

5

operational issues

**Rethinking
Construction
in local
government**

ten key issues and how to address them



Rethinking Construction principles

- Traditional processes of selection should be radically changed because they do not lead to best value;
- An integrated team which includes the client should be formed before design and maintained throughout delivery;
- Contracts should lead to mutual benefit for all parties and be based on a target and whole life cost approach;
- Suppliers should be selected by Best Value and not by lowest price: this can be achieved within EC and central government procurement guidelines;
- Performance measurement should be used to underpin continuous improvement within a collaborative working process;
- Culture and processes should be changed so that collaborative rather than confrontational working is achieved.

5

operational issues

These issues concern how Rethinking Construction principles can be adopted for individual projects. They are aimed at officers at operational level. Implementation of these issues will be much easier if the authority as a whole has implemented each of the strategic issues that are detailed separately.

1

Appoint members to the team using a Quality Based Selection Process

2

Consider whole-life procurement by focusing on the long-term effectiveness of your buildings

3

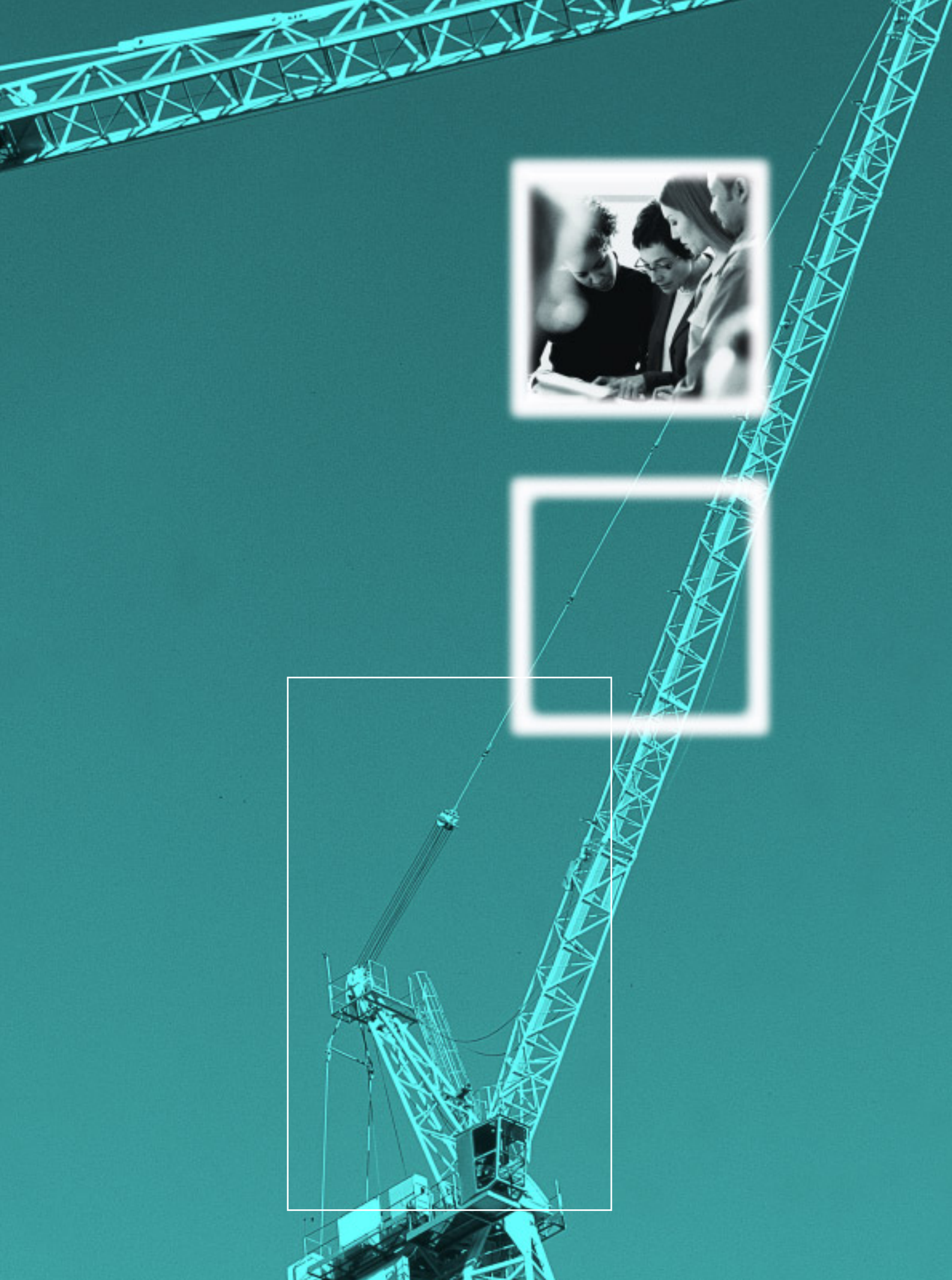
Share risks and rewards with all of the team and provide them with incentives for achieving/improving on the Project Objectives.

4

Encourage and use new technology where it has been demonstrated to be of potential benefit

5

Learn from the experience



Appoint members
to the team using
a Quality Based
Selection Process

1



Appoint members to the team using a Quality Based Selection Process

Establish selection procedures that are based on quality and technical issues, as well as price. Award your contract to the candidate who can demonstrate the greatest potential for achieving your key success factors. That way, it is much more likely that they will actually be achieved.

Assess bids using professional judgements based on objective criteria and pre-defined scoring methodologies. It really is that simple. This is how to do it:

- 1.1 Form a Selection Panel at the outset.
- 1.2 Clarify your key success factors, including the relative importance of price.
- 1.3 Establish the full tendering process as early as possible.
- 1.4 Compile robust evaluation and scoring methodologies.
- 1.5 Pay adequate attention to how presentations and interviews are to be structured.
- 1.6 Ensure tender invitation documents include a full explanation of the evaluation process.
- 1.7 Having established a full evaluation methodology, keep to it rigidly!
- 1.8 Fully record each stage of the evaluation process.
- 1.9 Debrief unsuccessful candidates on completion.

The following pages explain how.



Form a Selection Panel at the outset

- Keep the size of the Panel relatively small (three to six people)
- Include a representative from the client, i.e. the Project Sponsor, to co-ordinate the process
- Ensure each member of the Panel understands their role and knows what is expected of them
- Each Panel member does not necessarily have to assess every part of each submission (although they should still look through all sections so they do not become isolated and lose sight of the service that is being delivered). Sections of each bid can be provided to individual members for assessment, based on their specific areas of expertise (e.g. health and safety). Just make sure that all members are adequately qualified to evaluate their areas.
- Make sure sufficient time is spent on training the assessors and guiding them through the process. Some may not have done this before. It will not be easy at first, particularly as you are dealing with subjective issues and recording of professional judgements.

