CONCODE

Guide to contract strategies for construction projects in the NHS

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This guidance supplements that provided in the Capital Investment Manual: ‘Management of construction projects’; it contains information on:

a. advantages and disadvantages of alternative contract strategies for construction projects in the NHS;

b. the evaluation of alternative contract strategies for a specific project.

This guide is one of the series of documents that is replacing the old Concode; the sections issued to date are:

a. ‘Policy’;

b. ‘Guide to the Agreement for the appointment of architects, surveyors and engineers for commissions in the National Health Service’;

c. ‘Guide to the Agreement for the appointment of project managers for commissions for construction projects in the National Health Service’;

d. ‘Contract procedures’;

e. ‘Guide to procedures for commissioning building and engineering consultants’;

f. ‘Guide to the JCT agreement for minor building works’;

g. ‘Guide to the requirements of the European Community public procurement directives’.
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1.0 Introduction

General

1.1 Selection of the contract strategy is one of the most important decisions that an NHS body will be required to make for a specific project. A successful contract strategy may assist an NHS body in completing a scheme in accordance with its objectives (including its objectives in respect of healthcare provision).

1.2 When considering a specific project, the contract strategy will be the major influence on:

- project management responsibilities and requirements;
- design strategy;
- employment conditions and responsibilities of consultants;
- the timescale of the project;
- employment conditions and responsibilities of contractors;
- the overall cost of the project;
- effective control over the quality of the project;
- time, cost and quality implications of any changes to the project.

Risk management

1.3 The contract strategy is primarily concerned with the identification and allocation of the responsibility for managing risk between the parties involved in a specific project as shown in figure 1. It is important that an evaluation of the risks is undertaken to establish who is best placed to manage them.

1.4 Risks are uncertain future events which may have significant effects on the achievement of the project objectives and may therefore have an impact on the achievement of healthcare objectives.

1.5 While there are many risks affecting a project, it is uncertainty in the following that have a major effect:

a. time;

b. cost (cost risk is important to NHS bodies because of the discipline of the external financing limit (EFL));

c. quality (including performance such as maintenance costs, running cost).

1.6 As all contract strategies represent a balance between the objectives of time, cost and quality, NHS bodies will need to prioritise these when establishing the project objectives. In addition, an evaluation should be undertaken to establish the effects of apportionment of risks under different contract strategies on the achievement of the project objectives. A method of evaluation using a weighted matrix is illustrated in Appendix 1.

1.7 Irrespective of which contract strategy is selected, NHS bodies must have a comprehensive and unambiguous brief at the earliest appropriate stage of the project. The brief should remain frozen after it has been signed off by the users, as recommended in the Capital Investment Manual: ‘Management of construction projects’. It should only be changed in subsequent stages for exceptional and necessary reasons.

1.8 Where a comprehensive and unambiguous brief has been prepared by an NHS body and is left unchanged, much of the risk associated with a project arises from:

a. how the design aspects and associated risks are related to construction, namely:
   
   (i) who bears the design risk
   
   (ii) who ultimately controls the design preparation and approval thereof;
   
   (iii) how complete the design is prior to commencement of construction;
what procedure governs completion of designs after commencement of construction;
b. price risks arising from variations or other unforeseen matters;
c. time risks.

1.9 If NHS bodies do not possess the relevant skills or experience themselves to either:
a. prepare a comprehensive and unambiguous brief for the project;
b. effectively and realistically evaluate contract strategies and associated risks for a specific project; or
c. prepare suitable contract documents to implement the chosen contract strategy
they must obtain suitable professional advice from experienced and qualified people such as project managers, architects, engineers, surveyors etc (including legal advice where necessary).

Contract strategies
1.10 The main contract strategies that are likely to be used in the NHS are:
a. traditional;
b. design and build;
c. develop and construct;
d. management contracting;
e. design, manage and construct;
f. construction management.
Guidance is given later in this document on the advantages and disadvantages of these contract strategies.

1.11 It is important to note that there are other hybrid options which may be appropriate in certain circumstances and on which appropriate professional advice should be obtained. An example of such an option would be guaranteed maximum price contracts. It is also relevant to bear in mind that other contract strategies exist which are not based on those mentioned above, such as cost reimbursement (for example the use of the JCT Prime Cost Contract 1992) and measured term contracting (for example the use of the JCT Measured Term Contract 1989).

Organisational structure for contract strategies
1.12 The organisational structures illustrated under each strategy have been simplified for ease of understanding.

Further information on the roles of the parties identified is given in ‘Project Organisation’, Capital Investment Manual.

Standard forms of contract for the appointment of contractors
1.13 Standard forms of contract are available for all the contract strategies mentioned with the exception of “construction management”, and should be used without amendment. They are produced by the following organisations:
a. Joint Contracts Tribunal (JCT series of standard forms of contract);
b. Department of the Environment (GC/Works series of standard forms of contract);
c. Institute of Civil Engineers (ICE series of standard forms of contract).

1.14 A list of examples of suitable contract forms can be found in Appendix 2. Concode provides detailed guidance on those commonly used in the NHS.*

1.15 NHS bodies must select the appropriate standard form of contract which allocates the risks in accordance with their project objectives.

Standard forms of commissioning agreement for the appointment of professional consultants
1.16 It is important to note that there are also many standard forms of agreement available for the appointment of professional consultants, examples being produced by many of the professional bodies such as:
- the Royal Institute of British Architects;
- the Royal Institute of Chartered Surveyors;
- the Institute of Civil Engineers;
- the Association of Consulting Engineers.

1.17 In addition, there are many consultant commissioning agreements produced by major clients of the construction industry and the following NHS agreements published by NHS Estates are recommended for use in the NHS.

*While there are currently no standard forms of contract available for use with “construction management” it is understood that these are being drafted by the Joint Contracts Tribunal. In the meantime, it is possible with the benefit of professional advice, to draft specific forms of contract for use in a construction management contract strategy.
• ‘Agreement for the appointment of architects, engineers and surveyors for commissions in the NHS’;

• ‘Agreement for the appointment of project managers for commissions for construction projects in the NHS’.

