexity of this activity will require programme management techniques, even though no firm decisions will have been made until the end of this stage. Techniques have been developed for early programme activities such as those in *Managing Successful Programmes* and other methodologies. Similarly, the suite of assurance tools and techniques developed by the former Office of Government Commerce and now sponsored by the governmental Major Projects Office provides ways of assessing capability and readiness ahead of commitment to implement a major project.[2]

10. It is therefore recommended that the next phase should be constituted as a "programme" with appropriate and proportionate controls and documentation.

1 For a fuller account see Annexes 1, 3 and 4.

2 The external member of the study group has provided a summary of best practice in annex 6

11. The programme will require a Senior Responsible Officer (SRO) who should be a very senior accountable official. Given the interest of both Houses in this matter and the fact that the programme will begin to make significant demands on the human and financial resources of both Houses, the appointment of the SRO needs to be agreed by both Accounting Officers. The SRO would chair and lead a programme board composed of officials and non-executives. The membership would be for Accounting Officers and the SRO to agree, but it is recommended that it should include senior Clerks from both Houses, both finance directors, the Chairman of the PEB, at least one non-executive and a full-time programme director at a senior level.

12. The programme director would lead a suitably resourced team with the skills and capacity to carry out the work summarised in paragraph 7. For the next period that could be a team of perhaps 5-6 full-time equivalents and 2-3 part timers, who might continue with other responsibilities in the Estates Directorate or elsewhere.

13. The programme board and programme team would be focused on achieving Palace modernisation, for which there is certain to be a significant lead-in time. They would need to understand and manage the inter-dependencies between the present and the future, but they would have no direct responsibility for day to day operations or programming of short-term projects.

14. Elsewhere in this report, in the Commercial Case, it is strongly recommended that for implementation of Palace modernisation there should be a single legal client, the creation of which is likely to require legislation. Pending such an arrangement the SRO, programme board and programme team will inevitably be accountable to the authorities of the two Houses separately.

15. This can be achieved by reporting separately to the House of Commons Commission and the House Committee, or by reporting to a joint meeting of those authorities. The imbalance in size between those two bodies makes the latter option unwieldy. An alternative interim solution, to combine with formal separate accounting, would be for the Commission and the House Committee to appoint a joint steering group from among their members. Co-option of suitable external non-executive members for expert advice would be desirable.

16. In any event we anticipate that the Commission and the House Committee would wish to refer the matter of modernisation to committees of each House, or possibly to a joint scrutinising body.

A future implementation stage

17. Once a decision in principle to proceed has been made the scale of the preparatory work outlined above would grow and the programme team would need to expand accordingly. If the creation of a single legal client entity is desired, and legislation is required, then the passage of the legislation would imply further decision points.

18. On this scenario, activity focused on designing and implementing the modernisation of the Palace would move to the responsibility of the new authority, once established. A portion of the programme team and experts from the Parliamentary Estates Directorate would be likely to transfer too, to be supplemented no doubt by new specially recruited and contracted expertise.

19. While it is self-evident that the implementation of modernisation would need to be managed and executed by skilled and experienced professionals in all the disciplines involved, it will be important also to ensure that all of those involved in the political governance of modernisation should have suitable training and advice. This was a key learning point from the experience of building the Scottish Parliament.

20. The preparation of alternative accommodation, including the adaptation of existing buildings and, possibly, the creation and fit-out of new temporary buildings, could also be entrusted to the new body, but this arrangement would risk diluting its purpose. Since there would be a continuing need to manage and maintain all of the Parliamentary outbuildings, responsibility for delivering temporary structures and fit-outs could be left with the Parliamentary Estates Directorate, which would continue to maintain a direct customer-client relationship with both Houses for all the buildings occupied by Members and staff.

21. During the lead-in period the preparation of the modernisation programme and the preparation of temporary relocation plans will need to be closely coordinated, paving the way for an orderly relocation process which does not impede parliamentary activity. Assuming that a decision has been made to empty the Palace, parliamentary activity would continue in alternative places and modernisation would proceed for a while on a separate track.

22. As in the preparatory stages, every stage of implementation would need to be accompanied by assurance and due diligence exercises designed to ensure value for money and to identify in good time any risks and issues that threatened the success of the endeavour.

Communications strategy

23. The modernisation of the Palace of Westminster will be a matter of direct concern to all who work in the Palace. Effective communication with Members, their staff and staff of both Houses will be necessary at every stage and a strong understanding will need to be developed of the human impacts of the programme.

24. Modernisation will also be of great interest, and potentially concern, to the public and the media. Many will be concerned for the future of the building, which is admired around the world and seen as fundamental to the image of London and the UK. There will also be a natural concern about the cost of modernisation and a desire to see the process well managed.

25. A draft communication strategy is being developed by the communications teams of both Houses and will be submitted in parallel to this study.

10. Next steps

1. The discussion in this report on the Management Case suggests some of the activities that logically follow on from this pre-feasibility study:
   a) Managing consultation on the core modernisation proposal through to a political decision in principle
   b) Developing and documenting the modernisation options appraisal and business case (including further feasibility studies, procurement and supply chain issues, governance, possible need for legislation, timescales)
   c) Developing a plan for dependencies (for example, managing the impact of future modernisation on current programmes and projects, and on operational matters; determining how to continue the mitigation of risks pending modernisation while minimising nugatory expenditure)
   d) Beginning to build the organisational capability that will be needed for modernisation
   e) Managing communications (stakeholder and public)
   f) Adapting the Parliamentary Estates Strategy and identifying opportunities to support future Palace decant

2. The following sections elaborate on points b and c.

Further feasibility studies

3. The following have been identified as necessary consequential feasibility studies, some already commenced or planned, others not. The list is unlikely to be exhaustive. These further studies will yield new information, enabling future iterations of the business case to be less subject to uncertainty.[1] Only the first study currently has resources allocated.

Continuation of Design consultancy for long-term replacement of Primary and Secondary M&E Services

4. This consultancy was initiated under the Medium-Term M&E Programme and the contract let in April 2012 and was intended to provide outline (RIBA stage C) designs for longer term replacement of the entire primary M&E infrastructure and first and second level secondary services with the Palace. The revised business case for Medium-Term M&E in March 2012 noted that getting this design work done during 2012-13 will minimise nugatory expenditure in the current M&E project and contribute substantially to the longer term strategic business case which is expected to follow the pre-feasibility study.

5. The scope will include the extent to which certain peripheral parts of the Palace could be logically and securely separated from the rest for the purposes of renovation and modernisation and, specifically, whether it would be feasible to keep Westminster Hall, the Westminster Hall annexes, the colonnade and New Palace Yard open and accessible during a major refurbishment of the main structure of the Palace.

Future location of the Parliamentary archives

6. This study would review the suitability of the accommodation currently occupied by the Parliamentary Archives and examine whether there is a strategic business case for re-locating the Archives to a permanent site away from the Palace, bearing in mind potential alternative uses of accommodation currently occupied, including the Victoria Tower.

Further investigation of the feasibility of temporary Chamber accommodation

7. A preliminary feasibility study was carried out for the purposes of this study. If the concept of providing temporary accommodation for either Chamber is accepted as a realistic option, a fuller assessment of costs and issues would need to be made in order to develop more specific recommendations.

Investigation and development of proposals for engaging industry support for modernisation

8. This would involve the Finance Directors of both Houses and would investigate approaches to contracts and procurement strategy, including issues of partnering and risk-sharing, as agreed by the Parliamentary Estate Board in May 2012.

Further development of Palace of Westminster conservation strategy into principles and priorities that are capable of practical implementation in the course of modernisation

9. There is a Conservation Plan covering the Palace of Westminster which dates from 2007 and identifies areas of significance and concern. A key objective of a future programme to renovate and modernise the Palace would be to manage change in ways that would best sustain its heritage values. This would require a more active conservation strategy that would identify opportunities arising from that programme, the risks and constraints, and a prioritisation of conservation objectives.

1 Treasury Green Book 2.4 and 2.5

Investigation of the requirement for legislation in order to implement Palace modernisation

10. This study would investigate the need for legislation in order to create a single client authority, as recommended in the "Commercial case" section of this report, or for any other purpose linked to Palace modernisation.

Dependencies

11. As part of the next stage of work it will be necessary to understand the impact that a future programme of renovation and modernisation of the Palace of Westminster would have on existing Parliamentary strategies, plans and projects.

12. An early priority would be to understand the impact on existing Parliamentary accommodation and estates strategies. References are also made in this report to the human impacts of modernisation, including the opportunity to improve access to the Palace for the disabled. A full equality analysis should be carried out during the next phase.

13. The Director-General of Facilities' paper for the Parliamentary Estates Board in May 2012 has begun to address impacts on major programmes such as Fire Safety, the Converged Digital Network Programme, refurbishment of the Commons Northern Estate, Cast Iron Roofs and Conservation. In each case it will be necessary to understand whether or not the assumptions underlying these programmes remain valid in the light of future modernisation of the Palace and whether the current delivery strategies remain appropriate.

14. Future modernisation will also have potential impacts on visitor experience, income generation, security and the management of the Westminster World Heritage Site.

Annex 1:
Document Review

The "mechanical and electrical problem" at the Palace of Westminster 2000-2012: a review of the documentation

Introduction

The Mechanical and Electrical (M&E) systems that provide essential services to the users of buildings have a finite life and need to be replaced on a cyclical basis. This issue was neglected at the Palace of Westminster in the second half of the twentieth century. There are several possible explanations for this: the systems, although increasingly antiquated, continued to work; a higher priority was given to more visible aspects of maintenance, such as the condition of stonework; and management effort was focused on the enlargement of the Parliamentary Estate to meet the requirement for more space. When serious attention was given to M&E problems towards the end of the 1990s the precise condition of the primary services in the basement was unknown, but the fact that they had not been renewed for almost 50 years (longer in some instances) was well known to the Estates Directorate and its maintenance teams.

Among the critical M&E services is the steam-based heating and distribution system, originally installed in the 1930s. Following the 1939-45 war the site of the old Commons Chamber was cleared to the ground and an entirely new rectangular block built in the cavity left behind. The opportunity was taken to create a new plant room in the basement and purpose-built risers in the outer structure of the new building allowed services to be carried from the basement to the upper floors of the Palace. Some renewal was undertaken at the same time to plant in other parts of the Palace, to connect with the newly-installed systems, including a new boiler house constructed under Black Rod's Garden in 1951. The new Commons building was distinct, however, in providing for primary services purpose-built risers which had not existed in the original Palace. Elsewhere, in the original parts of the Palace, primary services were carried to and from the upper floors mainly by fitting them into vertical voids that had been designed originally as ventilation shafts.

