



PROJECT COST ESTIMATION AND CONTROL

AN IEI SUBMISSION TO THE

**MINISTER FOR THE ENVIRONMENT & LOCAL
GOVERNMENT**

June 2003

1. INTRODUCTION:

The Institution of Engineers of Ireland (IEI) was requested by letter of 3rd March 2003 to make a submission to the Minister for the Environment & Local Government on project cost estimation and control. Speaking to IEI's South East Region on 28th February 2003, Minister Cullen spoke of the need to: -

- improve significantly on the accuracy of cost estimation during planning stages of projects
- have more robust cost estimates, at tender stage of projects
- curtail cost overruns said to be averaging close to 40% between the acceptance of tenders for civil engineering projects and project completion

In preparing this submission, IEI has also taken account of the need to ensure that value for money and minimum life cycle cost of projects are obtained. Without achieving these, IEI believes improving cost estimation and reducing cost overruns are of limited value. We have structured our submission as follows: -

- Factors impacting on cost and value for money
- Improving project cost estimation
- Improving project cost control
- Cost effective Project Procurement

The Institution would be pleased to meet with the Minister, his colleagues in Government and Departmental Officials and to participate in the development of new approaches should this be deemed useful.

2. SOME FACTORS IMPACTING ON COST AND VALUE FOR MONEY:

2.1 IMPROVE INAPPROPRIATE PLANNING APPROVAL PROCESSES:

All major infrastructure projects are subjected to a significant planning approval process and most require an Environmental Impact Assessment in accordance with EU Directives. The planning process as currently implemented can be a major constraint to timely implementation of infrastructure development and can add significantly to the cost of projects and reduce the accuracy of cost estimates. In particular IEI believes that in the planning process and with planning decisions on infrastructure projects which are referred to the courts, undue weight is given to Clause 43.1 in the Constitution and the right to private ownership. Insufficient attention is paid to Clause 43.2 which refers to the common good. IEI therefore welcomes the All-Party Oireachtas Committee on the Constitution review of Property Rights currently underway and has made a separate submission to the Committee. IEI also welcomes the recent announcements by An Taoiseach and by the Minister for Transport that Government are to introduce a Critical Infrastructure Bill shortly to deal with obstacles impeding the timely delivery of infrastructure projects. We believe that IEI can make an input which will be of value to Government in framing this Bill.

It now seems that objectors can take even the most spurious objection to the highest judicial level, safe in the knowledge that costs will be awarded to them “in the public interest”. The effect of this is to cause significant time delays and cost increases to vital projects. Protest groups are well aware that these tactics can cause both time and cost overruns to the point where projects may no longer be deemed viable. The long delays in cases being heard greatly exacerbates this problem.

This is not to say that the rights of the individual and special interest groups should be ignored. Plans for infrastructure development are made available for public scrutiny in a transparent and timely manner. Environmental impact assessments are published and the advantages and disadvantages of development made known to the public. Citizens already have the right to submit their views on proposed developments and to object to proposals as they see fit and these rights should remain.

However, final decisions should be made in a timely manner and based on a proper balance between the rights of the individual and the needs of society as a whole – i.e. “exigencies of the common good”.

Current legislation requires the consideration of certain projects by a number of different authorities e.g. a Local Authority, An Bord Pleanála, EPA, Duchas, The Department of Communications, Marine & Natural Resources. This leads to overlap and potential for confusion which may in turn invite legal challenge resulting in potential delays and increase in costs.

IEI makes the following recommendations aimed at reducing the cost and time delays associated with the current planning approval process and thus improving the accuracy of project cost and timescale estimation: -

Recommendations:

- A specialist “One Stop Shop” planning body for significant infrastructure projects should be established either separately or as a division of An Bord Pleanála. This body should be fully resourced, have legally binding timetables for decisions and be fully conversant with Government policies and priorities.
- A specialist division of the High Court should also be established to deal expeditiously with legal challenges to infrastructure planning.
- Greater use should be made of the Strategic Development Zones provision contained in the Planning and Development Act 2000 to ensure that major projects of national and regional importance are progressed expeditiously.
- The current review being carried out by the All-Party Oireachtas Committee on the Constitution should be completed as a matter of urgency. Whatever guidelines, regulation, legislation or indeed constitutional change, needed to ensure the common good is protected and that essential infrastructure projects can be planned and implemented without undue delay, should be introduced.

2.2 PLAN FOR BEST VALUE FOR MONEY OVER THE LONG TERM:

Decision makers should be aware that it makes good economic and social sense to plan and design now for future expansion of infrastructure as extensions can be difficult to construct, time consuming and expensive.

We have seen the problems encountered in expanding capacity at Dublin's West Link Bridge, at Dublin Airport and on the DART service. Expanding the capacity of the M50, particularly at the Red Cow Roundabout, will be both costly and cause significant traffic disruption.