Clarify your key success factors, including the relative importance of price

- The first task of the Panel will be to clarify what it is looking for from the successful candidate.
- This task will be much easier if the needs of the client and stakeholders and the key success factors for the project have already been determined (see Strategic Issues 2.2 and 4.4).
- If you have not already done so, liaise with the client, stakeholders and end users and determine what they are looking for and what their key success factors are. Invite representatives to the meeting of the Panel when the quality and price criteria are first discussed;
- At a meeting of the Panel, identify the quality criteria headings and the relative importance of each. Aim to identify around five or six headings. The following is an illustration of what the headings could look like:

CRITERIA HEADING	WEIGHTING
1. Capacity to Deliver (e.g. amount of available technical resources, financial stability/support etc.);	25%
2. Technical Capability (e.g. experience of similar projects, number of qualified staff etc.);	20%
3. Potential for establishing and managing an effective supply chain;	15%
4. Ability to control and manage sites (e.g. health and safety, working environment, training etc.);	15%
5. Quality of key personnel that will be devoted to the project;	15%
6. Potential for effectively controlling programme, costs and risks.	10%
Total	100%

- Remember that you want them to be specific and relative to your project, so don't just blindly copy these, (or anyone else's for that matter).
- For example, if it is vital that completion is achieved on time and within budget, then you may wish to allocate a higher weighting to 'potential for effectively controlling programme, costs and risks'.
- Similarly, you may wish to introduce your own headings specific to the objectives of your project (e.g. ability to work with tenants in occupation, experience of working in listed buildings).

- At the same meeting of the Panel, determine the importance to be given to price and establish an appropriate quality: price ratio.
- Cost matters and you will need to adhere to available budgets. Remember though, that by working with the constructor as part of an integrated team you will be able to agree a guaranteed maximum price to ensure no budget overrun.
- The potential initial impact on your budget of using quality/price ratios of up to 60:40 is not as great as perhaps you might think. A ratio of 50:50 would be unlikely to have an initial cost impact of more than 10%. If this is the first time that you have adopted this type of assessment process, set a ratio accordingly, and the financial 'risk' really should not be an obstacle.
- Remember that 'price' can represent a relatively small portion of the overall project budget.
 - ▶ Candidates could be invited to submit priced bids simply for overheads, profit and preliminaries, together with any 'at-risk/up front' pre-construction costs that they will incur in the event of the contract not proceeding. This will leave the majority of the contract costs to be incurred through members of their supply chain.
 - ▶ In such instances, the total of the candidate's priced submission represents a small portion of the overall contract cost (e.g. less than 20%).
 - ▶ The candidate's potential for managing such contract costs and hence delivering best value, could then be included as a quality criterion to be assessed separately.
- Generally, use the following as a guide to determining an appropriate ratio:

	Q/P RATIO
Appointment of key project team members (e.g. Project Manager, designers, cost consultant etc.) and when the Selection Panel decides that quality issues (including control of all contract costs) are of prime importance.	90:10
Where the total of the candidate's priced submission represents a small portion of the contract costs (e.g. less than 40%).	70:30
Where the total of the candidate's priced submission represents a significant portion of the contract costs (e.g. 40% to 70%).	50:50
Where the total of the candidate's priced submission represents a large majority of the contract costs (e.g. more than 70%).	30:70

Establish the full tendering process as early as possible

- You may be tempted by time constraints to delay thinking about the final stages of the tender process until later. You may be under pressure and want to be seen to be commencing the process as soon as possible. If you are, don't! Don't rush in and issue tender invitations without having first thought through the entire process. You will be glad later that you did.
- Follow the structure of a two-stage tender process whereby short lists of candidates to receive tender invitations (including pricing documentation) at Stage two of the process, are compiled from those who submit expressions of interest at Stage one. If the procedure is subject to the EC Procurement Rules then adopt the 'restricted procedure' route.

To reduce the time and costs associated with stage two (for both you and the candidates involved), after tender submissions have been assessed, only invite the top scoring candidates to give presentations and complete pricing documentation.

- Place an advertisement inviting expression of interest and provide respondents with an 'Information Memorandum' that describes the details of the project. Include a Pre-Qualification Questionnaire (PQQ) that seeks information about the candidate i.e. size, capability and their experience in the type of project concerned.

A PQQ for services is included within IDeA's 'Services Pack' which is part of their 'Modern Procurement Practice in Local Government'.

- Whereas stage one of the process focuses on assessing the candidates (i.e. technical competence, capacity, and financial stability), stage two assesses their suitability for the project (i.e. their potential for achieving your success factors). Do not confuse the two stages. Asking for lots of information at the outset about how contractors are going to approach your project (e.g. in the form of 'method statements') will result in abortive time and could put off firms from expressing their interest.
- Remember that you will need to adhere to EC Procurement Directives, where the appropriate thresholds are exceeded.

Compile robust evaluation and scoring methodologies

- To compile the tender assessment methodology you need to identify what information is to be requested from candidates within the tender invitation documents, and determine precisely how it is to be assessed. It is vital, therefore, that you do this before tenders are invited. If you don't, you risk being accused later of making the rules up as you go along.
- For each quality criterion, establish the questions and information that you need to request from candidates. Then decide which members of the assessment panel are going to carry out the assessments, and the scoring methodology that they will follow.
- Remember that subjective issues can include written submissions from candidates that contain details of how they have addressed specific issues in the past (such as how they have set up supply chains on previous projects, and how they have monitored their performance).
- Also remember that you will need to produce a scoring model for assessing Pre Qualification Questionnaires.
- Structure the process to help the assessors (and candidates).
 - Limit written submissions from candidates to say 800 words per section/question;
 - Include a specific section within the tender invitation documents that details what is required and which is in the same format as the assessment scoring methodologies that you have prepared.
- Prepare a timetable for when draft methodologies need to be prepared and keep to it.
 - Allow time for discussing the draft methodology with all concerned to make sure you get it right – you will not be able to change it later!
 - Try a 'dry run'. Add some 'dummy data' into your models and see what it looks like.
- Once completed, evidence needs to be confirmed that the model was finalised before expressions of interest were sought to satisfy audit and external scrutiny. The easiest way to do this is to simply e-mail it to each member of the Panel, with a copy to your line manager.