All of the new plant and piping installed in 1947-51 was encased in asbestos for insulation and fireproofing, as was standard at the time. While some individual elements in these systems have subsequently been replaced, most have not. This means that the main steam distribution system had already been in place for 50 years in 2000 when the first major condition survey of basement plant rooms was undertaken. Other elements are believed to survive from the early 1930s and had therefore been in place for around 70 years in 2000. The "normal" anticipated life expectancy of these systems would be 25-30 years.

Steam distribution for heating is only one of the primary services covered by the term "M&E". The basement corridors of the Palace and the risers taking services to the upper floors also contain pipes and cabling distributing gas, water, electricity and a variety of electronic networks for telephony, data, broadcasting, security and division bells. These services also require periodic renewal or upgrade owing to deterioration or obsolescence. For cables a typical life cycle would be 25-30 years, for control panels 20-25 years and for data systems normally 8-10 years. These timescales have already been exceeded in many cases in the Palace of Westminster. One of the key problems is that these services are intertwined in congested and inaccessible spaces, often inadequately marked and mapped, and with asbestos frequently present.

The first systematic attempt to address the "M&E problem" came with a basement condition survey in 2000. That work has been taken as the starting point for the document review that follows.

Purpose of document review

Although the M&E problem had been identified by 2000, no decision was made on how to tackle it until 2009, and the decision taken in 2009 was explicitly a tactical one, that is, to "buy time" by tackling the areas of highest risk, pending agreement on a long-term strategy (the Medium-Term M&E programme).

The present study team was asked to review the documentation of previous years in order to derive maximum benefit from the expenditure, work and thinking already undertaken; and to ensure that existing work is not replicated. The purpose of the following analysis is therefore to attempt a rounded and constructive understanding of the factors that have prolonged decision-making.

Definitions

The definition of primary and secondary M&E services is fundamental to this review. The following table is taken from the Medium-Term M&E programme consultants' Observation Report of September 2009.

M&E UTILITY SERVICES	**SERVICES INTAKE**	**OUTSIDE SOURCES TO PRIMARY SOURCES**	ELECTRICITY GAS WATER DRAINAGE DATA/TEL
M&E PRIMARY SERVICES	**PLANT & PRIMARY DISTRIBUTION**	**CONVERT TO MEDIUM + INFRASTRUCTURE TO SPACE USED**	POWER HEATING HOT WATER COLD WATER COOLING VENTILATION DATA/TEL SECURITY...
M&E SECONDARY SERVICES	**OCCUPIED/ FUNCTIONAL SPACE USED**	**CONNECT TO DEVICES IN SPACE USED**	LIGHTING POWER CIRCUITS RADIATORS TAPS FAN COIL UNITS GRILLES + DUCTS DATA/TEL POINTS

Phases of consideration

2000 - First survey

Consulting engineers (Consultants A)[1] were commissioned to report on the condition of M&E plant in the Palace basements. Their report concluded that a significant amount of services plant and equipment needed replacement within 5-10 years and that repair and maintenance was uneconomic in many cases. The forecast cost was £14 million over 10 years for plant cost only.[2]

We have not found any formal response or follow-up plan based on this survey. At the time the Parliamentary Works Directorate (PWD) was struggling with the replacement of the main Palace boilers because the contractor had gone into liquidation, causing additional cost and delay. This may have distracted attention. This was also the period of the Braithwaite review and the PWD was preparing to be split into two separate directorates for Estates and Works Services. Once the dust had settled, the raw material of the condition survey pointed logically to the need for a rationalisation strategy for which a contract was let in 2002.

2002-03 - Rationalisation Review

Building services consultants (Consultants B) were commissioned by PED to report on the possible rationalisation of M&E services in the basement area, including an "outline study" of the possible rationalisation of plant rooms, the case for stripping out of asbestos, the rationalisation of steam pipework in the Palace as a whole and the need for additional electrical capacity. The report costed remedial work at £42m, spread over the decade 2004-14, but stopped short of a strategy for implementation.

The main findings of Consultants B, including their indicative cost plan, were presented to the House of Commons Accommodation and Works Committee by the then Director of Parliamentary Estates on 19 May 2004 as a programme of future work. It was suggested that plant rationalisation, asbestos removal and replacement of electrical distribution would take place in stages over the

1 All of the commercial third parties referred to in this annex are identified by letters A, B etc

2 Memorandum by Black Rod to House of Lords Administration and Works Committee, January 2008

next ten years, and that steam distribution replacement, described as "a complex project" would take place from 2008 to 2011.[3]

In the following months PED and PWSD (by this time separate directorates of the Serjeant at Arms' Department) seem to have lost confidence in this approach and decided that a more holistic view was needed. That decision was explained in retrospect in the following terms:

> "These works cannot be undertaken in isolation from significant modification of the associated basement corridors and addressing the severe working problems likely to be caused by the congestion of existing services, the pressure of redundant services, and the wide extent of asbestos. Similarly, although provision of a fire suppressant system was proposed, this would be virtually impossible to install without first resolving ***the already grossly overcrowded corridors***"[4]

In the meantime a decision was taken in the second half of 2004 to lower the pressure in the steam heating system from 7 to 5.5 Bar for safety and insurance reasons. This reduced the risk from steam leaks, but did not eliminate them. The documents refer repeatedly to steam leaks occurring and being dealt with by the maintenance teams on average once a week.

2003 - Report on Respective Merits of the Primary Heat Transport Media
Drawn up by the same consultants as the basement condition survey of 2000 (Consultants A), this report recommended replacing the steam distribution system for heating the Palace with a new system using High Temperature Hot Water (HTHW).

2004 - Evaluation Exercise on Steam v Pressurised Hot Water at the Palace of Westminster
This report, by Consultants B, overturned the conclusion of the previous report and recommended replacing the steam distribution system like for like. The key argument was that: "A new HTHW or Medium Temperature Hot Water (MTHW) system would have to be constructed in its entirety before it could be used. Ideally the existing steam system would have first to be removed. In the case of the Palace of Westminster this is not viable. One would be likely to encounter asbestos, requiring specialist removal at additional time and cost. It is inconceivable that this onerous task could be completed within the window usually available at the Palace, let alone the construction of the HTHW or MTHW system plus its commissioning and proving before the heating season."[5]

Informing the Serjeant at Arms and Black Rod of this outcome, the then Director of Estates concluded "Overall it is clear that the right decision is to stay with steam". He went on: "So that you may see the steam distribution project in the context of the overall programme of engineering services renewal in the Palace, I am also enclosing a bar chart and expenditure plan for the whole programme of which steam forms the leading item... (...) Individual business cases will be prepared for the other items in the overall programme."[6]

At this stage it was envisaged that the "programme", which would take 10 years to implement, would be based on the Consultant B rationalisation review of 2003.

2004-05 – Palace Basement Engineering Project
With the steam v HTHW issue apparently settled, a project board on "Palace Basement Engineering" was formed and met for the first time on 19 October 2004. Chaired by the Director of Estates, it included a representative of the House of Lords budget holder, but was otherwise comprised entirely of staff of the Estates and Works Services directorates of the SAA. The first meeting was told that a project manager had been appointed and that he would be looking at re-programming (presumably to take account of the time elapsed since the 2003 rationalisation report).

Work was now expected to proceed on the basis of the two reports – on rationalisation and steam – that had been prepared by the same building service consultants (Consultants B). These were referred to by the Director of Estates as "the business cases" and passed on as such to the SAA. The SAA in turn forwarded the "steam" report, which consisted of two weighty volumes, to the Commons Director of Finance and Administration, apologising for the fact that they did not conform to the usual business case format, but adding: "I believe that all the information required is included, and given the long delay in this already, I do not wish to further delay its progress by demanding that it is submitted in what has now become the standard format."[7]

3 A&W112 May 2004.

4 Document drafted for the M&E Programme Board in April 2008 by the Principal Engineer, emphasis added

5 *Steam v Pressurised Hot Water at the Palace of Westminster – Evaluation Exercise,* Vol 1, Revision A, February 2004 p6

6 Letter of 2 March 2004

7 Letter, 29 April 2005

There followed a series of exchanges between the finance directors and the Clerks of both Houses during June and July 2005. Both Clerks accepted that staying with steam distribution would be much less disruptive, but they also endorsed the advice of the two finance directors that the issues needed to be presented in a much broader context, alongside other related infrastructure issues and other maintenance priorities. There was also considerable irritation that an undigested and highly technical consultants' report had been put forward as a "business case" to obtain approval and funding.[8] It was agreed that in future such projects should be subject to external OGC Gateway Review discipline.[9]

Meanwhile, the Building Services Consultants (Consultants B) had been contracted only to provide condition surveys, strategies and advice. It was therefore necessary to tender for a new contract to take the work on to design and implementation, which was expected to begin in 2006.

The Palace Basement Engineering Project Board met again in June 2005 and was told that a design team would be appointed imminently, with the main contract to be let over the summer. Plant Room B (already identified as particularly high risk) would be tackled in the first year (2006) and the whole programme would run to 2016. The steam and electrical distribution systems would be included in future years. Work would be done during summer recesses and "Asbestos challenges will be met as they arise".[10] At this point the whole programme was expected to cost £18.5m over 10 years.

The long-serving Director of Estates (previously Director of Parliamentary Works from 1992) retired in the summer of 2005. His successor, arriving in September 2005, found the tendering process for M&E well advanced. Preferred suppliers were identified in October and the contract was ready to let in November. The new Director wrote to the Commons Director of Finance and Administration on 12 November 2005: "I think this is an excellent illustration of the confusion we currently have providing clarity at a strategic level. As you know, my urgent desire is to reshape the work into a much clearer series of Programmes and Major Projects which we can then track".