1.18 It is important to note that any consultants’ agreement should be carefully scrutinised to ensure that the risks, liabilities and duties specified therein do not conflict with the agreements for the appointment of other consultants on a specific scheme or with the selected standard form of contract or the contract strategy to be adopted for a specific project.

Amendment of standard forms of agreement/contract

1.19 Amendment of a standard form of contract for the appointment of a contractor or a standard form of agreement for the appointment of a consultant should only be made if essential and then only with a full understanding of the legal and commercial implications. Experienced legal and professional advice should be obtained. Certain amendments and additions may be required to any standard form of contract for the appointment of a contractor or standard form of agreement for the appointment of a consultant to reflect current law and construction practice, and to incorporate particular matters relevant to the specific project.

1.20 Where consultants or contractors submit their own forms of contract or agreement, or their own proposed amendments to standard forms of contract or agreement, to NHS bodies for consideration for use on a specific project, they should be very carefully checked/examined and advice obtained to ensure, beyond legal doubt, that the allocation of risks, responsibilities and liabilities is acceptable to, and not at the risk of, NHS bodies. If necessary, appropriate technical and legal advice should be obtained.

Important note: this guide offers only a summary of the factors governing selection of an appropriate strategy. Many detailed questions will need to be considered before NHS bodies can decide which contract strategy is appropriate to the priorities governing their project objectives. Similarly, the choice will depend on a number of questions relating to the nature and scope of the project works. On the basis of this guide, the Capital Investment Manual and Concode, together with the benefit of appropriate professional advice, the selection of a suitable contract strategy and a suitable standard form of contract should greatly assist NHS bodies in achieving the means to realise their project objectives.
2.0 Traditional contract strategy

General

2.1 Traditional contract strategy usually involves the use of the JCT Standard Form of Building Contract (with Quantities) 1980 Edition under which responsibility for the execution of construction work is placed with a single contractor on the basis of a predetermined contract sum and whereby design remains the subject of one or more separate professional appointments placed by an NHS body with its designers.

2.2 The main features of this contract strategy are:

a. the complete detailed design information is expected to be prepared by an NHS body’s appointed design team prior to the appointment of the contractor;

b. the contractor is responsible only for the construction of the project and not for its design (or for only part of its design if so specified in the contract);

c. as the design information should be comprehensive and complete prior to the issue of the tender documents, there is a reasonable degree of price certainty. This is provided that there are no subsequent changes to the full brief or design, and no unforeseen events giving rise to claims for extensions of time, loss and/or expense, or termination;

d. the ability to let contracts on the basis of approximate quantities where the design is not substantially complete or there is insufficient time to complete the detailed design documentation prior to issuing the tender documents; however, this creates a higher degree of price uncertainty.

2.3 This contract strategy can be used on all projects whether simple or complex, but to ensure a reasonable degree of price certainty, NHS bodies must ensure that:

a. adequate time is permitted at the “full business case leading to approval” and “design” stages of a project, as defined in the ‘Management of construction projects’, to enable both a comprehensive, unambiguous brief and complete detailed design information to be prepared;

b. design information is complete before tenders are invited. If a significant amount of design information remains to be issued after tenders have been received and a contract has been awarded, the contractor will have the opportunity to claim extensions of time and loss and/or expense;  
c. the use of provisional sums or provisional quantities is avoided wherever possible because they reduce price certainty;

d. there are no changes made after the contract has been awarded unless absolutely necessary, as these will allow the contractor the opportunity to claim extensions of time and loss and/or expense;

e. the maximum cost detail is obtained to ensure that any necessary changes can be accurately costed;

f. the appointments of the designers, project manager and quantity surveyor suitably restrict their authority to issue instructions requiring changes to the contractor;

g. the nomination of sub-contractors or suppliers is avoided wherever possible;

h. if design input is provided by the contractor or by any sub-contractors, the duties of the designers include the checking and approval of the design input to the project without affecting the contractor’s responsibility for the design;

j. if design input is provided by sub-contractors, each of these sub-contractors should be asked to provide a collateral warranty to the NHS body in order to establish a direct remedy by the NHS body in the event of error or default (for example where there is nomination of a sub-contractor under the JCT Standard Form of Building Contract (1980 Edition) and form NSC/W is required to be completed as part of the nomination process);

k. restrictions on site possession, any potential disruption to access and other factors affecting the site and the project works are clearly defined in the contract as these may otherwise allow the contractor the opportunity to claim extensions of time and loss and/or expense;

m. areas of potential change are identified at the briefing and design stages, such as those where the rapid advance of technology may require that changes be made, for example X-ray facilities. Such areas should be designed and constructed in shell form with basic service connections with the equipment to be installed being specified during the post-contract stage of the project. This will permit the equipment to be changed at post-contract stages with the minimum disruption or change to the project.
Organisational structure

2.4 The recommended organisational structure of a traditional contract strategy is:

![Organisational Structure Diagram]

Advantages of a traditional contract strategy

2.5 The advantages of a traditional contract strategy are:

a. increased price certainty after award of contract;
b. ability to achieve a high degree of quality in design and construction;
c. the NHS body maintains direct contractual links with the design team and the quantity surveyor;
d. the NHS body is provided with the ability to recover certain costs from the contractor should the contractor be unable to meet his/her contractual obligations, for example if the project’s completion is late due to the contractor’s inability to perform or there are latent defects in work for which the contractor is responsible which appear after the project works have been completed (this may include design liability if he/she has designed elements of the work);
e. the strong incentive for the contractor to meet his/her programme and to control his/her sub-contractors and suppliers on-site;
f. avoidance of compromises on quality in the interests of economy.