Pay adequate attention to how presentations and interviews are to be structured

- If you intend to invite candidates to give presentations and/or attend interviews, then your assessment methodology will need to provide details of how you are going to assess them.
- Presentations and interviews should be held after an initial assessment has been made and provisional scores produced. This prevents candidates from winning contracts by slick presentations and helps assessors keep their focus on the main issues.
- Make sure you will meet and talk to the people who will actually be delivering the project/service to you and that you are not faced with 'professional presenters' who you will never see again. Look for evidence and examples of your particular project requirements (e.g. tenant liaison).
- Allow adequate time for each presentation (e.g. 1½ hours), and provide time for each candidate to set up and pack up, and for the assessors to have a rest between sessions.
- Notify candidates in advance in writing of the times of the presentations and length of time allocated to them. Provide the necessary facilities (e.g. data projectors) and make sure that they do not exceed their allotted time.
- Candidates should be given equal length of time, and asked to present on a theme (not to simply repeat information provided in their tender submissions). Questions can be used to clarify points arising from the assessments and assessors should be provided with an opportunity to refine their scores after the presentations.
- Keep the number of 'observers' to a minimum (e.g. no more than three, unless the presence of more is justified). Invite stakeholders along as observers if you want to, but do not involve them in scoring process unless they are members of the assessment panel.

Ensure tender invitation documents include a full explanation of the evaluation process

- Advise those who express an interest of an outline of the assessment process and what they will be required to do. Include a broad timetable of when tenders are to be invited and provisional dates for presentations etc.
- The quality criteria should be stated, together with relevant weightings and the overall quality/price ratio.
- Think about how price is going to be calculated.
- Ensure that tender submissions will contain a suitable Pricing Document that enables 'Price' to be easily compiled for each candidate. Long schedules of rates and prices will be difficult to compare unless estimated quantities are compiled, and will not stand up to scrutiny if such quantities are compiled after tenders have been sought.
- If priced bids are to comprise simply of a percentage fee and/or preliminaries, take care to avoid arguments surfacing later as to which items are included in the price. In particular, be very clear as to which items are to be treated as an 'Actual Cost' by using, for example, the Schedule of Cost Components as listed in the NEC ECC standard form of contract. Also, ensure you request fully itemised breakdowns of preliminary costs from candidates. This will ensure that all bids are treated on an equal basis. It will also avoid the 'surprise' of items that you thought were included in the contractor's fee being claimed later as preliminary costs.
- Determine how you are going to assess price after it has been calculated.

1.7

Having established a full evaluation methodology, keep to it rigidly!

- Carry out the assessments strictly in accordance with the model. Otherwise, there could be doubt that you made the rules up as you went along to suit a particular candidate. This will not be a problem provided you spent enough time at the outset, planning the process thoroughly.

1.8

Fully record each stage of the evaluation process

- Keep full records in order to demonstrate to external parties (e.g. auditors) that the process has been conducted fully in accordance with the pre-defined methodology.
- Scores should be adequately documented and thoroughly checked. Each assessor should compile a score sheet which is adequately signed and dated on completion. There should be no 'scoring by committee' or anonymous score sheets. Summary scores should be produced that combine results from all concerned both before and after any presentations.
- If scores are close (e.g. within 3 percentage points) then there should be further discussion within the Panel before a final decision is reached. Make sure that such discussions are adequately recorded.
- It would be useful to produce a report at the end that explains what and how it was done, and which can be 'signed up' to by each assessor.
- Remember that probity is inviolate. Records are necessary for your own protection!
- For major projects obtain the appropriate agreement from members and, if necessary, the officer procurement champions to award the contract.

Debrief unsuccessful candidates on completion

- Advise unsuccessful firms why they have not been awarded the contract. Remember this will be useful for the candidates to guide future submissions and should focus on constructive comments. Stress that they have not necessarily failed, but simply the Panel considered that, on this occasion, someone else was better suited for the project.
- Invite unsuccessful candidates to contact you to arrange a meeting to discuss their tender submission. The candidates who take you up on this offer are most likely those who really want to improve, so give them as much help as you can. However, still maintain caution and ensure feedback is strictly limited to information obtained from the evaluation. This is to prevent unsuccessful candidates going on 'fishing' exercises to obtain information, which in their view merits some form of action.

Further information

Good detailed information regarding quality/price selection processes is contained within Government Construction Procurement Guidance. No.3 'Appointment of Consultants and Contractors' which can be downloaded from the OGC website

www.ogc.gov.uk/index.asp?docid=1350

Value for Money Evaluation in Complex Procurements' OGC

Selecting Contractors by Value' 1998 published by CIRIA
ISBN 0 86017 491 3

See Appendix 10 within the Supporting Information for illustrations of tender assessment and recording methodologies.

Why do all this?

- To place the focus where it should be – on quality and not ‘cheapness’.
- Because lowest initial price usually means higher outturn costs.
- To get those team members on board who are most likely to add value to your project, rather than those who simply offer (initially) to complete it at lowest cost.

Experience has shown that acceptance of the lowest price bid does not provide value for money in either the final cost of construction or through life and operational costs.

Modernising Construction
National Audit Office 2001

Addendum

ODPM Circular 02/2001 on the subject of Best Value and Procurement gives the following guidance about pre-qualification procedures.

- ▶ For most contracts it is good practice to follow a pre-qualification process. The purpose of pre-qualification is to produce a shortlist of organisations that have the capability to perform the contract. Candidates who do not meet the minimum requirements can be rejected, and the contracting authority can then invite the best of those candidates who do meet the minimum requirements to tender.
- ▶ At the pre-qualification stage, the criteria for short-listing candidates are restricted to personal standing, economic and financial standing, technical capacity and for service contracts, ability. At this selection stage, only workforce matters that affect the suitability of a candidate as determined by those criteria should be considered.
- ▶ For certain classes of contract, pre-qualification shortlisting could be simplified by using appropriately recognised databases such as Constructionline, although this does not preclude the need to advertise the contract and follow other European Public Procurement procedures where relevant. Such a database can be used to identify contractors who are fitted to carry out the work and to ensure that there is a sufficient core of likely or possible tenderers.
- ▶ For all contracts a database can also reduce the burden on clients and contractors of issuing and responding to pre-qualification questionnaires. However, the presence of a contractor on a database does not automatically mean that it should be invited to tender, nor can the absence of a contractor from a database preclude a potential contractor from consideration.



Consider whole-life procurement by focusing on the long-term effectiveness of your buildings

2



Consider whole-life procurement by focusing on the long-term effectiveness of your buildings

- 2.1 Consider the whole life of your projects when making procurement decisions.
- 2.2 If your project involves the construction of an asset, think of costs for the lifetime of that asset, and not just the project or service.
- 2.3 Fully explore operational costs during the design stages of your projects.
- 2.4 Consider whole life procurement in association with strategic alliances and term partnering contracts.
- 2.5 Ensure all involved in whole-life procurement assessments are suitably qualified.
- 2.6 Maintain your own information database.
- 2.7 When developing budgets make allowances for designing/constructing the project/service with whole life procurement in mind.

The following pages explain how to do this.