With this assurance given, the DOFA approved the letting of the contract on 14 November 2005, but only for the design consultancy phase and only up to a contract value of just over £1m.[11]

2005-08 - Commissioning of the "holistic view" and development of proposals

The outcome of the tendering exercise was that in December 2005 PWSD commissioned lead consultants C and a consortium of specialist companies to develop solutions for the rationalisation and modernisation of mechanical and electrical services in the basements of the Palace of Westminster. The consultants were asked to work within an assumed constraint that "The Implementation Plan must not adversely affect the Parliamentary Estate during the course of the works." The scope was subsequently extended to include the outline design for a new fire suppression system; the development of a plant and equipment replacement programme; the upper level plant rooms and primary risers and finally the outline design and integration within the strategies of sustainable measures to reduce the Palace's current carbon emissions. Secondary services, however, were always excluded.[12]

The Palace Engineering Project Board had met for the last time in November 2005.[13] The new Director of Estates was keen to take a more strategic approach and planned to create a new strategic business case once Consultant C had reported in early 2007. In the meantime, because work on Plant Room B was becoming urgent, he sent a business case limited to work on that Plant Room to both finance directors in July 2006, with the intention that the work should be carried out during the summer recesses of 2007 and 2008. The request was sympathetically received by both finance directors, but the Commons DOFA commented "I do think this will need to be appraised against the backcloth of what is emerging on the strategic front through the autumn".[14]

Against this background it was agreed that a programme board should now be formed. The new Board was chaired by the Serjeant at Arms and included the House of Lords Finance Director as well as an estates strategy consultant and an external non-executive member of

8 Letter from Clerk of the House to Director of Finance and Administration 1 July 2005 and Letter from House of Lords Finance Director to Clerk of the Parliaments 18 July 2005.

9 Memo from Clerk of the Parliaments, 26 July 2005

10 Minutes 15 June 2005

11 The value of the design consultancy phase subsequently rose as the scope was extended to cover the risers and plant rooms above basement level (March 2006) and sustainability issues (August 2006).

12 For definition of secondary services see p51

13 No minutes seem to have been kept

14 Memo of 23 August 2006

the Parliamentary Estate Board. Initially described as the "Services Programme Board", after the first two meetings it became the M&E Services Modernisation Programme Board. At the first meeting the Director of Estates commented that the programme of work for which the board would be responsible had already been identified as "very high risk".[15]

When the Board met again in January 2007 it held a substantial discussion on governance principles and business case practice, agreeing that these would be influenced by the Tebbit Review. The same meeting was also given a presentation by the lead consultants on M&E. The lead consultant of consultants C, who had now been working on the estate for a year, commented: "Taking no action would mean that a serious failure would be inevitable, the services would not continue to work much longer, even with the great job done on maintenance". The Director of Estates queried the assumption that work could only be done in non-sitting times. The non-executive member of the PEB expressed concern about priorities being decided by individual projects: "There was a clear need for an overarching 'big picture' decision making process".[16]

A set of substantial consultancy volumes was delivered by Consultants C in February 2007. The survey of the risers had been delayed owing to the widespread presence of asbestos and would be completed later (February 2008) with the assistance of asbestos specialists. However, the overview report was not well received by the chairman of the Programme Board. On 3 April 2007 he wrote to the Chief Executive of the lead consultants expressing his disappointment in the overall quality of the report. He was concerned in particular that it failed to address key strategic issues in an explicit way and asked for a revised version of the executive summary to be delivered by June.

In May the two finance directors expressed concern about the way in which the consultancy had been commissioned and in particular "a lack of clarity as to what the feasibility work was to achieve and how it was to be managed". They reluctantly recommended that the expenditure should be approved retrospectively but indicated that in future there should be clear terms of reference for any such consultancy undertaken, guidelines on the setting up of appropriate project governance, clearer roles and responsibilities for project sponsors and fully costed business cases.[17]

In June the SAA as chairman of the programme board wrote again to the lead consultants, thanking them for a successful presentation of the revised executive summary, but in July he again expressed disappointment and frustration: "The Board were concerned that the [Consultant C] team still appeared unable to provide a strategic overview of the project and its implications, in a form clearly digestible to the laymen, or to address the points on which we seek clarification. (...) Nor, given that so little progress has been made in the past four months, do we have the confidence which we would expect in [Consultant C] of your proper engagement in the work or your capacity to assist us to take it forward".[18]

These events were taking place against the background of the publication of the Tebbit Review of the Management and Services of the House of Commons and the response of the House of Commons Commission. In March 2007 the Commission had agreed to the preliminary recommendation that the estates and works functions (which had been separated in 2002) should be reorganised under a single Director. In October it agreed to a reorganisation of the Commons Management Board along functional lines which removed responsibility for maintaining the fabric of the buildings from the SAA and placed it under a new Director General of Facilities.[19]

The M&E Services Modernisation Programme Board continued to meet almost monthly. The outgoing SAA handed over the chair to the HoL Finance Director on an interim basis, pending the arrival of the new Commons DG of Facilities. Both works branches were now headed by temporary acting directors, pending the arrival of a new Parliamentary Director of Estates.

In January 2008 the lead consultants on M&E (Consultants C) were informed that the sharp rise in predicted costs since 2005 meant that the second phase of the contract, for implementation, would have to be re-tendered. The existing contract was therefore terminated at the conclusion of the "feasibility" stage. The author of a note on this subject to the Parliamentary Estate Board commented: "The current position we are in is not satisfactory to any party".[20]

15 Minutes 7 November 2006

16 Minutes 5 January 2007

17 Memo to Clerks of both Houses, 18 May 2007

18 Letters from SAA to CEO of lead consultants, 7 June 2007, 20 July 2007.

19 http://www.parliament.uk/documents/upload/tebbit-response-071219.pdf

20 Paper submitted to PEB, January 2008

A separate and independent report on health and safety aspects of the project was received in January 2008. It concluded, among other things, that "These operations are extremely hazardous and the designers have considered alternative methods of replacing and modernising the mechanical and electrical services but **due to the many restrictions placed on them in achieving the required standard of operation in a world heritage palace in constant use no alternative method could be found.**"[21]

The delayed report on the service risers was received and reported to the programme board in February 2008. It had identified numerous problems: the large quantity of asbestos, indications of airborne asbestos fibres in the risers, lack of access hatches, poor lighting, the proximity of steam and water pipes to power cables, and the lack of adequate fire detection and repression measures.[22]

The House of Lords House Committee was briefed in February 2008 and told that the proposed programme of work had been costed at approximately £250 million at June 2007 prices for a phased programme of works lasting 10 years, with the replacement of primary distribution to be completed in seven years, and plant replacement to be completed in a further three years. The report assumed that both Houses of Parliament would continue to function in the Palace throughout the programme.

2008 - Review and "due diligence"

In March 2008 the incoming Parliamentary Director of Estates commissioned a review and due diligence report on the work done so far. This report, by building asset consultants not previously involved in the project (Consultants D), was delivered in June 2008. It gave a broad endorsement to the existing plans for a phased rolling programme as providing "the least disturbance to the Palace's day to day business" and accepted that the alternative – a full or partial closure of the Palace for a prolonged period – would present a very demanding and risky logistical challenge.

Nonetheless the report noted reasons for considering the full or partial closure options:

- The opportunity to upgrade and invest in secondary services associated with environmental benefits
- A shorter programmed period and lower construction costs
- Risks to business continuity reduced at an earlier date

The report also reviewed the previous cost estimates and indicated that the costs of the 10 year programme were likely to be higher than previously thought – around £332m.

2008-09 - Continuing preparations for a major M&E programme

While the "due diligence" report was awaited, preparation for the major M&E programme had continued and projects for Automatic Fire Detection and Voice Alarm System were added to its scope. Two short business cases were drafted covering short-term urgent works and the appointment of a long-term programme executive team. The contract for the latter was let in November 2008. Work was initiated on an overall programme plan and on plans for governance, communications and stakeholder management. A full business case was expected to follow. Implementation was expected to begin in late 2009 and continue until 2019, without a major decant of Parliamentary functions from the Palace: the Project Initiation Document drafted in September 2008 continued to make the firm assumption that "any necessary disruption or decant proposed is to be engineered and programmed during recess periods".[23]

2009 - Study of decant implications and holding decision

Following consultation with the authorities of both Houses over the summer of 2008, and in the light of the "due diligence" review, the new Parliamentary Director of Estates commissioned a Feasibility Study for a Decant of the Palace of Westminster, the purpose being to investigate "the benefits and dis-benefits of the different closure alternatives". The study, carried out by a combination of consultants (Consultants E) and officials from both Houses, reported in July 2009. It concluded that the previous approach to M&E modernisation, which had tried to schedule all necessary work over a ten-year period without disrupting the work of Parliament, entailed high risks to business continuity. It suggested that a different approach would be preferable, delivering modernisation of secondary services (and other improvements) over a shorter period, while accepting that Parliamentary functions would have to be relocated while the work was done. In the light of this advice, the authorities of both Houses agreed to halt previous plans, adopt a medium-term strategy to buy time, and to begin work on a fully integrated long-term strategy.

21 Emphasis added

22 Minutes, 21 February 2008

23 M&E Services Modernisation Project Initiation Document, September 2008, p7, para.1.3

2009-present – Implementation of M&E risk reduction and aggressive maintenance
A detailed Observation Report on the state of the plant at highest risk of failure was received in September 2009 and helped to identify the scope for the medium-term programme.

In November 2009 business case approval was received for a medium-term M&E programme of short-term repairs, risk reduction and aggressive maintenance of the worst issues exposed by investigation to date. Automatic Fire Detection and Voice Alarm System projects were removed from the new programme to be managed separately. The new programme was described as addressing the worst 15% of the problem with the explicit intention of buying time in order to develop a longer term strategy. The figure of 15% was based on plant rooms to be modernised – the proportion of significant risers to be addressed being much lower. It was intended that the programme of work should secure the operation of the Houses in the Palace against risks of interruption owing to M&E failure for a period of 10 years, that is until 2020.

In approving the business case, the Accounting Officers of both Houses stipulated that the Parliamentary Estates Directorate should not lose sight of the longer term strategy while executing the medium-term programme and cautioned that "we should not assume that this [the longer term requirement] can necessarily be left until 2020".

With this in mind the PED Principal Engineer prepared a vision paper on the future of the building services infrastructure for the Parliamentary Estates Board in March 2011. The high-level vision was described as follows:

> 'To deliver an exemplary building services infrastructure befitting a world-renowned estate and a national legislature that is resilient, secure, safe, scalable, economic to operate & maintain, centrally managed, minimises its carbon footprint, and supporting and integrating with the overall management of the historic fabric of this unique Estate.'[24]

Work under the medium term programme is now broadly on track to be completed in 2014, although parts of it have taken significantly longer than anticipated. Risk reduction projects were implemented during 2010-11 and "aggressive maintenance" has begun. The programme has been subject to two independent OGC Gateway reviews in 2010 and 2011.