Disadvantages of a traditional contract strategy

2.6 The disadvantages of a traditional contract strategy are:

a. as the design information must be complete prior to the appointment of the contractor, the overall programme for design and construction may be longer than for other contract strategies;
b. any delay in the provision of design information (including drawings) to the contractor in accordance with the programme is likely to result in claims by the contractor for extensions of time, loss and/or expense;
c. there may be a lack of teamwork between those involved in the construction stage of the project, namely the NHS body, its designers and contractor as a consequence of the contractor not being involved in design. However, if a sound project organisation is established and an effective project director is selected, this should promote good teamwork;
d. there may be problems of “buildability” and less economic methods of construction being used as a result of the contractor not being involved in the design;
e. there is no scope to achieve cost savings through separate sequential tendering of individual work packages;
f. there is less scope for any benefits that may result from direct relationships with specialist sub-contractors (for example cost control, improved teamwork, less adversarial relationships etc);
g. the contractor’s objectives are not normally consistent with those of the NHS body.

f. avoidance of compromises on quality in the interests of economy.
3.0 Design and build contract strategy

General

3.1 Design and build contract strategy is an arrangement under which responsibility for the execution of design and construction work is placed with a single contractor on the basis of a predetermined lump sum.

3.2 The main features of this contract strategy are:
   a. the initial design may be by either:
      (i) a design team appointed by the NHS body because it requires some control over certain aspects of the design, for example the internal layout or relationships of functions; or
      (ii) the contractor (where the initial design is carried out by a designer appointed by an NHS body, it is possible that the design team's commission(s) may be transferred to the contractor using "novation" of their appointments, although this can create conflicting loyalties and commercial constraints);
   b. the detailed design is completed by the appointed contractor;
   c. the NHS body prepares a comprehensive brief and performance specification for the project prior to the appointment of the contractor;
   d. the contractor is responsible for the design and construction of the project;
   e. if the brief and performance specification is as complete and unambiguous as possible and the contractor's proposals meet the requirements as stated, provided there are no subsequent changes to the brief and performance specifications, and no unforeseen events giving rise to claims for extension of time, loss and/or expense or termination, there is cost certainty.

3.3 This contract strategy can be used more easily on simple projects but may be used on more complex buildings provided that an NHS body establishes a comprehensive and unambiguous brief prior to the appointment of the design and build contractor, including the quality of materials and the standards of workmanship required, the performance criteria to be satisfied, the extent of the contractor's design responsibility, the purposes to be served by the project and key life-cycle parameters. This is likely to require a high level technical input and NHS bodies should obtain appropriate professional advice.

3.4 If the design and build contract strategy is used on a specific project, NHS bodies are advised to ensure that:
   a. there is a requirement in the contract that the contractor provides an adequate design warranty. This is likely to be restricted to "reasonable skill and care" which would be the warranty obtained from independent designers under any other contract strategy, although limited "fitness for purpose" warranties can be obtained in certain circumstances and the standard form of contract may require clarification to reflect this;
   b. the contractor's design warranty is supported by adequate professional indemnity insurance and that the contract documents require this;
   c. an appropriate procedure for presentation and checking of post-contract design is specified and the contract documents specify this requirement. Care should be taken to ensure that the design liability remains with the contractor;
   d. adequate time is allowed during the tender period for tenderers to prepare their design proposals and for an NHS body to evaluate such proposals carefully;
   e. the list of tenderers is not excessive;
   f. they have effective arrangements in place to enable them to monitor compliance with the contract documents (including the employer's requirements and contractor's proposals) on site without affecting the contractor's liability. This will prevent compromises of quality of materials or workmanship by the contractor in the interests of cost savings or ease of construction;
   g. consideration is given to requesting that sub-consultant designers and key sub-contractors contributing to the design process provide collateral warranties which would provide additional remedies in the event of the contractor's insolvency;
   h. the use of provisional sums is avoided wherever possible as these will reduce price certainty;
   i. there are no changes made after the contract has been awarded unless absolutely necessary, as these will allow the contractor the opportunity to claim extensions of time, loss and/or expense;
   j. the maximum cost detail is obtained to ensure that any necessary changes can be accurately costed;
   m. that restrictions on site possession and any potential disruption to access and other particular factors affecting the site and the project works are clearly defined in the contract as these may otherwise allow...
the contractor the opportunity to claim extensions of time, loss and/or expense.

Develop and construct contract strategy

3.5 A develop and construct contract strategy is a hybrid of the design and build contract strategy. Under a develop and construct contract strategy, an NHS body selects and appoints a design team at the early stages of a project to develop a concept design, thereafter appointing a contractor to assume responsibility for the detailed design and construction of the works. When using this strategy, care should be taken to ensure that the responsibility for design risk is clearly established as different parties may be responsible for concept design and the detailed design.

3.6 Reasons for the appointment of a design team by an NHS body to prepare a concept design may include:

- the external appearance of the building needs to be decided upon to ensure that it is acceptable to all and planning permission is obtained prior to the appointment of the contractor;
- the internal layout of the building needs to be decided prior to the appointment of the contractor.

3.7 The contractor may or may not use the NHS body’s design team. However, if it is required that the design team appointed by an NHS body be used by the contractor and become the responsibility of the contractor, “novation” of the design team to the contractor is used to achieve this.

Organisational structure

3.8 The recommended organisational structure of a design and build contract strategy is:

![Diagram of organisational structure]

The organisational structure for a develop and construct contract strategy is similar to that for a design and build contract strategy except that prior to the selection and appointment of the contractor, an NHS body will have appointed a design team which may or may not become the contractor’s responsibility.

Advantages of a design and build contract strategy

3.9 The advantages of a design and build contract strategy are:

a. potential for earlier completion of the overall project because of overlapping activities, that is, the detailed design need not be complete prior to the commencement of construction;

b. a reasonable degree of price certainty is obtained prior to commencement of construction provided:
   (i) an NHS body’s requirements are comprehensively and unambiguously specified, and changes are not subsequently introduced. In the past, this has proved difficult to achieve in the NHS;
   (ii) no unforeseen circumstances arise that would entitle the contractor to claim an extension of time, loss and/or expense;
   (iii) there are no price fluctuation provisions required for a specific project;

c. single-point responsibility, that is, an NHS body only has to deal with the contractor in respect of design and construction errors or defaults;
d. as the contractor is responsible for design and construction, he is more likely to be motivated to co-ordinate these to complete the contract within the specified cost and time parameters.