Consider the whole life of your projects when making procurement decisions

- The introduction of the Prudential Code for Capital Finance in Local Authorities, (by virtue of the Local Authorities (Capital Finance and Accounting) (England) Regulations 2003 SI 2003 No. 3146) has relaxed constraints on capital investment programmes.
- Provided capital investment plans are affordable, prudent and sustainable, local authorities may now choose between revenue and capital intensive options for service delivery, undertake 'spend to save' capital schemes and additional self-funded capital investment where they can afford to do so.
- In the past, it could be argued that Government Regulations prohibited the increased investment in schemes that saved money over a period of time. Now there is no excuse for not making the consideration of the whole life of your projects part of your normal procurement processes. In fact, it could now be said to be a requirement.
- So make it standard procedure to consider the whole life of your projects during the option appraisal stage (see Strategic Issue 5.3). This should include consideration of the potential impact on corporate aims and objectives of a scheme throughout the life of a building e.g. environmental impact, area regeneration, job creation etc.
- Appendix 11 within the Supporting Information provides a brief outline of the key issues contained within the Code. Further details can be found in:
 - ▶ Local Authorities (Capital Finance and Accounting) (England) Regulations 2003 SI 2003 No. 3146) www.legislation.hmsso.gov.uk/stat.htm
 - ▶ The Prudential Code for Capital Finance in Local Authorities 2003, including Interim Guidance Notes and Road Testing Manual www.cipfa.org

The Whole Life Cost Forum (WLCF) defines whole life cost as:

the systematic consideration of all relevant cashflows associated with the acquisition and ownership of an asset

If your project involves the construction of an asset, think of costs for the lifetime of that asset, and not just the project or service

- Recognise that buildings generally outlive other goods and services and therefore they must be flexible. Think of life beyond the service/project.
- Consider whole life procurement and costs associated with operating, changing, and extending buildings when needs for services change. Ask, how flexible is the design of the building to adapt to changes in use?
- Think about how the building is to be disposed of at the end of its life.
- What products and materials have been used during the construction process, and what is the opportunity for them to be recycled? Alternatively, to what extent are they biodegradable?
- How does this adhere to the Environmental Policies of your Council?
- Selling the asset to a third party would not necessarily release you from your obligations.

“Good design is essential for achieving value for money in construction. But this is not just about buildings being completed on time and within budget; it is also concerned with ensuring that the costs of operating buildings over their whole life are optimised and that those who use and work in public buildings gain real value from them.”

Sir John Bourn KCB
Controller and Auditor General
National Audit Office

Fully explore operational costs during the design stages of your projects

- The typical costs of owning a building are in the ratio of 1 (for construction costs including design); 5 (maintenance); 200 (operating costs including costs of associated employees' wages over lifetime of building). A small extra investment in improving the design leading to a minor increase in staff efficiency can result in big savings on lifetime costs.
- Make energy efficiency a key component of the design criteria. Contact the Energy Efficiency Best Practice Programme which provides impartial advice on energy efficiency techniques and technologies www.energy-efficiency.gov.uk
- Ask how easy is the building going to be to maintain and repair? When do you expect to replace key components (e.g. windows, heating systems) and how much would it cost?
- Discuss your proposals with Asset Maintainers (Facilities Managers) and determine whether a portion of the relevant maintenance budget could be used to increase the capital spend and, hence, invest in securing a better whole life cost option.
- Focus the design process on desired outcomes not specified processes, and provide an opportunity to bidders to assist in the process. For example, rather than requesting bids for three 12-person lifts, ask for the best way to move 250 people per hour through a 48m vertical shaft, with 60m² space available per floor and a maximum waiting time of one minute.

2.4

Consider whole life procurement in association with strategic alliances and term partnering contracts

- Whole life procurement of your building cannot be considered in isolation, even by specialist advisers. Provide opportunities for the whole team to contribute to the design brief before it's too late to change it. This includes end users, client, consultant, contractor, funder, and suppliers.
- This process will be much easier if you have established integrated teams at the outset and have strategic partnering arrangements in place with contractors and technical advisers (see Strategic Issue 2.5).
- Ascertain the benefits that might accrue from a contract that passes responsibility for ongoing operation and maintenance of project/service to the contractor/partnership. Include incentives to the partner for reducing running costs (see section 1.7 earlier).

2.5

Ensure all involved in whole-life procurement assessments are suitably qualified

- Suitable training in whole-life procurement methodologies is necessary to fully understand the concept. This is particularly relevant within the design professions.
- Ensure relevant in-house staff are suitably trained by including whole life procurement within the issues to be considered as part of your skills audits (see Strategic Issue 3.2);
- Include whole life procurement as a quality criterion when selecting technical advisers.

2.6

Maintain your own information database

- The success of whole life procurement decisions depends significantly on the quality of the information examined during the decision making process.
- Make sure that sufficient information is available to inform the decision making process;
- Make sure it is complete and as up to date as possible;
- Maintain your own database of information to help determine what running, maintenance and remedial costs have been incurred in the past.
- If you have strategic partnering arrangements in place, ask your partners to suggest ways in which running costs could be reduced.

2.7

When developing budgets make allowances for designing/constructing the project/service with whole life procurement in mind

- Do not focus simply on minimising initial capital costs. Be ready and able to demonstrate and justify why whole life procurement makes sense and represents value for money;
- Integrate with the whole construction process. Continually think – buildability and maintenance.
- Ensure that budgets are produced not just for the initial capital cost, but also to highlight the impact on revenue budgets for the future.

Further information

Whole Life Cost Forum www.wlcf.org.uk to download training materials and further information on whole life costing as well as a link to a WLCF Online Comparator

Procurement Guide No.07 'Whole-life costing and cost management' contained within the Achieving Excellence in Construction: Procurement Guidance Pack from the OGC www.ogc.gov.uk to be considered in conjunction with 'Whole Life costing: A clients guide' from the Confederation of Construction Clients www.clientsuccess.org.uk