2009 – Commissioning of a group of officials to explore longer term scenarios for the future of Parliament
As a first step in exploring the changing role of Parliament and its use of buildings, the House of Commons Management Board in November 2009 commissioned a small group of officials to look at trends and scenarios for the next 20 years. The House of Lords administration accepted an invitation to be consulted and involved. The group's report made no specific recommendations but described a wide range of ways in which Parliament might be impacted by social, political and environmental change in the period to 2030.[25]

2012 – Appointment of pre-feasibility study group
Early in 2012 the two management boards, with the agreement of the House of Commons Commission and the House of Lords House Committee, established a small high-level study group to review documentation on the M&E problem to date and report on the strategic case for modernisation of the Palace of Westminster, taking account of all the issues raised, including evolving business requirements.

As a consequence of the creation of the study group, the business case for medium-term M&E was updated in March 2012. This ensured new work commissioned by the M&E team would feed directly into study of the long-term options.

Conclusions from document review

This review of the documentary history of the "M&E" problem yields a range of conclusions. As often with investigations into "lessons learned", the analysis of what caused delay or confusion previously leads to constructive pointers for the future. Some of these (such as the consequences of high turnover of Senior Responsible Officer) are familiar from published investigations by the NAO and others into common issues in major projects; others are more specific to the Parliamentary environment.

The upkeep of an iconic and historic building, which also houses the UK Parliament, requires consistent strategy and implementation over the long haul. It will rarely be the case that a single dominant figure will provide this consistency over decades in the way that Sir Charles

24 PEB 21 March 2011, paper 2

25 See Annex 2 on p59

Barry did during the original planning and construction of the Palace,[26] but **there needs to be a coherent leadership group, capable of providing urgency, vision and focus over a prolonged period**. In order to avoid wasting the time "bought" by the medium-term M&E programme, this leadership group will need to be established at the earliest opportunity.

The exercise will also need **formal programme governance adequate to the high levels of cost and risk involved and the wide range of stakeholders**. The senior accountable official and the programme board will need to ensure that they receive a continuous flow of information, enabling corrective action to be taken promptly if implementation departs significantly from the plan. Independent scrutiny by non-executive board members and Gateway reviewers is also likely to add value and perspective.

Similarly, there needs to be **a capable programme team with a strong element of continuity**. The 2012 Olympic Games provide a good example of the quantity and quality of forward planning that is needed to ensure the success of a high profile and technically complex logistical exercise. Given the pressure that there will be to deliver Palace modernisation within a tightly defined timescale, the Olympic Games analogy is apt. In the case of the Palace of Westminster there will need to be two tightly interlocking and complementary teams: one representing the client interest and the other bringing in the specialist engineering and construction capabilities that will be needed to do the work. **Both teams will need to be sized and staffed to manage the exceptional nature of the challenge. A relationship of mutual trust between the two teams will need to be maintained throughout the programme**. All of this work will additionally need to be coordinated closely with the management and maintenance of the rest of the Parliamentary Estate.

The scope of modernisation has to be widely drawn to include all requirements that could require prolonged or intrusive access to the working areas of the Palace in the foreseeable future. This includes the requirement to improve the environmental performance of the building. This would maximise the "gain" to be won from the "pain" of disruption. It is unlikely that a highly disruptive and costly temporary relocation of Parliament would be countenanced more than once in a generation. The cost of a widely scoped modernisation will inevitably be significant, but probably less in the long run than the cost of attempting to tackle the various issues in isolation from each other. **Given that the scope has to be wide, the planning has to be scaled up accordingly to deal with large-scale projects, high value contracts and complex inter-dependencies.**

The business case for a fundamental renovation of the Palace will necessarily need to be addressed holistically and iteratively – a preliminary phase in which the intention and direction is set and high level approval obtained from the key stakeholders; an outline programme business case phase in which options are realistically costed (albeit within broad tolerances, allowing for risk and uncertainty) and assumptions robustly justified against challenge; and a full programme business case phase in which costs have been tested in the market and all plans rigorously checked for feasibility and risk, in such a way that Accounting Officers have all the assurance that they need to approve release of funding, whether in tranches or project by project. It follows that **detaching separate business cases for sub-projects and taking them through to approval independently of the whole programme business case would be unwise.**

The RIBA Outline Plan of Work provides a very useful framework for describing the flow of activities in construction projects from the initial identification of the client's needs, objectives and constraints through to the early occupation period after work has been completed. The longer term M&E project has spent a prolonged period in Stage A which is concerned with appraisal (the first of 11 work stages, A-L, some with sub-stages). Linear progress through the stages may not always be possible, but the **programme planning should map RIBA work stages logically against the iterative development of the business case in order to maintain momentum and overall management control.**

26 Barry was not always successful in this. His struggles with Dr Reid, the "ventilator" are set out in MH Port, *The Houses of Parliament,* 1976, pp3, 115-6, 221.

The real political and practical constraints on the temporary relocation of Parliamentary functions to enable a major renovation to take place need to be explored and clarified at the pre-feasibility stage in order to avoid a further period of planning based on a false assumption (either way). Any proposals for temporary relocation need to be acceptable to both Houses.

If the period of disruption is to be minimised and unplanned delays are to be avoided, there will have to be an extremely well planned decision-making and preparation period before any relocation takes place and work begins. This makes it inevitable that the whole undertaking will span at least one general election, if not two. **It will be essential to involve Members of all parties in the process and to avoid any significant change of plan once the course has been set.** Any significant change of plan during the implementation phase would be bound to extend the period of disruption, as well as adding to overall cost.

The documentation demonstrates that the interconnected nature of basement corridors, under-floor voids and risers in the Palace means that areas that have been cleared of asbestos can easily be re-contaminated by air-borne fibres. **The objective should therefore be to remove asbestos from the Palace**. This would reduce the costs and hazards of future building adaptations and maintenance, eliminate the risk of re-contamination and protect the health and safety of all users of the building.

Annex 2:
Scenario planning and "Parliament 2030"

The "Parliament 2030" Study

In November 2009 the House of Commons Management Board commissioned a small team of officials, including an official nominated by the House of Lords Management Board, to engage in "blue skies" thinking about the longer term future of the UK Parliament, in order to provide an innovative background to the Board's longer term strategic planning. The Group was asked to be imaginative and provocative, and not to be constrained by assumptions about the location of Parliament, nor about cost.
The group submitted its report to the Commons Management Board in March 2010. The report followed the remit by describing a range of radical changes, without endorsing any of them as necessarily desirable or probable.

The group used a simple four box matrix (which appears on p44 of the report) to map scenarios along axes for greater or lesser degrees of constitutional change; and greater or lesser degrees of confinement to Westminster. The four scenarios look at the relationship between Parliament and society in different ways:

- By redesigning Parliament so that public consultation is put at the heart of the Parliamentary process
- By distributing Parliamentary activity geographically and bringing it closer to the electorate
- By imaging a new constitutional landscape based on a comprehensive implementation of proportional representation
- And by bringing the public more fully into Parliament at Westminster

A fifth scenario (pp 34-5) sketched a "dream" or possibly a "nightmare" future in which Parliamentary democracy had been replaced entirely by web-based direct democracy. It concluded "A system of direct democracy can work up to a point, but certain mediating controls are needed, and those controls might after all resemble a Parliament."

Relevance of the "Parliament 2030" report to the 2012 Palace Modernisation Study

While the authors of the "Parliament 2030" report avoided making specific recommendations, they drew attention to a number of themes that they believed would be significant over the next two decades:

- The continuing need for Parliament to nurture its engagement with the public at every level, with the direct relationship between Commons Members and their constituents being complemented by enhanced arrangements for general and educational visitors to Parliament, by the growing use of on-line and other forms of consultation by committees and through enhanced opportunities for the public to follow and comment at every stage on the passage of legislation
- The need to create (or perhaps restore?) a physical harmony between Parliament and its immediate surroundings
- The need for Parliament as an institution to raise its visibility – by a variety of physical and electronic means – in all the regions of the UK
- The use of new technologies to complement traditional parliamentary process – adding value by allowing certain forms of "virtual" scrutiny and consultation to take place in protected but transparent digital spaces
- The importance of conducting relationships between the two Houses in such a way that they can benefit from shared services and cooperate effectively on such matters as security, visitor management and carbon footprint, while contending and challenging each other across the political agenda

A sub-text of the report was that in almost every area that it examined (and in almost every interview that the group conducted) there appeared to be a wide gap between what people wanted to be the case and what they perceived the reality to be. This was illustrated by imagining what the expectations would be of a futuristic new Parliamentary complex. Projecting the key themes forward over two decades, there appeared to be an even greater gap between reality and reasonable aspiration. The implication was that Parliament needed to overhaul much of its physical and electronic infrastructure to keep pace with future demands and take every opportunity to review the Palace of Westminster for a new age.
The 2012 pre-feasibility study for Palace modernisation has re-visited the work of the Parliament 2030 group and some of its thinking about key themes, such as those listed above, has been carried over into the present study.

Annex 3:
Experience of other Parliaments

Although Parliaments from one country to another differ in scale and operation, they also have much in common. In terms of national significance, the complexity and demands of their stakeholders, and the emphasis placed on high-level function, the resemblances are marked. For that reason the Study Group has undertaken a survey of some other Parliaments with experience of conducting, or planning, substantial programmes of renovation or modernisation. The Study Group has also considered the renovation of the United Nations Headquarters in New York. The survey is followed by a brief summary of conclusions which may be drawn.

Austria
The Parliament Building in Vienna was built between 1873 and 1883. Some partial renovations were undertaken in 1954, 1984 and 2006 but building services and fabric now require renewal and overhaul. A major programme of renovation and modernisation is now being planned.