Advantages of a develop and construct contract strategy

3.10 The advantages of a develop and construct contract strategy are similar to those for the design and build contract strategy.

Disadvantages of a design and build contract strategy

3.11 The disadvantages of a design and build contract strategy are:

a. any changes made by an NHS body may prove to be more expensive than they might otherwise have been if they could have been priced utilising information contained in the contractor’s design proposals,

b. an NHS body loses detailed control over quality of design and construction as they have no direct control over the contractor’s design team with whom they must not interfere. There is not normally any requirement for them to have any form of inspection of work as it is completed on site, unless of course they take steps (as recommended later) to ensure that they implement monitoring of compliance with the contract documents;

c. as the brief and performance specification must be comprehensive and unambiguous prior to the execution of the contract, this contract strategy is less suitable for more complex projects;

d. should the contractor become bankrupt prior to the completion of the project, there may be problems in progressing the project using another contractor who will utilise the originally appointed contractor’s design. The reasons for this are that:

(i) the level of detail design needed for the construction of a project may vary from contractor to contractor and may complicate the preparation of tender/contract documentation for the appointment of a subsequent contractor;

(ii) the subsequent contractor may not be prepared to take on the responsibility for the original contractor’s design;

e. it is difficult for an NHS body to influence tender prices in relation to specialist elements of the project works;

f. it is difficult for an NHS body to compare the design proposals submitted by different contractors with their tenders as detailed design is only developed as construction proceeds. This could be addressed by requiring the contractor to submit his early design and room layout proposals within the tender documents;

g. there is no scope to achieve cost savings through separate sequential tendering of individual works packages;

h. there is less scope for any benefits that may result from direct relationships with specialist subcontractors (for example cost control, improved teamwork, less adversarial relationships etc);

j. should the project become unprofitable for the contractor, there is an increased risk of the specification being reduced to save money;

k. there is no certainty that life cycle costs will be taken into consideration in the design - it is possible that the contractor’s design solution will have a short initial life to save on the initial capital outlay.

m. there is no continuity of the understanding and philosophy of the full brief as the contractor will not have been involved in its preparation.

Disadvantages of a develop and construct contract strategy

3.12 These are similar to those for the design and build contract strategy except that there may also be conflict between the design team and the contractor where a design team appointed by an NHS body to prepare a concept design is subsequently “novated” to the contractor. Also, there will be no continuity of the understanding and philosophy of the full concept design as well as the brief as the contractor will not have been involved in its preparation.
4.0 Management contract strategy

General

4.1 Management contract strategy is an arrangement under which responsibility for the management of construction work is placed with a management contractor, and separate contracts for works packages are placed with individual works contractors. The management contractor’s responsibility is limited to recovery on an NHS body’s behalf for the defaults of individual works contractors. Design remains the subject of one or more separate professional appointments placed directly by an NHS body with its designers.

4.2 The main features of this contract strategy are:

a. a management contractor is appointed by the NHS body to manage the entire construction process and is paid a fee;

b. the construction work is carried out by works contractors who are appointed by the management contractor for individual works packages;

c. the management contractor is responsible for health and safety and may provide some of the common services on site, for example office and other accommodation, cranage and security, which are shared by all the works contractors;

d. the design team are appointed directly by the NHS body;

e. the detailed design is usually incomplete prior to commencement of construction on site, the design for each works package being completed as required by the programme for the tender and appointment of works contractors;

f. as the design is incomplete prior to commencement of construction, cost certainty cannot be achieved until the works contractor for the last works package has been appointed;

g. the cost of the work under a management contract usually comprises the following elements:

(i) the management contractor’s fee;

(ii) the cost of any common site services provided by the management contractor, for example site accommodation and cranage;

h. the prime cost of the work carried out by the works contractors.

(At the outset of the contract, the overall estimated cost of the project is established in a contract cost plan (estimate of prime cost) which is agreed with the management contractor. As the project progresses and works contractors are appointed, the tender sums are offset against the appropriate allocation in the contract cost plan.)

4.3 Management contracting strategy is normally only suitable for large complex projects where an NHS body has prioritised time for completion over cost for the project objectives. In other words, it is prepared to accept the possibility of greater cost risk to secure the benefit of obtaining an earlier completion date than might be achievable using different contract strategies.

Design and manage contract strategy

4.4 A design and manage contract strategy is a hybrid of the management contract strategy. Under a design and manage contract strategy the contractor is paid a fee to manage and assume responsibility for the design team as well as the works contractors.

Organisational structure

4.5 The recommended organisational structure of a management contract strategy is:

The organisational structure for a design and manage contract strategy is similar to that for a management contracting strategy with the exception that the contractor becomes responsible for managing the design and construction of the project.
Advantages of a management contract strategy

4.6 The advantages of a management contract strategy are:

a. an NHS body can benefit from the early involvement of the management contractor in that he can provide practical/experienced advice on "buildability";

b. the project should be completed earlier because the design for later works packages does not need to be complete prior to the commencement of construction of earlier works packages;

c. the works contracts are with the management contractor;

d. in exceptional circumstances, changes by an NHS body may be more easily accommodated provided that the relevant works packages have not been let and there is no impact on those packages that have already been let and on which work has begun on site. To implement this requires effective project management;

e. the NHS body maintains direct control over the design team and therefore has control over the quality of design and construction;

f. since the works packages are let as the project progresses, at a time when tender prices are decreasing it may be possible to obtain lower tenders for works packages than originally envisaged in the contract cost plan for the project; to obtain such benefits will require effective project management.