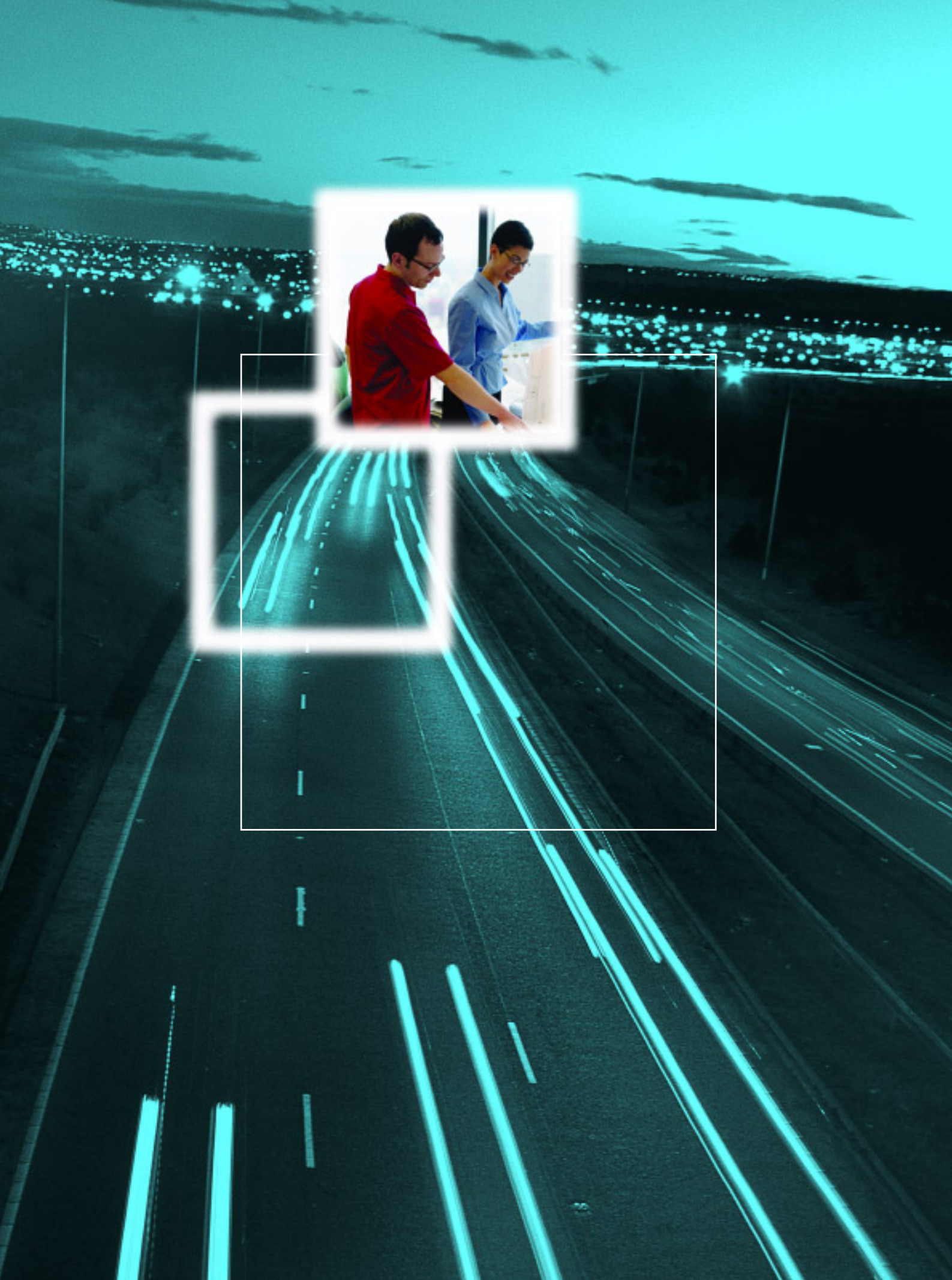
Fact Sheet on whole life costing from Constructing Excellence www.constructingexcellence.org.uk

'Whole life costing and lifecycle assessment for sustainable building design' BRE Digest 452.

'Twenty steps to encourage the use of whole life costing' from the Housing Forum.

Why do all this?

- To focus the design and construction process on long term cost effective solutions.
- To encourage innovation, and holistic approaches to projects and services, and the achievement of sustainable solutions.
- Help achieve best balance between initial capital and ongoing revenue costs.
- So end users will benefit from the lowest cost of ownership.



Share risks and rewards with all of the team and provide them with incentives for achieving/improving on the Project Objectives

3



Share risks and rewards with all of the team and provide them with incentives for achieving/improving on the Project Objectives

- 3.1 Identify and assess risks as part of your project procurement strategy.
- 3.2 Involve all team members in helping to identify potential risks.
- 3.3 Set up a Risk Management Team for major projects.
- 3.4 Choose the right form of contract.
- 3.5 Utilise Risk Registers for your projects.
- 3.6 Share risks with your partners and place risk where it can best be managed.
- 3.7 Provide incentives to contractors for exceeding targets and expectations.
- 3.8 Involve key or major supply chain members in risk management and incentives.
- 3.9 Adopt a true open book approach.

The following pages explain how to do this.

Identify and assess risks as part of your project procurement strategy

- You should have established the desired outcomes of your project and clarified the key success factors (see section 4.4 of Strategic Issues). While you develop the Project Procurement Strategy (see section 5.5 of Strategic Issues), think about the things that can prevent these outcomes from being achieved.
- Identifying things that can go wrong (the risks) and then taking effective action to avoid or reduce them will substantially increase the probability that your project will be successful.
- Do this by identifying critical activities and events within the project process and then plan accordingly. Assess risk by using value management techniques to determine the 'value' of each part of the process and how it can be improved to drive out waste and inefficiency.
- Remember though, that pushing high risks on to potential contractors can deter smaller firms from expressing an interest in your project and may lead to larger firms adding premiums to their bids.
- During the process, accept that you are never going to identify and remove all risks. However, it is vital that all involved get together early to discuss the potential pitfalls within your plans.

"No construction project is risk free. Risk can be managed, minimised, shared, transferred or accepted. It cannot be ignored."

Sir Michael Latham, 1994

Value Management is a structured approach to:

- ▶ Establish what value means to a client in meeting a perceived need;
- ▶ Clearly defining and agreeing the project objectives, and
- ▶ Establishing how they can best be achieved.

Value management incorporates value engineering, which is a systematic approach to delivering the required functions at optimum whole life cost without detriment to quality performance and reliability.

'Value Management' Fact Sheet
Construction Best Practice 1998

Involve all team members in helping to identify potential risks

- Start by holding a workshop for your project, attended by all team members as well as representatives from the client, stakeholders and end users. Use 'prompt lists' to brainstorm and help identify what could go wrong and what can happen.
- Focus on identifying what could potentially prevent the project from achieving its purpose or from meeting or exceeding the desired outcome/quality. To do this, the client's objectives and constraints must be firmly identified. Having identified potential problems, discuss what action could be taken to avoid/reduce/manage them.
- Do not blindly use standard checklists. They may be useful to start with, but every project is different and needs to be considered separately.
- Having identified risks, at the end of the workshop produce an Action Plan for how the risks are going to be managed. Keep this under review throughout the project.
- Recognise that risk management has a risk and a cost in itself.

Example 'Prompt' List:

Fire, explosion, blight, theft, errors, non-completion, access, availability, reliability, lifting, dropping, falling, programme, abandonment, commissioning, user, public, labour relations, cost...