Proposed works have been identified in two categories, essential renovations and efficiency-improving renovations. Essential renovations include fire safety work and improved accessibility to comply with current legal requirements; replacement of air conditioning, heating, plumbing, electrical and communications systems; replacement of roof and windows, with improved insulation; replacement of rainwater drainage goods. Efficiency-improving renovations include zoning and change of use to optimise logistics, to group functions more effectively and to rationalise building operations. Functional targets have been established according to work flow and productivity, building and workplace quality and public image/accessibility. Completion of essential renovation only would attain about 39% of the functional targets (typical for a historic building where usage has changed substantially since original construction); adding the efficiency-improving renovation would attain about 76% of the functional targets (comparable to the rate of a new build).

In 2011 and the first half of 2012 a project organisation was established. In autumn 2012 a European wide competition will be launched to appoint a general planning team. In 2014 a decision about the scope of the renovations shall be taken on the political level. In case of a mandate for renovating the entire building it is intended that Parliament will move to a temporary location while the construction phase takes place.

The necessity to relocate for the duration of the works is driven by the impossibility of carrying out the renovations zone by zone, because changes to one part of the building would necessarily impact upon another.

The expense and duration of the work would also be increased unacceptably by the constraints of working in an occupied building. The identified temporary location is a university campus, approximately 5 miles from the Parliament Building.

Economically it might be more advantageous to build a new home for Parliament, but the existing building is an important symbol of independence and democracy in Austria. In addition, the proximity of Parliament to other public institutions is important.

Decision-making about the project has been complicated. Ideally there would be clarity from the outset about the scope, budget and timescale for such a project, but the legislative proposal to establish a separate legal entity for the project was lost because of wider political considerations. Key requirements were for full involvement of members in identifying desired improvements (through workshops and the input of external experts) and co-location of all the project team (both from the parliamentary service and consultants) to facilitate full exchange of information and skills.

Communications have focussed on heightening public interest in and support for the Parliament Building, and explaining the need for renovation. Press and public opinion have been largely supportive of necessary work. Opinion polling, and feedback from visitors to the Parliament Building, have demonstrated this. Although the significant expenditure required was controversial during a period of austerity, there was evidence to suggest that a substantial infrastructure investment in Vienna would itself create economic benefits.

Canada
The Gothic Revival buildings of Parliament Hill in Ottawa date mainly from the 1860s. The Centre Block was rebuilt, after a catastrophic fire in 1916, in a similar style in order to maintain the harmony of the ensemble. The buildings and grounds of Parliament Hill are significant heritage treasures and an important symbol of Canada's history as a nation, as well as housing working institutions which require appropriate facilities and technologies to function in the modern world. The Long-Term Vision and Plan (first prepared in 2001 and updated in 2007) has as its goals restored heritage buildings and appropriate new facilities for Canada's Parliament; a clearly-defined Parliamentary precinct with centrally-located core functions; and

buildings and grounds that reflect the significance of Parliamentary functions.

Implementation of the LTVP will be phased over at least 25 years and will involve the rehabilitation of the historic buildings as well as provision of new services and facilities. Early stages involve acquiring and fitting out other government-owned buildings close to Parliament Hill, in order to relocate members, committee rooms and parliamentary services. This will allow the refurbishment of the West Block, including creation of a temporary chamber for the House of Commons in an in-filled courtyard, and of the East Block. A temporary location for the Senate chamber has also been identified. Once both chambers have moved to their temporary locations, refurbishment of the Centre Block will take place. Eventually, the temporary Commons chamber will be converted for other use (for example for grand committees).

Public Works and Government Services Canada (a government department) is responsible for delivery and funding of the programme, in partnership with the Senate, House of Commons and Library of Parliament, who occupy the buildings (and therefore identify the requirements and approve the solutions offered).

The programme is being planned (and budgeted for) in 5-year phases. As a small proportion of the overall budget of Public Works and Government Services Canada, expenditure has not been challenged, though there has inevitably been some press criticism. A report from the Auditor General on the need for reinvestment in a depreciated asset, in order to extend its life, was generally regarded as persuasive. Public support for the programme also appeared to depend on separating politics from discussion of the building heritage. Whilst purely economic arguments might favour a new-build, the symbolic importance of Parliament remaining in its historic seat was overriding.

The decision to move to temporary locations was not taken lightly. For example, an architectural consultancy was asked to consider whether the Centre Block could be renovated and upgraded whilst the two chambers, support spaces and members' offices remained operational. It concluded that, whilst possible, the approach would not be reasonable. By comparison with working in an unoccupied building, costs would be increased by between 50 and 100% and duration would be increased by about 40%. Other considerations included the degree of disruption to occupants (even with "out of hours" working); the difficulty of introducing state of the art solutions where access was constrained; and the inevitability even so of some period of decant for every occupant while secondary services were renewed.

The temporary locations for Members' offices were in more modern buildings which provided better facilities and greater space. This had helped with member acceptance of the plan, but managing expectations of what would be available when they returned to the historic buildings could be an issue. However, benefits would also be gained by, for example, relocating service functions to an underground facility.

Finland

Parliament House in Helsinki dates from 1932. It is a listed historic building and an important symbol of the Finnish democratic system and of independence. A programme of renovation aims to secure and improve parliament's working conditions, improve security, improve accessibility and improve energy efficiency, while taking building conservation into consideration. Renovation of the entire parliamentary complex (which includes additional buildings from 1956 and 1978) began in 2007, with a target for completion by 2017 in time for the centenary celebrations of Finnish independence.

The renovation involves renewal of building technology systems which have reached the end of their life. Water and sewerage systems are to be replaced (some original 1932 pipes are still in use), also heating and ventilation systems. Building standard improvements will include new lifts and entrances to improve accessibility, upgraded insulation and windows, improved fire safety. The opportunity is also being taken to improve facilities and working conditions; improvements include a new underground archive location, a press centre beneath the plenary hall, underground facilities for estates management, additional visitor services, technical and AV installations in committee rooms, and a new service centre for Members.

Renovation of the more recent parliamentary buildings has been achieved by a series of moves, often involving members and their staff doubling up temporarily. Hire of a privately-owned office building provided additional decant space. Renovation of Parliament House itself will involve plenary sessions and committees moving to rented premises in a nearby music academy from autumn 2014 to the end of 2016. The limited space available in the temporary premises, and the distance from Members' offices, together with the inevitable challenge to existing working patterns occasioned by the relocation, are recognised to require "an ample dose of compromise on everyone's part". Only essential (modest) alterations will be made to the music academy's premises.

The possibility of renovating Parliament House in two or more phases during continued occupation was considered but quickly rejected as unfeasible. Previous alterations to the building had taken place during recesses and all the available space for pipes, cables and other technical installations had been used up (both with functioning equipment and with redundant equipment which had not been removed because of the constraints of working during limited periods). Technically it might have been possible to build temporary installations in order to keep parts of the building functioning whilst old installations were disassembled and new ones installed, but the levels of cost and disruption were judged to be unacceptable.

The Parliament Real Estate Office is responsible for planning and preparatory works, and for handling all contact with contractors, architects and consultants. Practical implementation is outsourced to a consultancy in close co-operation with the Parliament Real Estate Office.

Plans are submitted first to a committee of officials chaired by the Secretary General, then to a committee of Members chaired by the Speaker. Funding decisions are made by the Chancellery Commission. Different aspects of the programme have also been the subject of a series of member focus groups, to ensure that new facilities and services meet the requirements of members.

From the outset, the programme has had an information and media strategy, ensuring that all stakeholders have relevant and timely information. The biggest publicity risk has been cost, and the potential for overspend. The biggest challenge has been to ensure that journalists have sufficient information so that they do not oversimplify complex issues.

Scotland
Following the 1997 referendum result in favour of the creation of a new Scottish Parliament, the Holyrood site was identified and a design competition was held resulting in the appointment of Enric Miralles. The building was officially opened in October 2004, after repeated, substantial delays and cost over-runs.

Experience of occupation of the building suggests that there have been some very successful design outcomes – the separation of public and private areas achieves a broadly successful balance between security and openness; the Chamber is accessible and popular with the public, promoting an intimate atmosphere which is not always confrontational; the conversion of Queensberry House achieved sensible compromises on heritage considerations; the Garden lobby (though overcrowded) provides popular mingling space. Less satisfactory features have resulted from changing requirements, or from the results of false assumptions in the original design brief – for example, much higher than predicted staff numbers have resulted in overcrowding; the members' formal restaurant is underused while the self-service canteen is overcrowded; spaces for party meetings are inadequate, because of false expectations about future electoral outcomes; a higher proportion of flexible social space would have been desirable.

The report of the Holyrood Enquiry, by Lord Fraser of Carmyllie, drew a number of conclusions about the conduct of the project. In the context of this report, the significant ones are that determination to provide a home for the new Scottish Parliament as quickly as possible led to the adoption of a "fast track" procurement route entailing high risks which were not properly evaluated; the construction management approach allowed the design to remain unfixed, providing the opportunity for the project sponsors to change their requirements repeatedly and for the contractors to increase costs; assessments of budget and timetable were inadequately detailed, and therefore subject to repeated revision; there was a lack of openness between officials and Members as the difficulties mounted up.

Public opinion of the delays and spiralling costs of the project was inevitably unfavourable. News management was entirely reactive, and that compounded the problem.

Switzerland
The Parliament Building was inaugurated in 1902. Through the materials used in its construction it represents the whole of Switzerland, and the internal decorations include many symbolic representations of Swiss history. From 2006-08 it underwent a thorough programme of renovation and modernisation. The aim of the programme was to restore the building to its former glory while at the same time installing cutting-edge technology, to create a worthy home for a credible modern parliament, a reflection of modern Switzerland.

The planning and budgeting phase lasted two years, while construction took three years. Works included technical systems, a public entrance and visitor facilities, catering facilities, additional meeting rooms both for committees and for political groups, more workspace for members, enhanced security measures, ICT and AV installations to facilitate moves from print to web, better disabled access, additional lifts to improve circulation. The creation

of a new media centre, outside the Parliament Building, released space inside the building for many of the desired new facilities.

Committee meetings and member and staff offices were moved out of the Parliament Building for the duration of the renovation programme, to conference rooms around the city and to office buildings owned by the federal government. The two chambers continued to meet in the Parliament Building, with the exception of the autumn session in 2006. For each of the sessions that took place in the building during the renovation, this therefore meant a week of building up and a week of dismantling provisional structures, in order to turn a construction site into a functioning Parliament and *vice versa*. On these occasions the level of services was inevitably reduced. These limitations had to be accepted because the two chambers meet only for four three-week sessions each year – it would have been too costly to acquire and fit-out alternative premises which would be unused for 40 weeks each year.