Disadvantages of a management contract strategy

4.8 The disadvantages of a management contract strategy are:

a. price certainty is unattainable until the works contractor has been appointed for the final works package unless a large proportion of the works packages are let prior to commencement on site;

b. a management contract strategy has the greatest risk of cost overruns which could jeopardise the financial stability of an NHS body;

c. the NHS body must have adequate resources to administer both the design consultants and the management contractor;

d. this is a high risk strategy for NHS bodies because, in the event of default by a works contractor, any compensation that an NHS body may seek to recover from the management contractor is normally restricted to the amount that the management contractor can recover from the works contractor. The situation can become extremely complex and difficult to prove on a large contract where a large number of works contractors may be involved over a long period of time;

e. since the works packages are let as the project progresses, in a time of rising tender prices, higher tenders may arise than originally envisaged for works packages in the contract cost plan for the project.

Advantages of a design and manage contract strategy

4.7 The advantages of a design and manage contract strategy are similar to those for the management contract strategy with the exception that the NHS body obtains single point responsibility, as the design and manage contractor is responsible for the management of the design and construction of the project; this should also result in improved co-ordination between design and construction.

Disadvantages of a design and manage contract strategy

4.9 The disadvantages of a design and manage contract strategy are similar to those for the management contract strategy except that an NHS body also loses direct control over the quality of design.
5.0 Construction management strategy

General

5.1 Construction management strategy is an arrangement under which responsibility for the management of design and construction is placed with a construction manager and works contracts for each works package of the project works are placed directly by an NHS body with individual works contractors. Design remains the subject of one or more separate professional appointments placed directly by an NHS body with its designers.

5.2 The main features of this contract strategy are:

a. an NHS body will require a higher degree of client expertise and input than any of the strategies mentioned elsewhere in this guidance. This expertise may be provided by either in-house resources or external consultants;

b. the design team are appointed by an NHS body;

c. an NHS body appoints a construction manager who:
   (i) programmes and co-ordinates the design and construction activities;
   (ii) Improves the “buildability” of the design;
   (iii) has no contractual links with the design team or the works contractors;
   (iv) provides professional constructional management expertise without assuming design or construction risk;
   (v) is liable for negligence only by failing to perform the role of construction manager with reasonable skill and care;

d. the construction work itself is undertaken by individual works contractors who are directly appointed by an NHS body. The NHS body with the assistance of the construction manager is assuming the management functions normally fulfilled by the main contractor, for example all the works contractors will be paid directly by the NHS body.

5.3 Construction management strategy is suitable for all large complex projects where an NHS body has placed time for completion above cost when prioritising its project objectives. In other words, it is prepared to accept the high cost risk for the benefit of obtaining an earlier completion date than might be achievable using different strategies. Reduced cost risk can be achieved by letting many of the major works packages prior to commencing on site (a suggested figure is 70% of the value of the project). Construction management also has the added apparent complexity for an NHS body in that it is in direct contract with all the works contractors, although it is arguable that this offers greater control and more clearly defined relationships than management contracting where the works contractors are in direct contract with the management contractor.

5.4 If using the construction management contract strategy on a specific project, NHS bodies are advised to ensure that:

a. the construction manager is appointed early so that he can effectively manage the services of the designers as well as the works contractors;

b. the construction manager’s terms of appointment are clearly defined early with a comprehensive list of services;

c. a team approach is fostered by providing the designers and the construction manager with a separate forum to comment on each other’s performance;

d. the selection of the construction manager is on the basis of experience and all personnel of the construction manager have an adequate range of skills;

e. adequate staff experienced in the use of the construction management contract strategy are allocated to the project so that they can become actively involved in critical management decisions and provide the “informed client” input to a contract strategy which requires a higher degree of client involvement than any of the strategies mentioned elsewhere in this guidance;

f. the form of works contract is established at an early stage to prevent the construction manager transferring additional risks onto works contractors;

g. direct relationships are developed between the NHS body and works contractors in order to obtain the benefit of their specialist knowledge and foster team relationships;

h. responsibility for cost management is clearly allocated between the construction manager and the quantity surveyor;

j. issues described in paragraphs 2.2 and 2.3 in respect of the traditional contract strategy and in paragraphs 3.2 and 3.3 in respect of the design and build contract strategy are addressed in the same way in relation to each individual works contract.
Organisational structure

5.5 The recommended organisational structure of a construction management strategy is:

Advantages of a construction management strategy

5.6 The advantages of a construction management strategy are:

a. the project should be completed earlier than if a traditional or design and build contract strategy is used because the design for later works packages do not need to be complete prior to the commencement of construction of earlier works packages;

b. changes by the NHS body may be more easily accommodated provided that the relevant works packages have not been let and there is no impact on those packages that have already been let and on which work has begun on site. It is easier to identify the consequences of any changes as the NHS body will be dealing directly with the separate works contractors;

c. the NHS body maintains direct control over the design team;

d. the NHS body has direct contracts with the works contractors and therefore pays them directly with improved cash flow certainty;

e. there is better team work and exchange of information among all parties involved and as everyone is directly appointed by the NHS body, disputes are more easily resolved;

f. works contractors who are failing to perform can be taken to task more easily and, if necessary, removed from the project;

g. there is greater scope for input by works contractors (and suppliers) to the design process;

h. there is closer management of time risk through direct relationships with works contractors;

j. the NHS body can influence tendering prices by sequential tendering of individual works packages.