Example 'What can go wrong' list:

Design brief unclear, inadequate project funding, poor team relations, contractor goes bankrupt, delays in obtaining planning permission, unforeseen ground conditions encountered, unproven design solution adopted...

Examples of sources of risk include:

- Political (e.g. change in government policy);
- Damage to client reputation;
- Environment (e.g. pollution, contaminated land);
- Hazards (e.g. fire, flood);
- Market (e.g. competition, demand, obsolescence);
- Economic/Financial (e.g. inflation, interest rates, bankruptcy);
- Natural (e.g. error, ignorance, incompetence, work at night/dark);
- Safety (e.g. CDM Regulations, collisions, collapse, flood, fire);
- Criminal (e.g. vandalism, theft, fraud, corruption);
- Project (e.g. procurement strategy, planning and quality control, culture, labour and resources).

3.3

Set up a Risk Management Team for major projects

- For many projects, simply considering and recording risks at initial workshops and monitoring Action Plans will be sufficient. However, for major projects a Risk Management Team should be established that includes client and stakeholder representatives.
- The Risk Management Team should have been involved in considering the procurement route (see Section 5.4 in Strategic Issues) as selection of the best route involves close consideration of the risks involved.
- The Team should examine data and records regarding the occurrence of risk in the past, from either within the authority or from professional organisations.

3.4

Choose the right form of contract

- One of the best tools you have for managing risk on every project is the contract document. Ensure your choice of contract is commensurate with the risk allocation you envisage, as different forms of contract allocate the risks differently (see Section 2.4 within Strategic Issues).
- You need to choose the form of contract that suits your project objectives and reflects the degree of risk you have accepted.
- Have a look at 'Which Contract?' published by RIBA Publications, for detailed guidance on the advantages and disadvantages of various procurement methods and the standard forms of contract that are available. This will help you to select the best contract and procurement route for your requirements.

Risk is "the chance of an adverse event occurring".

The impact of a risk is usually measured as 'likelihood x consequence'.

Utilise Risk Registers for your projects

- Include all identified risks in a Risk Register. For each risk, the Register should indicate the probability and consequences in accordance with a set scale. For example:

Probability

- | | | |
|---|------------|---|
| 4 | Frequent | Likely to occur frequently, many times during the period of the contract. |
| 3 | Probable | Several times in the period of concern; |
| 2 | Occasional | Some time in the period of concern |
| 1 | Remote | Unlikely, but possible |
| 0 | Improbable | So unlikely that it can be assumed that it will not occur. |

Consequence

- | | | |
|---|--------------|--|
| 4 | Catastrophic | Death, complete failure to achieve objectives, permanent damage to reputation, criminal guilt, £100V |
| 3 | Critical | Major damage/delay, substantial damages, exceeds contingency, damage to reputation, £10V |
| 2 | Serious | Damage/delay, consumed float/contingency. £V |
| 1 | Marginal | Accommodated within float or contingency £0.1V |
| 0 | Negligible | So minor as to be regarded as without consequence £0.01V |
- * For financial consequences, V represents what you would consider to be a serious loss.

- Ensure that the Risk Register identifies the actions to be taken to minimise (mitigate) each risk. For example:

- ▶ Unforeseen ground conditions: additional site surveys
- ▶ Fire: install sprinklers

- Once risks have been identified and assessed take decisions as to:

- ▶ Accept (e.g. cost in avoiding is too high)
- ▶ Reduce (e.g. training project staff, appoint a design checker to reduce the possibility of design fault going unnoticed)
- ▶ Avoid (e.g. have contingency plan, exemption clause in contract)
- ▶ Eliminate (e.g. by removing particular hazard from project)
- ▶ Transfer (e.g. to someone else e.g. insurance – but does not eliminate it)

- Once the Risk Schedule has been quantified, use statistical techniques to arrive at a total sum, and ensure that an appropriate allowance is placed in your budget as a Risk Contingency

- Re-run the Risk Schedule periodically throughout the duration of the project. Normally, the financial total of the updated risks should reduce as the project nears completion. The remaining budget contingency allowance can then be reviewed accordingly.

- For detailed guidance on how to identify and control risks on construction projects see 'Control of Risk – A Guide to the Systematic Management of Risk from Construction' 1996 (special publication no. 125) available from the Construction Industry Research and Information Association www.ciria.org.uk

3.6

Share risks with your partners and place risk where it can best be managed

- Make the sharing of risks part of your tender evaluation process. Within tender invitation documents include a proposed Risk Allocation Schedule that indicates the risks you expect to be accepted by the successful candidate, those that will be accepted by the client, and those that you expect to share. See Appendix 8 within the Supporting Information for an example.
- Make responses to the proposed Risk Allocation Schedule a tender evaluation criterion. Expect contractors to take on risks if they are best placed to manage them but be fair and expect to pay them for it in accordance with the values you have attributed to the risks concerned.
- If you are operating strategic partnering agreements, you will better placed to discuss the allocation of risks with your partners at the earliest possible stage.
- Remember that transferring a risk to a contractor means transferring the control of that risk. Contractors, understandably, focus on construction activities while your interest is in the life of the project beyond completion. Make sure then, that risks transferred to a contractor do not adversely effect your management objectives for the project.

3.7

Provide incentives to contractors for exceeding targets and expectations

- Provide contractors with simple incentives for doing well.
 - ▶ The simplest incentive is the promise of repeat business, which can be achieved through the operation of long-term strategic partnering arrangements.
 - ▶ Agreeing to 'reinvest' a portion of any savings achieved from your budget, say 50%, back into the project will also provide an incentive to your contractors.
 - ▶ You will benefit too, from their increased commitment and higher quality work.
 - ▶ Bear in mind that simply being involved with your project as a real team member, may provide your contractor with an incentive in itself. To be publicly associated with the success of your project, will enhance their image and raise their profile within the Industry.
- The greatest scope for financial savings is at the pre-contract stage. So, engage contractors as partners at the outset and let them work with you to arrive at a Target Cost. Provide them with incentives for achieving savings from your budget through their ideas and value engineering. Share any reductions achieved in your budget with them equitably and in accordance with a pre-defined methodology (e.g. 50:50). If this worries you, agree to compare final costs with the initial budget and share savings then.

Involve key or major supply chain members in risk management and incentives

- Don't award incentives just for fulfilling the original specification. Look at the whole life of the project, and not just from the point when a contractor has submitted a tender in accordance with a specification. Link incentives to exceeding your expectations and benchmark targets, by providing them with the opportunity to provide you with innovative solutions to construction methods (i.e. before your specification has been prepared!).
 - Remember, success factors may include issues other than price (e.g. few complaints from tenants, few defects on completion). Focus on these success factors (the desired outcomes), and ensure you have a robust methodology for measuring performance against them (e.g. recording the number of tenants complaints).
 - Build incentives into payment mechanisms, that are linked to the performance indicators you have established. This should result in reduced payments in the event of poor performance. Appendix 9 within the Supporting Information gives an idea of how a reward strategy may be developed.
- There is not just one contractor delivering your project. You need to remember to provide incentives to all participants such as the major subcontractors and suppliers.
 - These participants should also be involved in deliberations regarding risk management
 - Supply chain management and the extent to which your partner involves members of their supply chain in these issues should be part of your quality criteria when selecting them. You will also need to monitor whether the supply chain is being managed effectively.