For the autumn session in 2006, when the renovation was at its most intensive, the two chambers met in a hotel in the canton of Graubunden. The session was planned in conjunction with the regional authorities to gain the benefits of Parliament visiting, and paying attention to the concerns of, a remote area with a cultural and linguistic minority, and visits to representatives of the host region were embedded in the parliamentary timetable.

User requirements were represented by the Administrative Delegation (comprising the Presidents and First and Second Vice-presidents of each chamber), while the Federal Office for Construction and Logistics (a government body) was responsible for the works programme and budget. A joint project organisation was set up to implement the programme. Some resources from within the parliamentary service were dedicated to the programme full-time, to ensure that user needs were adequately understood.

Great effort was invested in informing the public, media and neighbours of the Parliamentary Building about the need for the work, and what the programme involved. Press conferences, explanatory meetings and tours of the construction site were delivered regularly throughout the programme. Press reporting was generally favourable and public interest was immense – two open days attracted lengthy queues of visitors to the construction site.

A key to acceptance of the project was that all stakeholder groups gained – the parliamentary groups acquired meeting rooms and more office space; individual members gained more, improved workspaces, and catering facilities; the public gained a new entrance and visitor facilities; heritage professionals were impressed with the quality of work.

United Nations Headquarters

The buildings of the United Nations Headquarters in New York were built between 1949 and 1952. The three buildings which house the General Assembly, Security Council and Secretariat form an iconic ensemble which is widely recognised as a symbol of international relations.

With the passage of time, a reactive approach to maintenance became increasingly inefficient. Problems included leaking roofs, lack of sprinklers and other fire safety measures, asbestos, lead paint, and the increasing obsolescence of plumbing and electrical systems (for which replacement parts were no longer available and had to be made by craftsmen on site). In 2000 a Capital Master Plan was proposed by the Secretary-General, to provide for a phased renovation of the buildings to address these problems, and to achieve improved energy efficiency, security, accessibility and space usage.

The Capital Master Plan underwent repeated iterations until in 2007 an accelerated strategy was approved, to achieve the renovation in a single phase lasting 5 years. This decision was intended to reduce the risk of construction complications and delays associated with renovating partially-occupied buildings, and to reduce the overall period of disruption.

Some activities were curtailed for part or all of the renovation period, but most were relocated to temporary premises. A temporary steel structure – the North Lawn Building – was erected on a lawn on the UN campus, primarily to house the General Assembly and associated services. The North Lawn Building took 20 months to build at a cost of US$140 million, and on completion of the renovation programme it will be dismantled and the parts recycled. In addition, office space in a number of nearby locations was leased and fitted out. In total almost 6,000 relocations were achieved.

Work on implementation of the Capital Master Plan began in May 2008 and is now expected to be completed in 2014 (one year beyond plan). Reoccupation of the buildings will be phased – some floors of the Secretariat building are already in use again. The overall approved

budget for the Plan was US$1.87 billion, and it is projected that the work will be completed with a variance of approximately 4% above the original budget. The annual reports of the Secretary-General include lessons learned from the project.[1]

Conclusions

The following conclusions may be drawn from this brief survey:

- Piecemeal maintenance or renovation of a heavily-used building is only viable for so long – eventually a substantial intervention is required
- A major renovation is usually taken as an opportunity also to achieve improvements for users (including members, staff and visitors)
- Although new-build may be a cheaper or more efficient option, the symbolic importance attached to the historic seat of a Parliament often precludes that option
- The proximity of Parliament to the institutions of government is important
- The increased risk, cost and duration of renovating an occupied building can mean that a temporary location is the best option
- Relocation to temporary accommodation allows for a review of fundamental requirements, and the collection of reference data, which can be used to improve efficiency on reoccupation of the renovated building
- Where delivery of a renovation programme is entrusted to a separate authority, funding by the programme of posts in other departments of the organisation ensures the necessary degree of co-operation and dedicated staff support
- In the short to medium term, a degree of compromise on the part of all stakeholders is necessary in the interests of long-term benefits
- The design phase (whether of a new build or a major renovation) is crucial – changing the design during the course of a project adds hugely to the risks and costs
- All those involved in the governance of a major project – including Members – should be appropriately trained for their roles
- With appropriate communications, public acceptance (even support) for such a programme can be achieved

1 See, for example, UN General Assembly Documents, 65th Session, A/65/511, Eighth annual progress report on the implementation of the CMP

In the course of the present study, two consultations were conducted with invited individuals from the construction industry and historic buildings environment. Held in confidence, and with no implications for future involvement in any programme, these events provided an opportunity to test the thinking of the Study Group and to gain insights from experience elsewhere. Key themes and advice gained from those consultations are set out below.

Brief

All the professionals we consulted emphasised the importance of establishing a clear brief (and then sticking to it). It would also be helpful to establish what elements of the brief were "mission critical" and which might be regarded as "nice to have".

Planning phase

The length of the necessary intervention could best be minimised by a very thorough and detailed planning and preparation phase. Any attempt to cut costs at that stage would be likely to result in additional costs later.

Another part of the planning phase could involve using technology to map the site so that as many elements as possible could be made off-site and then delivered and installed. This too would help to minimise disruption and the length of the intervention.

Full "discovery"

The difficulty of identifying adequately all the works that would be required, prior to being given access to an unoccupied building, was considerable. Although some elements of work could be identified in advance and begun immediately, there would also be unknowns which would only be identified through invasive inspection.

Occupied or unoccupied site

Carrying out the renovation of an unoccupied site would inevitably produce both time and cost savings. Recent refurbishment of one major public building, which had taken around 7 years, could have been completed in 2 to 3 years if it had been possible to close it. Furthermore, some desirable alterations had been impossible to implement.

Working in an unoccupied site would also permit the implementation of optimal designs for engineering solutions, since the need for temporary services, or the need to deal with different areas of the building separately, would both be avoided. Risks would be easier

Annex 4:
Consultations with External Professionals

to manage, contractors would be able to function with fewer constraints on space and access, and security considerations would be minimised.

The provision of temporary accommodation for occupants of the site would of course incur costs but these could be offset by the savings achieved by renovating an unoccupied site, rather than attempting to work around the needs of occupants. The disruption to occupants of being moved to a temporary location could be offset by the reduced risk of disruption (and potentially an unplanned relocation) due to failure of services or unforeseeable consequences of renovation work.

A number of experts commented that the historic strategy of not allowing maintenance or improvement work to disturb the occupants of the Palace had led to the existing problem of congested and unidentified services, and redundant elements being left in place. It was inevitable that such a strategy could not be continued indefinitely.

Client organisation and governance

All the consultees emphasised the need for a single client body, with responsibility for the programme and able to make decisions with authority. Delays, problems and cost over-runs were inevitable otherwise. The Scottish Parliament building was a clear example where failure to make timely decisions had caused significant problems. A single client body would also permit a better audit trail to be maintained.

The need for a consistent, long-term strategic vision was also emphasised. A "champion" was needed who could provide continuity of leadership, who didn't use "building speak" and who avoided the tendency of many senior people to defer difficult decisions beyond their own period of office.

The creation of a Special Purpose Vehicle, along the lines of the Olympic Delivery Authority, with clearly-delineated powers and accountability, was repeatedly suggested.

Allocation and mitigation of risks

There were doubts about the wisdom of transferring all risks of the programme to contractors, who might not be well-placed to identify and price correctly the risks involved in renovation of the Palace. As a result the risks could be under-managed, or the contract over-priced. There was an argument for using a variable approach for different work packages so that, for example, packages with greater heritage significance remained subject to greater in-house control, while more generic packages had greater risks transferred to the contracting organisation.

On the other hand, it was suggested that breaking down work into small packages with high risks would be unattractive to industry. The prospect of working in a "hostile" environment, where requirements could be subject to change, might also mean the work was seen as not worth bidding for.

Resourcing a programme

There would be advantages and disadvantages of using contractors early in the process, to assist in the design and discovery phases. An enabling contract would allow early contractor involvement but could mean that the "home team" had less control over final designs. Given the potential length of a programme, bringing staff in-house could have advantages.

Integrated teams made up of individuals from different companies or organisations would allow a useful mix of skills, but would need to be strongly led. Establishing a parallel team to offer the alternative or "helicopter" view could have benefits. Pro-active succession planning over the lifetime of a major programme was also important, as was the need for a strong interface between the body managing the programme and the team responsible for the day-to-day running of the organisation.

It would be important to identify potential resource constraints in advance, and to manage them effectively. One example might be the availability of specialist materials or components, where early order and manufacture might be necessary to ensure sufficient supply at the appropriate time.

Other potential causes of delay might be the need for heritage approvals and health and safety input, for example on the management of asbestos. A solution might be to provide funding for English Heritage and Health and Safety Executive staff to be dedicated to working on the programme.

Building Information Modelling could be useful in the planning phase of the programme, and would have long-term benefits for future maintenance.

Public engagement

The public acceptability of a costly renovation programme would be improved if public engagement with the necessity of the work was built in from the start. Opportunities might also be sought to show what was being done – the National Trust now routinely attempted to carry out its renovation works in front of the public, without closing a building completely to visitors. A TV documentary, or public tours during the course of the renovation, as at the Royal Festival Hall, were also suggested.

Strong stakeholder engagement and proactive public communications were particularly important in circumstances where political commitment to a programme might fluctuate.

In the case of the investment necessary for HS2, and to an extent the Olympic Games, public debate had centred on benefits and legacy, rather than the scale of costs. It would be important similarly for Parliament to be proactive in communication, in order to frame the debate in terms of long-term benefits, rather than simply to respond to negative media coverage of costs.

Other opportunities

A major plan of renovation, comprehensive in scope, would provide significant heritage and conservation opportunities, including for consideration of the place of the Palace in the wider Westminster World Heritage Site. Other opportunities might include redesigning security provision and improving visitor experience and the working of the Visitor Route. The renovation could be an exemplar project in terms of sustainability and design. In addition development of skills in the more specialised trades – perhaps through a crafts apprenticeship scheme – would be a significant benefit.

The following points were recorded from a lessons learned workshop held in April 2012. This was supplemented by an account provided by the Quantity Surveyor for the programme on the costs (£8.3m) that had arisen from the requirement to create temporary services. The emphasis of the workshop was on the issues arising from working in an occupied building.