Disadvantages of a construction management strategy

5.7 The disadvantages of a construction management strategy are:

a. price certainty is unattainable until the works contractor has been appointed for the final works package unless a large proportion of the works packages are let prior to commencement on site as suggested in paragraph 5.3;

b. uncertainty of price coupled with the discipline of the external financing limit (EFL) may mean that if a significant cost overrun occurs, an NHS body will have to find the additional capital from elsewhere within its existing financial resources or it will be unable to fund the cost overrun;

c. the NHS body must have adequate resources to administer the:

(i) construction manager;

(ii) design team;

(iii) works contractors;

d. it entails a high degree of responsibility and control by the NHS body (via the construction manager) for co-ordinating design with construction and therefore the NHS body is responsible for the risk of delays or disruption caused by whatever reason;

e. as there is no main contractor, there is a risk of the activity of individual works contractors delaying or disrupting each other;

f. as all the works contracts are directly with the NHS body, there may be more individual disputes to resolve, many of which may be related as the cause of a dispute with one works contractor may have an impact on works contractors appointed for subsequent works packages;

g. although the construction manager should share the NHS bodies’ objectives, there may be a requirement for incentives or sanctions to encourage strong cost management;

h. there is a limited number of experienced and competent construction managers available for NHS bodies to employ.
Appendix 1

Evaluation of contract strategies using a weighted matrix

Introduction

1. The matrix in this Appendix is intended for use by NHS bodies to evaluate the suitability of contract strategies for specific schemes. It facilitates the assessment of the impact of various factors on the NHS bodies project objectives and their subsequent effects in respect of different contract strategies.

2. When carrying out an evaluation of different contract strategies, NHS bodies should:
   a. ensure they establish the project objectives;
   b. obtain appropriate professional advice from either in-house resources or external consultants;
   c. ensure that all those responsible for the scheme provide input to the evaluation, this includes representatives of NHS bodies and their professional advisors.

3. The objective of the evaluation of different contract strategies is to ensure that the contract strategy selected for a specific scheme is that which is most suitable, taking into account all of the factors and circumstances.

Guidance

4. The project objectives listed under Time, Cost/Value and quality are not intended to be exhaustive and should be supplemented where necessary to take account of factors such as:
   • restrictions on space;
   • restrictions on access;
   • security etc.

5. These steps should be followed when using the matrix illustrated on the following pages:
   Step 1: turn to Form A (Weighting of project objectives);
   Step 2: check the list of project objectives to ensure that all those relevant to the scheme for which the evaluation is being carried out are included, if necessary add/delete project objectives;
   Step 3: in the column headed “Weighting” insert a number from 0 to 3 according to whether you consider each factor “not relevant”, “relevant”, “very relevant” or “decisive” to the needs of the NHS body;
   Step 4: turn to Form B (Factors influencing different contract strategies);
   Step 5: produce Form B for each contract strategy being considered for the specific scheme;
   Step 6: check the list of factors influencing contract strategies to ensure that all relevant factors have been listed, if necessary add/delete factors;
   Step 7: in column A for each contract strategy insert a number from 0 to 3 against all of the listed factors according to whether the influence of each factor is considered “not a factor”, “minor factor”, “average factor” or “major factor” (see key at top of form);
   Step 8: take the weighting inserted against each of the listed factors on Form A (Weighting of project objectives) and insert in column B, Form B;
   Step 9: carry out calculation as indicated on Form B for each contract strategy being considered for the specific scheme;
   Step 10: total column C on Form B and carry totals to Form C;
   Step 11: add up the totals for each contract strategy on Form C to produce a total weighting score of each contract strategy. The contract strategy with the highest score is the optimum strategy for the specific project for which the evaluation has been carried out.
**Form A (Part 1): Weighting of project objectives**

Key: 0 = not relevant; 1 = relevant; 2 = very relevant; 3 = decisive

Using the above key, indicate in the column headed “Weighting” the number most applicable to the project in respect of each of the following priorities.

<table>
<thead>
<tr>
<th>Item</th>
<th>Project objectives</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>Time</strong></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>Earliest commencement date of construction</td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>Earliest completion date for construction</td>
<td></td>
</tr>
<tr>
<td>1.3</td>
<td>Contractual certainty of completion date on commencement of construction</td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td>Other time consideration (please list)</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td><strong>Cost/Value</strong></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>Minimum cost of project</td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td>Certainty of cost before commencement of construction</td>
<td></td>
</tr>
<tr>
<td>2.3</td>
<td>Running costs of completed project</td>
<td></td>
</tr>
<tr>
<td>2.4</td>
<td>Life cycle of completed project</td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>Other cost/value considerations (please list)</td>
<td></td>
</tr>
</tbody>
</table>
### Form A (Part 2): Weighting of project objectives

**Key:**
- 0 = not relevant; 1 = relevant; 2 = very relevant; 3 = decisive

Using the above key, indicate in the column headed “Weighting” the number most applicable to the project in respect of each of the following priorities.

<table>
<thead>
<tr>
<th>Item</th>
<th>Project objectives</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td><strong>Quality</strong></td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Independent design advice to develop brief</td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td>Value engineering</td>
<td></td>
</tr>
<tr>
<td>3.3</td>
<td>Quality of design</td>
<td></td>
</tr>
<tr>
<td>3.4</td>
<td>Independent quality control after commencement of construction</td>
<td></td>
</tr>
<tr>
<td>3.5</td>
<td>Straightforward contractual remedies for defects</td>
<td></td>
</tr>
<tr>
<td>3.6</td>
<td>Need to make changes after commencement of construction</td>
<td></td>
</tr>
<tr>
<td>3.7</td>
<td>Comparability of design proposals</td>
<td></td>
</tr>
<tr>
<td>3.8</td>
<td>Quality Assurance</td>
<td></td>
</tr>
<tr>
<td>3.9</td>
<td>Other quality considerations (please list)</td>
<td></td>
</tr>
</tbody>
</table>
### Form B (Part 1): Factors influencing different contract strategies

**Key:** 0 = not relevant; 1 = relevant; 2 = very relevant; 3 = decisive

Using the above key, indicate in the column headed “Weighting” the number most applicable to the project in respect of each of the following priorities.