Adopt a true open book approach

- An 'open book' approach does not mean simply asking your contractors to provide access to you or your auditors to their accounts, invoices, timesheets etc.
- True open book means working together closely with your contractors to compile target costs and risk assessments. This approach should be in place right the way through the supply chain.
- Remember that a collaborative approach to risk management and costs throughout the supply chain, will help significantly to reduce litigation.
- Profit margins for all parties should be established at the outset for your project. Protecting the profit margins of contractors is not something you should be scared of, it facilitates open team working, leading to protection for the client and certainty for contractors and suppliers.

Further information

Fact Sheet on Risk Management from Construction Best Practice

www.cbppp.org.uk

'Cost reduction systems, target costing and kaizen costing' Yasuhiro Monden, Productivity Press, Portland 1995.

'Worth the Risk' Audit Commission
www.audit-commission.gov.uk

Achieving Excellence Guide 4
'Risk and Value Management' within the OGC Toolkit

'Risk and Value Management' and 'The Integrated Project Team' Procurement Guides numbered 4 and 5 within the Achieving Excellence in Construction: Procurement Guidance Pack from the OGC www.ogc.gov.uk

Why do all this?

- Because by identifying potential problems at an early date will enabling you to consider avoiding/corrective action to be taken before things get out of hand or become more costly to remedy.
- To enable everyone to work together to identify the risks and design them out.
- To help minimise risks to acceptable levels and help to improve the predictability of outturn costs and time.
- Because incentives influence performance!

Encourage and use
new technology
where it has been
demonstrated to be
of potential benefit

4



Encourage and use new technology where it has been demonstrated to be of potential benefit

Do this by:

- 4.1 Not using new technology just because you feel you need to be doing what everyone else is doing.
- 4.2 Implementing new systems where they can be of greatest benefit.
- 4.3 Discussing how new technology can benefit your project with your partners/team.
- 4.4 Publishing information regarding your procurement plans on your authority's website.

The following pages explain how.

Not using new technology just because you feel you need to be doing what everyone else is doing

- There is considerable pressure to be seen to be progressing down the “e-commerce route”. However, do not think about adopting new electronic systems, unless you are clear of the benefits you will receive.
- Your authority should have an e-procurement strategy and action plan contained within its documented corporate procurement strategy. The strategy should require a structured process to be followed before any new electronic system is implemented. This should include:
 - The identification of available electronic processes; and
 - Option appraisal of the costs, benefits and risks associated with each process, together with an appraisal of the extent to which each is likely to achieve its objectives. Such appraisals should include:
 - The ease of using the system;
 - Any potential savings in administration and/or authorisation time;
 - Evaluation of purchase cost;
 - Additional/reduced cost of controls necessary to safeguard against risks.
- Get the best from your IT systems by making sure they give you the information you need. i.e. what you spend your money on, how it is spent, cost of maintenance on different types/ages of buildings etc.
- In liaison with the corporate procurement team, look at ways in which information can best be collected on current and future procurement plans. Use this to help identify where corporate or long-term agreements may best be established (See Strategic Issues 1.2 and 1.3).

Implementing new systems where they can be of greatest benefit

- Before you spend time and money on implementing any new system, be sure that the cost and time involved is going to be justified by the benefits you will receive. Therefore, make sure you carry out a cost benefit analysis of any proposed new system.
- Be clear as to the benefits you will receive, and that the new system is the best way of securing them.
- For example, preparing tender invitation documents such as specifications, bills of quantities, and draft terms of contract and distributing them to potential candidates electronically can significantly reduce administration time. Similarly, requesting tenders and priced documents to be submitted in an electronic format can aid the tender evaluation process. However, this can be achieved by simply distributing them on CDs and asking them to be returned in the same format. The required benefits can therefore be secured without changing your current tendering procedure, whereas introducing an e-mail tendering system would increase risks but not provide any further benefits.
- Similarly, there are no additional benefits obtained from inviting and receiving tenders by fax, although the risks are substantially increased.

Discussing how new technology can benefit your project with your partners/team

- Rapid and accurate forms of communication between members of the project team, together with ready access to up to date information is a vital factor in the success of a project. Therefore, establish shared systems on site to share cost information, instructions, drawings etc.
- Use Intranets to share information across geographical areas.
- Intranet-based document management systems can be bought off the shelf and can be used to draw together data and processes from various applications and databases, giving staff and partners a single view of project information.
- Data from several systems such as contacts, projects and enquiries can be stored in one consolidated corporate database.
- The Intranet allows employees, clients and partners to access data they require wherever they happen to be working.
- Other areas where new technology can help towards the success of your project include:
 - Use of hand held data capture devices to record measurements just once, avoiding the need to re-enter data later.
 - Web-cams to view the site. Suppliers to view when site is ready for delivery etc.
 - Compilation of valuations and stage payment assessments electronically;
 - Electronic payment systems such as BACS CHAPS etc.

Publishing information regarding your procurement plans on your authority's website

- Publish your five-year forward programme of key procurement projects on your website.
- Include major capital projects within your 'Selling to the Council' guide on its corporate website, together with bidding opportunities and contact details for each contract.
- Include means of access to your procurement experts, how to seek work from the authority, what contracts are coming up etc.