Annex 5:
Lessons Learned from the Medium-Term M&E Programme

ISSUE	COMMENTS	Project IMPACT	Stakeholder IMPACT
Asbestos	Considerable cost and disruption has been attributable to addressing asbestos in a piece meal approach. Discovery of asbestos leads to a requirement to isolate the vicinity and a minimum of 14 days delay due to statutory HSE notification. Large scale asbestos removal on the upper floors will require a significant decant.	High	High
Attention to detail	Additional survey and design cost to ensure fit into existing constraints and full understanding of location, connections and access.		
Stakeholders	Working in a busy functioning building means that there is a multiplicity of "business as usual" stakeholders to deal with in both Houses.	High	High
Available working space – Temporary plant rooms	To enable business continuity temporary plant areas have been designed and installed	High	Medium / High
Maintain Business continuity	Maintaining all aspects of business continuity has significant impact on programme, cost, reputation and credibility	High	
Visual impact	The temporary plant areas that will be scattered around the PoW will have a visual impact for up to 24 months	High	Medium
Extended programme	Project completion within a fully occupied building will naturally take significantly longer. For various components of the programme, duration was estimated at 3-4 times longer than on an unoccupied site.	High	Medium
Design is heavily influenced by what will fit into existing spaces and can be made to work alongside infrastructure that is not immediately being replaced. Designs are also required to respect conservation requirements for particular areas. Taken together this means that relatively little weight can be given to what might be the optimal design for the long term.	The design approach taken within the medium term has necessitated an operational approach at an increase in design cost. A common approach adopted has been to create temporary services or service routes that will be decommissioned once the new permanent services are put in place. However, since the temporary services are business critical and required to function without failure for a prolonged period, they need to be fully tested for resilience and performance, before they are commissioned. The same process has to be repeated for the new services – adding significantly to time and cost.	High	
Logistics to enable programme continuity within working building	Logistics planning (e.g. contractor equipment and portacabins) has to work around the current operations of both Houses. Based on the experience of the medium term M&E programme there would not be sufficient space for logistics to support a larger programme within an occupied Palace.	High	High

ISSUE	COMMENTS	Project IMPACT	Stakeholder IMPACT
Redundant services	Redundant building services throughout the PoW are often hidden behind newer building services frequently leading to a lack of space for new services.	High	Low
Lack of records hampers identification process Disruption Cost Risk (Credibility with Stakeholder)	A "discovery" phase is essential due to the age of the building, services infrastructure, the nature of the physical spaces etc. In the case of J Riser it took 6 months to identify services with sufficient degree of confidence to proceed. In the case of Plant room B understanding of all the services present has still not been achieved and after 18 months of investigation only 50% of services have been confidently identified.	High High High High	 High High High
No central information control	Information base is at best fragmented and worst non-existent, therefore requiring significant intrusive expensive discovery surveys to determine where existing building services run.		
J Riser Restricted access Asbestos No records Heritage Out of hours Piece meal approach due to occupation 48hr working constraint Stakeholders understanding operation No clear period of an empty building Visitor and evening functions 6 month overrun 5 x design time	The constraints within which the work is being done mean that there has to be a higher than normal emphasis on buildability, i.e. designs are usable only if practical methods of implementing them alongside existing infrastructure can be found – hence iterative "method-led" design. This does not necessarily compromise the quality of the final outcome, but it greatly increases the cost and prolongs the time taken over the design process. Without these constraints it is believed that the design would be different and possibly "better".		
Significant Restraints ruling	There are a number of significant restraints to working in the occupied PoW. One of these is the requirement to reinstate any works to the building services within 48 hrs notice. This was tested Summer 2011 when Parliament was recalled following the summer riots.	High	
Incomplete solutions	The Medium Term approach attempts to reduce the risk of failure with a modernised design, however the existing infrastructure precludes the full operational benefit from the newly installed plant & equipment in some areas.	Medium	
Procurement process leads to a turnover in Consultants/Contractors 4 month learning curve for anybody	The stop start approach and procurement rules have made it necessary to re-tender and bring in new contractors. Typically there is a four month learning curve for new contractors and consultants working in the PoW. The extensive learning curve is to enable awareness, site logistics, operational constraints and stakeholder awareness	Medium	
Lack of availability of Engineering Control staff to support projects	As long as we are dependent on rolling partial interventions detailed knowledge and experience of the existing infrastructure is essential to the success of any project. The reactive maintenance "Engineer Control" employees work on a shift rota basis with little spare capacity and therefore do not have the time to spend initiating new contractors into the Pow environment	High	
Contractor Engagement	Early contractor engagement has been found essential to maximise the overlap with design and would become even more so for a larger scale intervention.		

The Quantity Surveyors engaged for the Medium Term M&E Programme have provided the following table of additional costs attributable to the projects under the programme being implemented within an occupied building.

Palace Of Westminster
Medium Term M&E Project June 2012

COST IMPACT OF WORKING IN AN OCCUPIED BUILDING

1. Temporary / Enabling Works

Project		Works	Forecast Final Cost
PE01682	Plant Room B	Temp Works Contract	£869,902
		Cable Exposure Contract	£104,975
		Package C - removal of temp plant	£13,960
		Package C - temp electrical work	£94,930
		Package C - attendance on BH cable tracing	£84,936
		Easter Cabling Works Contract	£153,448
		Temp office building in Black Rod's Garden	£300,000
		Project Related Removals	£4,358
		Sub Total	**£1,626,509**
PE01683	Riser J	Enabling Works Contract	£118,294
		Temp Works Contract	£2,776,913
		Works in connection with Fridge Freezer	£10,867
		Works in connection with further cable tracing investigations	£150,000
		Divert remaining cables from Riser J	£150,000
		Furnishings Maintenance	£20,000
		Sub Total	**£3,226,074**
PE01685	Plant Rooms Refurb	Package C - Plant Room B41 Temp Plant	£20,592
		Package C - Plant Room B41 Temp Electrical Works	£1,838
		Package C - Plant Room B41 Temp Lighting	£794
		Package C - Plant Room B41 attendance on BH cable tracing	£202
		Package C - Plant Room E Temp Plant	£112,919
		Package C - Plant Room E Temp Electrical Works	£13,278
		Package C - Plant Room E Temp Lighting	£3,289
		Package C - Plant Room E attendance on BH cable tracing	£68,108
		Package C - Plant Room G Temp Plant	£-
		Package C - Plant Room G Temp Electrical Works	£10,638
		Package C - Plant Room G Temp Lighting	£1,193
		Package C - Plant Room G attendance on BH cable tracing	£15,457
		Package C - Lords Plant Room Temp Plant	£422,563
		Package C - Lords Plant Room Temp Electrical Works	£49,429
		Package C - Lords Plant Room Temp Lighting	£7,990
		Package C - Lords Plant Room attendance on BH cable tracing	£39,566

		Package C - M Duct Temp Plant	£52,953
		Package C - M Duct Temp Electrical Works	£23,140
		Package C - M Duct Temp Lighting	£2,101
		Package C - M Duct attendance on BH cable tracing	£3,035
		Package C - Plant Room Q Temp Plant	£96,657
		Package C - Plant Room Q Temp Electrical Works	£2,990
		Package C - Plant Room Q Temp Lighting	£1,573
		Package C - Plant Room Q attendance on BH cable tracing	£9,851
		Sub Total	**£960,156**
PE01688	Chilled Water	Package C - Temp Mobile Chiller	£158,963
		Package C - Temp Mech Works	£153,652
		Package C - Temp Elec Works	£5,105
		Package C - Temp BMS Works	£19,378
		Package C - Temp Lighting	£2,151
		Package C - attendance on BH cable tracing	£18,502
		Sub Total	**£357,751**
PE01700	Winter Works	External Hoists & Staircases	£42,689
		Abortive tank works - Fri 09/09/2011 - House Sitting	£5,341
		Extension of Time	£29,780
		Sub Total	**£77,810**
		Temporary / Enabling Works Sub Total	**£6,248,300**

2. Professional Fees

Project	Works	Forecast Final Cost
All projects (excl C1791)	Total forecast professional fees for Medium Term Project	£8,909,787
	Expressed as a percentage of total forecast construction cost	25%
	Consultants' benchmark for professional fees for complex projects in unoccupied buildings	15%
	Approx premium on fees	£890,979
	Professional Fees Sub Total	**£890,979**

3. Asbestos Removal

Project	Works	Forecast Final Cost
All projects	Total identifiable cost of asbestos removal on Medium Term Project	£2,831,908
	Premium paid for removing asbestos from an occupied building (informed professional opinion: approx 40% uplift)	£1,132,763
	Asbestos Removal Sub Total	**£1,132,763**

	GRAND TOTAL	**£8,272,042**

The current Medium Term M&E Programme forecast construction out-turn cost is £35,346,809 (excluding VAT, Risk, Contingencies and Optimism Bias)

The total cost impact of £8,272,042 therefore equates to approx 23.4% of the forecast construction out-turn cost.

Annex 6:
Successful Project Governance and Leadership[1]

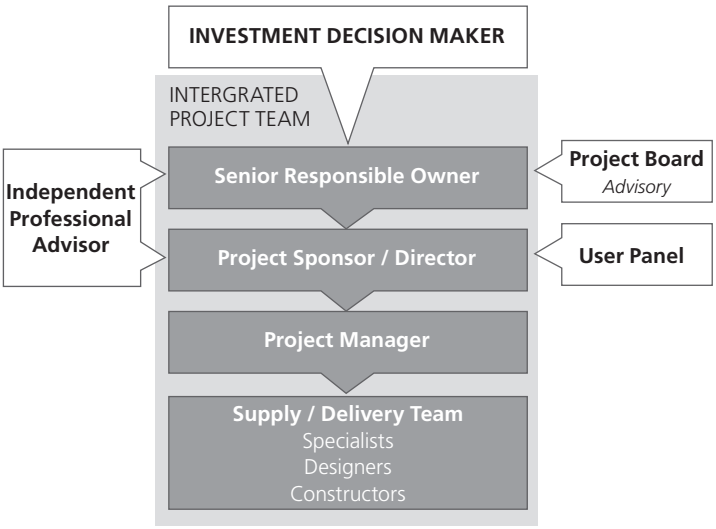
Strong governance of a capital investment project or programme is the key to success – delivery on time, to budget and to the requisite standard.