<table>
<thead>
<tr>
<th>Item</th>
<th>Factors</th>
<th>Contract strategy</th>
<th>A Importance of Factor</th>
<th>B Weighting of objectives from Form A</th>
<th>C Total = Column A x Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>Time</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total to Form C
Form B (Part 2): Factors influencing different contract strategies

Key: 0 = not relevant; 1 = relevant; 2 = very relevant; 3 = decisive

Using the above key, indicate in the column headed “Weighting” the number most applicable to the project in respect of each of the following priorities.

<table>
<thead>
<tr>
<th>Item</th>
<th>Factors</th>
<th>Contract strategy ..................................................................................</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A Importance of Factor</td>
</tr>
<tr>
<td>2.</td>
<td>Cost/value</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>Minimum cost in competitive market</td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td>Certainty of cost before commencement of construction</td>
<td></td>
</tr>
<tr>
<td>2.3</td>
<td>Avoidance of cost risk of overlapping project</td>
<td></td>
</tr>
<tr>
<td>2.4</td>
<td>Incentive or sanction to encourage strong cost management by contractor</td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>Security against low capital cost leading to increased running costs</td>
<td></td>
</tr>
<tr>
<td>2.6</td>
<td>Security against low capital cost leading to reduced project life cycle</td>
<td></td>
</tr>
<tr>
<td>2.7</td>
<td>Ability to influence tender prices</td>
<td></td>
</tr>
<tr>
<td>2.8</td>
<td>Control over cost consequences of variations</td>
<td></td>
</tr>
<tr>
<td>2.9</td>
<td>Minimise NHS body management cost in administering separate contracts</td>
<td></td>
</tr>
<tr>
<td>2.10</td>
<td>Scope to compromise design quality to achieve cost savings</td>
<td></td>
</tr>
<tr>
<td>2.11</td>
<td>Others (please list)</td>
<td></td>
</tr>
</tbody>
</table>

Total to Form C
**Form B (Part 3): Factors influencing different contract strategies**

Key: 0 = not a factor; 1 = minor factor; 2 = average factor; 3 = major factor

Using the above key indicate in Column A “importance of factor” the number most applicable to the project in respect of each of the factors.

<table>
<thead>
<tr>
<th>Item</th>
<th>Factors</th>
<th>Contract strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td><strong>Quality</strong></td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>NHS body’s influence of detailed design through direct contract with design team</td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td>Scope for design input from preferred/nominated suppliers and specialist contractors</td>
<td></td>
</tr>
<tr>
<td>3.3</td>
<td>Independent monitoring of construction</td>
<td></td>
</tr>
<tr>
<td>3.4</td>
<td>Single point legal responsibility for defects</td>
<td></td>
</tr>
<tr>
<td>3.5</td>
<td>Ability to make changes after commencement of construction</td>
<td></td>
</tr>
<tr>
<td>3.6</td>
<td>Comparability of design proposals</td>
<td></td>
</tr>
<tr>
<td>3.7</td>
<td>Others (please list)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>A Importance of Factor</strong></td>
<td><strong>B Weighting of objectives from Form A</strong></td>
</tr>
</tbody>
</table>

Total to Form C
<table>
<thead>
<tr>
<th>Item</th>
<th>Contract strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time: Form B (Part 1)</td>
<td></td>
</tr>
<tr>
<td>Cost/Value: Form B (Part 2)</td>
<td></td>
</tr>
<tr>
<td>Quality: Form B (Part 3)</td>
<td></td>
</tr>
<tr>
<td>Totals:</td>
<td></td>
</tr>
</tbody>
</table>
### Appendix 2

#### List of examples of standard forms of contract

<table>
<thead>
<tr>
<th>Publisher</th>
<th>Standard form of contract</th>
<th>Type of contract</th>
<th>Contract strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joint Contracts Tribunal</td>
<td>JCT Standard Form of Building Contract with Quantities; 1980 Edition</td>
<td>Lump sum</td>
<td>Traditional</td>
</tr>
<tr>
<td></td>
<td>JCT Standard Form of Building Contract without Quantities; 1980 Edition</td>
<td>Lump sum</td>
<td>Traditional</td>
</tr>
<tr>
<td></td>
<td>JCT Standard Form of Building Contract with Approximate Quantities; 1980 Edition</td>
<td>Remeasurement</td>
<td>Traditional</td>
</tr>
<tr>
<td></td>
<td>JCT Intermediate Form of Building Contract for Works of Simple Content; 1984 Edition</td>
<td>Lump Sum</td>
<td>Traditional</td>
</tr>
<tr>
<td></td>
<td>JCT Agreement for Minor Building Works; 1980 Edition</td>
<td>Lump sum</td>
<td>Traditional</td>
</tr>
<tr>
<td></td>
<td>JCT Standard Form of Building Contract with Contractors Design; 1981 Edition</td>
<td>Lump Sum</td>
<td>Design and build</td>
</tr>
<tr>
<td></td>
<td>JCT Measured Term Contract; 1989 Edition</td>
<td>Remeasurement</td>
<td>Traditional</td>
</tr>
<tr>
<td></td>
<td>JCT Management Contract; 1987 Edition</td>
<td>Cost reimbursement</td>
<td>Management</td>
</tr>
<tr>
<td>Institute of Civil Engineers</td>
<td>ICE Conditions of Contract; 1991 Edition (for Civil Engineering Works)</td>
<td>Remeasurement</td>
<td>Traditional</td>
</tr>
<tr>
<td></td>
<td>New Engineering Contract; 1991 Edition</td>
<td>Lump sum</td>
<td>Traditional</td>
</tr>
<tr>
<td>Association of Consulting Engineers</td>
<td>ACE Form of Building Agreement; 1984 Edition</td>
<td>Lump sum</td>
<td>Traditional with partial contractor’s design</td>
</tr>
<tr>
<td>Department of Environment</td>
<td>GCA/Works/1 (Edition 3) Lump Sum with Quantities</td>
<td>Lump sum</td>
<td>Traditional</td>
</tr>
<tr>
<td></td>
<td>GCA/Works/1 (Edition 3) Lump Sum without Quantities</td>
<td>Lump sum</td>
<td>Traditional</td>
</tr>
<tr>
<td></td>
<td>GCA/Works/1 (Edition 3) Single Stage Design and Build Version</td>
<td>Lump sum</td>
<td>Design and build</td>
</tr>
</tbody>
</table>
Notes

1. Definitions (types of contract):
   (i) lump sum: a contract for which detailed tender documentation has been prepared for the contractor to submit a lump sum price for the works;
   (ii) remeasurement: a contract for which tender documentation has been prepared on the basis of an incomplete design; within the documentation are included schedules of rates or approximate quantities which will be used to remeasure and value the work as it proceeds;
   (iii) cost reimbursement: a contract whereby a contractor is appointed on the basis of a budget cost prior to the detailed design being commenced and the NHS body pays what is actually spent.