Further information

IT theme and case studies within the Constructing Excellence website
www.constructingexcellence.org.uk/resourcecentre/themes

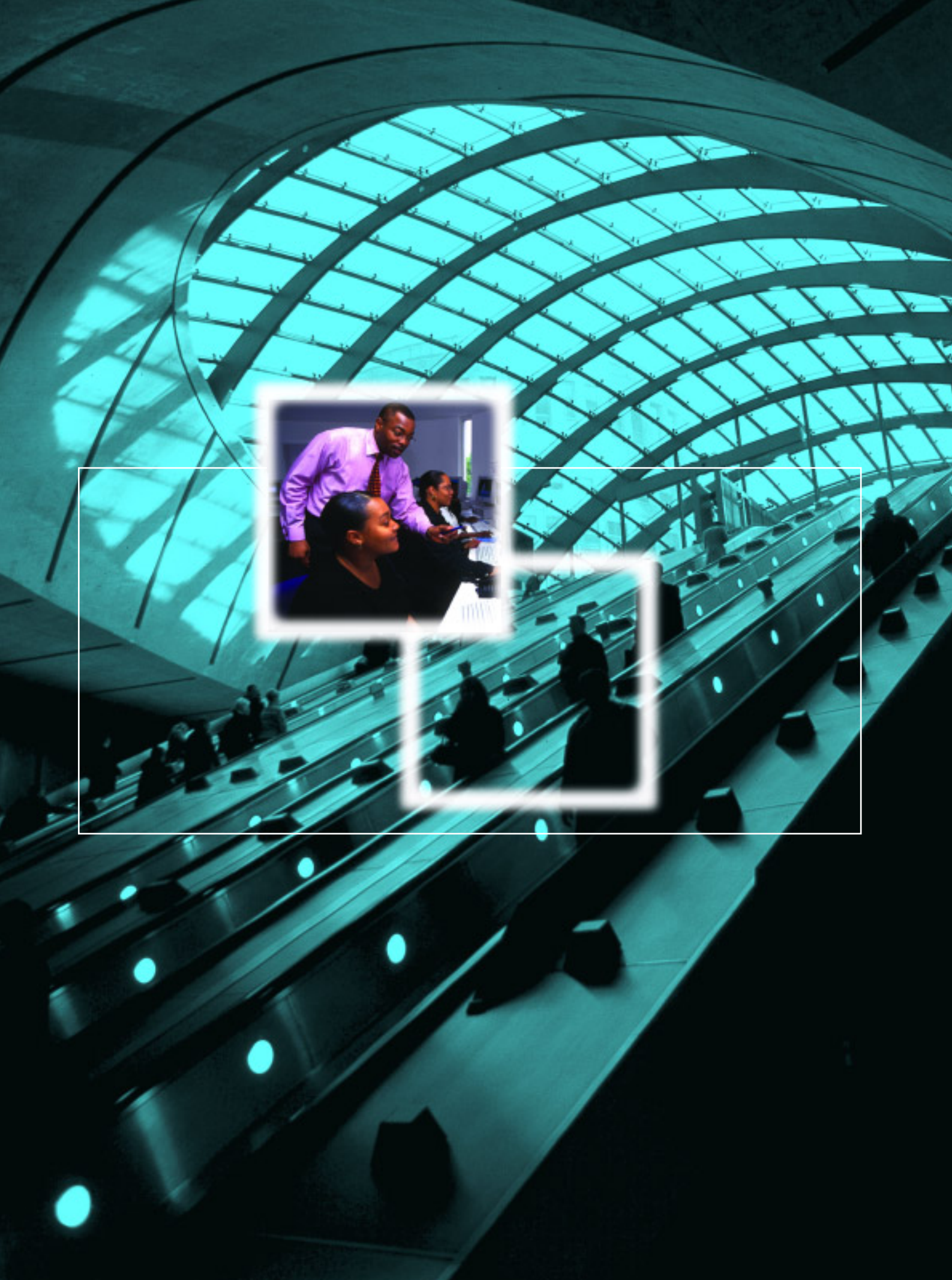
BiP Vault system for secure exchange of documents over Internet.

www.idea.gov.uk/knowledge

National e-Procurement Project (NePP) which supports and advises local authorities on implementation of e-procurement as part of meeting the 2005 e-Government target.

Why do all this?

- To make significant cost savings in administration of your projects by improving efficiency.
- To support delivery and meet the target of the council's e-Government agenda.



Learn from the
experience

5



Learn from the experience

Learn from your projects by:

- 5.1 Carrying out post completion reviews for all projects.
- 5.2 Ensuring contracts continue to be adequately monitored up to completion.
- 5.3 Ensuring reviews are complete and cover all relevant issues.
- 5.4 If the team works well together, and is successful, then keep it together for the next project.

The following pages will show you how.

Carrying out post completion reviews for all projects

- For all projects hold post completion workshops attended by all members of the team.
- Make sure the workshops are held shortly after completion of the project on site (e.g. within 4 to 6 weeks).
- However, where a service is to be re-tendered or there is a requirement to test the market for alternative suppliers, the most appropriate time for review would be when work commences on the preparation of the specification and contract documents for the next agreement.
- Review the extent to which the key success factors and Project Objectives were achieved. Identify the reasons why they were achieved, or why they were not achieved.
- The purpose of a post completion review is to learn lessons from the management and delivery of the contract that can be taken forward for future exercises. The success of future projects can be improved by the results of constructive analysis of performance on completed contracts. So ensure findings, warts and all, are reported back to all those who can benefit from the knowledge, including the decision-makers.
- The impact of the project on the service benefits and outcomes will only be established after a period in operation. Therefore, the post completion review should include recommendations to the Sponsor and the authority about any requirements about timing or content of a full post project evaluation.

Ensuring contracts continue to be adequately monitored up to completion

- Post completion review does not remove the need for continuous monitoring of the contract throughout its duration. This allows any problems to be identified early on and corrective action to be taken to ensure successful completion of the contract.
- It is, however, essential that the costs of carrying out reviews do not outweigh the potential benefits and become an intolerable burden. Sufficient attention to ensuring that adequate details are obtained from normal monitoring procedures during the course of the current contract will ensure that post contract reviews do not represent a major demand on resources.

Ensuring reviews are complete and cover all relevant issues

- As a contract approaches completion there are a number of issues that need to be addressed. These include an assessment of the following:
 - ▶ the achievement of the aims and objectives of the contract/project (e.g. how does the building deliver the service it was built for?);
 - ▶ performance of the contractor (see Appendix 12 within the Supporting Information);
 - ▶ performance of the project team (see Appendix 13);
 - ▶ quality of the service, end product, goods supplied;
 - ▶ timeliness of completion and/or delivery;
 - ▶ financial outturn;
 - ▶ the impact on further projects of any findings from the project review.
- Compile a standard questionnaire to ensure that all issues are adequately covered and distribute them to all relevant parties for completion.
- Use the Construction Industry Council's "Design Quality Indicators" (DQIs) to undertake an end-user post-occupancy evaluation. www.dqi.org.uk
- Coupled with the completion of the key performance indicators for your project, you should then have a good idea of whether your project has been successful, and of the areas that need to be addressed for future schemes.

5.4

If the team works well together, and is successful, then keep it together for the next project

- If it can be demonstrated that the team has worked well together and has delivered a successful project, why not reward them by giving them another one. This will only be possible if you have a strategic partnering arrangement in place, but will provide you and your partners with considerable benefits.

Why do all this?

- Provides valuable feedback for use in the planning and development stages of other projects/services.
- Identifies what would we do differently and why next time.
- To repeat what we did well, and improve on what we did badly.
- To do things better!

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commission**

**construction
products association**


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Construction
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**Local Government
Task Force**



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