By way of definition, a **programme** is a vehicle for implementing business change, made up of a number of projects and activities co-ordinated and managed as a unit to deliver benefits and achieve outcomes e.g. reconfigure working arrangements, create a new asset to house the new arrangements and dispose of redundant assets.

A **project** is a temporary organisation created to deliver one or more business products according to a specified business case e.g. undertake a refurbishment of a building.

For the purposes of this paper the reference to 'project' is interchangeable with 'programme'.

Best practice governance of a project has the following key attributes:



The Investment Decision Maker

The Investment Decision Maker (IDM) is a role which is applied in several ways to Projects. The IDM's main responsibility is to commit funding for the Project.

In major investments, the level at which investment decision making takes place will depend on the size and complexity of the Project and its political sensitivity.

This function represents senior management's commitment to the Project and the requirements for regularity, propriety and value for money. The IDM is responsible for:

- Ensuring that a viable and affordable business case exists for the Project;
- Ensuring that the business case remains valid throughout the Project;
- Ensuring that the systems of control set out in standing orders and guidance are put into place and are followed;
- Agreeing the appointment of an SRO with sufficient authority to ensure that the necessary resources are in place to implement the Project and provide proper support for the Project Manager;
- Establishing and monitoring a scheme of delegation, clearly defining the extent of individual responsibilities;
- Maintaining the visible and sustained commitment 'to deliver' from the top of the organisation; and
- Ensuring that Integrated Assurance is applied appropriately.

The IDM should be able to:

- Understand the financial basis of the business operation and how the Project will operate within it;
- Understand and advise on Project business case matters; and
- Have the authority or seniority to allocate funds.

Assurance on successful delivery is expected to be integrated throughout the development process and at various levels. Assurance:

- is an objective and independent examination of evidence to provide confidence on governance, risk management, and control processes for the organisation.
- Seeks to ensure that the project is set up and run in an appropriate way to meet its goals as well as corporate policies, strategies and priorities.
- Supports a duty of care for the SRO to provide due diligence in the use of public funds and resources.
- Is a requirement of the Treasury who require major

1 Contributed by the external member of the Study Group.

projects to have an Integrated Assurance and Approval Plan (IAAP)

The Senior Responsible Owner

Successful projects require clear, active and visible leadership from the top. Overall responsibility for delivering the business objectives and benefits of any project must be vested in a single, responsible and visible individual, the Senior Responsible Owner (SRO). The SRO should be the owner of the overall investment and business change that is being delivered by the project. For corporate or cross-cutting projects, a single SRO must be appointed to take responsibility for the initiative and must be recognised as the owner across all organisations involved.

The role of the SRO can be summarised as follows:

- Has ultimate responsibility and accountability for the achievement of agreed Project objectives and outcomes;
- Is the key decision maker / Executive on the project board;
- Has 'ownership' of the business case and authority to proceed;
- Is responsible for the realisation of business benefits arising out of the project; and
- Ensures that appropriate Project and Programme Management skills and experience are in place.

Individuals assuming the SRO role must have experience (or relevant training) and should be proactive in providing leadership and direction throughout the life of the project. For these reasons it is important that, as far as possible, the SRO role should be fulfilled by the same person for the duration of the project.

The SRO should:

- Be a representative of the business not a specialist programme or project manager
- Be senior enough to have the right level of authority
- Have sufficient experience or access to professional advisers with experience of project delivery
- Own the resources or have the ability to obtain them
- Have the ability to influence the key elements and manage the key stakeholders

The SRO can be full-time or part-time, provided they have sufficient time and cannot be constantly changing or the SRO of several large projects or programmes at once.

The Project Sponsor / Director

The Project Sponsor / Director is responsible for day to day decision making on behalf of the SRO and setting high standards for delivery of the project.

The Project Manager

The Project Manager coordinates the activities of the Core Project Team on a day to day basis and is responsible for ensuring that:

- The design, procurement and construction phases run smoothly
- The Project Management Office runs effectively
- Issue and change management processes are managed in line with policy
- Project standards are maintained
- The project plans and budgets are managed effectively

It is anticipated that Project governance and leadership will be based on the above model. This will allow the Project to move past the Project (or programme) initiation phase and onto the securing of a political 'decision in principle' for a preferred option. At that point in time it would be prudent to undertake a review of the governance arrangements to assess the level of development of the Outline Business Case, the clarity and impact of a 'decision in principle' and the potential transfer of ownership and responsibility of the Project to a newly formed Parliamentary Delivery Authority (or other such governance and delivery vehicle that may be appropriate for the preferred option.)

Should a transfer of responsibility for the Project be adopted it will be important to maintain a degree of continuity in governance between the early business case phases and the subsequent project delivery phase.

Common Causes of Project / Programme Delivery Confidence and Failure

The NAO and Major Projects Authority (successor to OGC) have identified, from a diverse sample of investment projects and programmes, some attributes and themes that accompany confidence in project delivery and, conversely, historic common causes of public sector project (albeit major IT projects and programmes) failure.

Delivery Confidence[2]

1. Initial Assessment (getting off on the right foot)

Following a major policy initiative or review, and before formal announcements are made or a delivery Programme started, time has been taken to conduct a comprehensive assessment to confirm:

- Overall deliverability within initial time and cost estimates
- Level of skills and expertise required
- Commitment of key partners and stakeholders
- Top level support from within the Department, and the priority within the department's portfolio

2. Programme Leadership (having the right people)

SROs and Project Sponsors/Directors/Managers have the following:

- The requisite skills, experience and track record for the role
- Will be in the role for a significant proportion of the Project's / Programme's life
- A clear mandate, supported and endorsed by all parties, defining powers and responsibilities.

For SROs only:

- They have the bandwidth within their current role to devote the time and energy needed to leading the Project / Programme.
- If the SRO role is full time, there is a supervising nominated senior official or sponsor who can provide the organisation-wide perspective and input.

3. Scope aims and benefits (defining the task appropriately)

- Scope and aims of the Project / Programme state specific outcomes, with associated Critical Success Factors, and identify whether the aim is delivery of long term benefits or the establishment of enabling organisational infrastructure.
- The benefits directly relate to scope/aims of the Project / Programme
- There is clarity over who is responsible for leading business change processes, benefits planning, management and realisation.
- Scope, aims and benefits have been agreed with suppliers and key stakeholders

4. Positioning within a Department (knowing your environment)

- There is top level political and management support for the Programme with appropriate mechanisms for regularly briefing Ministers and key officials to ensure on-going support and commitment.
- The relative priority of the Programme within other departmental business objectives and initiatives is explicitly established and regularly validated.
- The programmes status within the Department's portfolio (and the associated priority for resources) is fully taken into account when planning timescales and outputs, and assessing risks
- There is a regular dialogue with other Programmes to access their experience and lessons learnt, and where possible, skills.

5. Managing the Time, Cost, Quality triangle (keeping feet on the ground)

- The competing demands of delivering outputs to time, within budget and to the required quality, are kept under constant review at Programme Board level.
- Where external factors mean the original time/cost/quality parameters are no longer realistic or achievable, they are reviewed by the Programme Board and adjusted as appropriate to deliver the overall aims of the Programme.
- Time/Cost/Quality parameters in the early stages of a programme (i.e. up to Outline Business case) are only taken as absolute if exceptional circumstances prevail.

6. Assumptions, Risks, Issues (knowing what could go wrong)

- At all stages, Assumptions (including those deriving from political directives) are explicitly recorded with the authority for their validity, to provide an audit trail to inform key decisions at later stages.
- Appropriate thinking around "Plans Bs" has taken place to cater for key assumptions not proving valid in the future.
- There are robust processes for identifying and managing both Risks and Issues with regular reviews at Board level

7. Skills and expertise (having the right know-how)

- The appropriate skills and expertise, based on a formal assessment of need, have been resourced and either acquired or a clear plan for acquiring them, developed. This includes specialist technical, commercial and procurement skills as well as PPM

2 Summary of OGC document entitled 'Causes of Confidence in Major Projects and Programmes' 2009

- Whenever necessary, use is made of consultants or external partners, with appropriate arrangements for management and oversight, and the sharing and passing on of information.
- The PMO is established early in the Programme with the requisite skills and experience from the outset, and adjusts its skill base as appropriate through the life of the Programme.

8. Stakeholder engagement and management (appreciating who can help or harm you)

- The Programme has identified who the stakeholders are and which ones are key in which contexts.
- The Programme communicates regularly with all stakeholders in ways that match their needs and relationship to the Programme
- In managing stakeholders, the Programme through a robust approach to identifying which stakeholders are key and when, achieves the right level of commitment within the right stakeholders at the right time.

9. Implementing new business operating models (making it work for real)

- A Business Change Manager has been appointed to be part of the design of the new business operating model and to oversee implementation
- In defining a future business operating model that will use for example new IT systems, appropriate input and consultation has taken place with those implementing new business processes, such that:
  - — there is a willingness and commitment to change from the time it can be introduced
  - — timescales are realistic and allow for maintenance of "business as usual" during any transition period.
- Business Continuity Plans have been developed to cater for any failures during implementation

10. Managing suppliers and consultants (getting through to the end)

- Suppliers and consultants under contract are seen and treated as partners within the overall Programme and a dynamic proactive relationship exists whereby risks and information are readily shared
- The Programme has robust processes for monitoring, assuring and managing supplier/consultant performance, enabling issues to be addressed promptly, rather than waiting for a crisis to happen
- Where there are key sub contractors who provide critical services but who are not under direct contract, the programme has as good working relations with these organisations, with shared aims and objectives, as with the main suppliers.

Common Causes of Project Failure[3]

- Lack of a clear link between the project and the organisation's key strategic priorities, including agreed measures of success.
- Lack of clear senior management and ministerial[4] ownership and leadership.
- Lack of effective engagement with stakeholders.
- Lack of skills and proven approach to project management and risk management.
- Too little attention to breaking development and implementation into manageable steps.
- Evaluation of proposals driven by initial price rather than long-term value for money (especially securing delivery of business benefits).
- Lack of understanding of and contact with the supply industry at senior levels in the organisation.
- Lack of effective project team integration between clients, the supplier team and the supply chain.

3 Summary of OGC Best Practice guidance entitled 'Common Causes of Project Failure' 2005

4 In the context of a Parliamentary project, this might refer to political rather than specifically ministerial ownership.