2. This list of contracts is meant to provide an indication of standard forms of contract that are available and is not necessarily comprehensive.

3. There are currently no published standard forms of contract for construction management.
**Glossary**

NHS body/bodies - NHS trust(s), health authorities, special health authorities, or other centrally funded bodies

Capital Investment Manual (CIM) - a series of documents which provide the mandatory procedural framework for managing NHS capital building schemes

Concode - a code of procedure for building and engineering contracts in the NHS

“The Department” or “DH” - Department of Health

JCT - Joint Contracts Tribunal

ICE - Institute of Civil Engineers

ACE - Association of Consulting Engineers

NHS Estates - NHS Estate Management and Health Building Agency (an Executive Agency of the Department of Health)

Initial design - this is the design prepared at the early stages of a project, usually prior to the “brief” being frozen and the brief acceptance certificate signed off

Detailed design - this is the design prepared after the “brief” has been frozen and the brief acceptance certificate signed off. It provides the detailed design information from which the building will be constructed

Brief - information on this can be found in CIM: ‘Management of construction projects’, Appendix 4 - “The brief”.
Bibliography

1. Capital Investment Manual:


ISBN 0 11 321723 4

2. CUP (Central Unit on Purchasing) Guidance Notes:


Other publications in this series

Given below are details of other documents in the Concode series which are either published by HMSO or in preparation. Information is correct at time of publication of this document.

Contracts and commissions for the NHS estate: Policy, 1993

Agreement for the appointment of project managers for commissions for construction projects in the National Health Service, 1995

Guide to the Agreement for the appointment of architects, surveyors and engineers for commissions in the National Health Service, 1995

Guide to the Agreement for the appointment of project managers for commissions for construction projects in the National Health Service, 1995

Agreement for the appointment of architects, surveyors and engineers for commissions in the NHS Vol 1: Scheme particulars, memorandum or agreement, conditions of appointment, provision for fees and expenses, specimen certificates, definitions, 1995

Vol 2: Supplementary annexure, 1995

Contracts and commissions for the NHS estate: Contract procedures, 1994

Guide to procedures for commissioning building and engineering consultants, 1994

Guide to the JCT Agreement for minor building works, 1994

Guide to the requirements of the European Community public procurement directives, 1995

Documents published by HMSO can be purchased from HMSO Bookshops in London (post orders to PO Box 276, SW8 5DT), Edinburgh, Belfast, Manchester, Birmingham and Bristol or through good booksellers.

Enquiries (but not orders) should be addressed to: NHS Estates, Publications and Marketing Unit, Department of Health, 1 Trevelyan Square, Boar Lane, Leeds LS1 6AE.

NHS Estates is a non-profit-making Executive Agency of the Department of Health.

The price of this publication has been set to make some contribution to the costs incurred by NHS Estates in its preparation.
About NHS Estates

NHS Estates is an Executive Agency of the Department of Health and is involved with all aspects of health estate management, development and maintenance. The Agency has a dynamic fund of knowledge which it has acquired during 30 years of working in the field. Using this knowledge NHS Estates has developed products which are unique in range and depth. These are described below.

NHS Estates also makes its experience available to the field through its consultancy services.

Enquiries should be addressed to: NHS Estates, 1 Trevelyan Square, Boar Lane, Leeds LS1 6AE. Tel: 0113 254 7000.

Some other NHS Estates products

Activity Database - a computerised system for defining the activities which have to be accommodated in spaces within health buildings NHS Estates

Design Guides - complementary to Health Building Notes, Design Guides provide advice for planners and designers about subjects not appropriate to the Health Building Notes series HMSO

Estatecode - user manual for managing a health estate. Includes a recommended methodology for property appraisal and provides a basis for integration of the estate into corporate business planning HMSO

Works Information Management System - a computerised information system for estate management tasks, enabling tangible assets to be put into the context of serving requirements NHS Estates

Health Building Notes - advice for project teams procuring new buildings and adapting or extending existing buildings HMSO

Health Guidance Note - an occasional series of publications which respond to changes in Department of Health policy or reflect changing NHS operational management. Each deals with a specific topic and is complementary to a related Health Technical Memorandum HMSO

Health Technical Memoranda - guidance on the design, Installation and running of specialised building service systems, and on specialised building components HMSO

Health Facilities Notes - debate current and topical issues of concern across all areas of healthcare provision. HMSO

Encode - shows how to plan and Implement a policy of energy efficiency in a building HMSO

Firecode - for policy, technical guidance and specialist aspects of fire precautions HMSO


Model Engineering Specifications - comprehensive advice used in briefing consultants, contractors and suppliers of healthcare engineering services to meet Departmental policy and best practice guidance. NHS Estates

Quarterly Briefing - gives a regular overview on the construction Industry and an outlook on how this may affect building projects in the health sector, in particular the impact on business prices. Also provides information on new and revised cost allowances for health buildings. Published four times a year; available on subscription direct from NHS Estates

Items noted “HMSO” can be purchased from HMSO Bookshops in London (post orders to PO Box 276, SW8 5DT), Edinburgh, Belfast, Manchester, Birmingham and Bristol or through good booksellers.

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