It is becoming more difficult from a planning permission perspective to add to current infrastructure and planning lead-in time-scales are increasing at an alarming rate. Furthermore interfering with customers' use of current infrastructure in order to add capacity is becoming increasingly costly and problematic and will be less acceptable in future.

In relation to service standards there is need to take account of the fact that the expectations of, and standards required by both society and industry are continually increasing. Indeed the international standards against which others, particularly inward investment companies, will judge us from a competitive viewpoint, are also increasing.

In planning and designing public infrastructure, it is essential that medium to long term capacity and service requirements are taken into account from the earliest planning stages. Changes made subsequently will add to the estimated cost and if made after tenders are received, are invariably very poor value for money.

Recommendation:

- Ensure that medium and long term capacity and service standard requirements are taken into account in the initial planning and design of infrastructure projects

2.3 ADOPT A PROGRAMME APPROACH:

Public capital projects are normally part of a public policy delivery programme but are often treated as isolated projects rather than integrated elements of programme delivery. A programme approach would likely lead to greater consistency in cost outcomes and provide greater value for money. It would however require of Government that programmes are funded, typically on a multi annual basis, and that programme managers are authorised to spend appropriately.

The latest performance management techniques should be promoted. Programme managers should be authorised to "incentivise" project teams in appropriate ways as they see fit, in the knowledge they are responsible and accountable for delivering assigned programmes on time and within budget on a value for money basis.

Recommendation:

- Where a particular Government Department has responsibility for improving public service via a number of infrastructure projects, the Department should appoint an overall Project Manager, approve five year rolling budgets and adopt a structured programme approach to completing the projects.

2.4 ENSURE LAND ACQUISITION COSTS ARE REASONABLE:

There is need to address three issues as follows to ensure land acquisition costs are reasonable.

(a) The Cost of Land:

One of the major problems associated with estimating the cost of infrastructure projects and in achieving value for money has been escalation in land acquisition costs. This has been a particular problem with roads infrastructure and housing development, with, in many instances, the price being paid for land bearing no relation to its existing use and value.

Negotiations with landowners are often protracted and too time consuming with landowners frequently seeking to renegotiate a better deal after agreement has already been reached.

(b) Fees associated with Land Purchase:

The respective roles of third parties, or “middle-men” also need critical analysis e.g.

- Fees to auctioneers and valuers are often on a fixed percentage of the final negotiated settlement. This makes no economic sense and has the effect of inflating costs associated with land purchase. A sliding scale is needed along with performance related bonuses for efficient deals successfully completed.
- The work and fees of solicitors also needs critical analysis with a view to introducing practical fee structures and appropriate incentives for speedy and more efficient practices based on results.

(c) The Cost of Servicing Land:

The issue of inappropriate zoning of unserviced lands for housing needs to be addressed. Some of these lands are practically unserviceable, and the zoning is often done in the face of objections from the professional engineers and planners in the Local Authority. This practice increases costs, diverts scarce resources away from the more strategic approach to infrastructure, and also results in serviced lands lying undeveloped in many cases.

Recommendations:

- Legislation should be introduced to ensure that land can be acquired for infrastructure development at costs related to its “current use” value.
- Government should introduce measures to protect the common good as enunciated under Article 43.2 of the Constitution and minimise any benefits from “holding” land required for infrastructure development. This is particularly important for housing development where there is need for measures to encourage the release of development land onto the market.
- Appropriate measures should be introduced to regulate the auctioneering, valuation and legal fees associated with land purchase for infrastructure development in a way that delivers best value for money overall.
- Only lands which can be serviced at reasonable cost should be zoned for development.

3. IMPROVING PROJECT COST ESTIMATION:**3.1 PRELIMINARY VERSUS FINAL ESTIMATES; PROJECT BUDGET VERSUS PROJECT ESTIMATE:**

Estimates have a variety of meanings and levels of accuracy depending on the context in which they are produced e.g.

- (a) Preliminary estimates based on outline scope of work and on crude general unit costs e.g. average rates per kilometre of motorway. Such estimates are “ball park” only and cannot be relied on. Accuracy level +/- 50%
- (b) Somewhat more accurate estimates based on preliminary surveys. Accuracy level +/- 40%
- (c) Estimates based on detailed surveys and extensive site investigations. Accuracy level +/- 30%
- (d) Estimates based a detailed scope of works and on tender prices received. Accuracy level +/- 15%
- (e) Estimates based on the most up to date information available during the course of construction. Accuracy level +/- 7.5%

There have been many instances where both official Public Service and media commentators have compared current estimates, (e) above, with preliminary estimates, (a) above, without appreciating the inherent problems and inaccuracies in doing this. Invariably many years may elapse in getting from (a) to (e) not to mention to completion of construction, and in addition the various estimates may not be discounted to a base year. In addition, even if the scope of work has not changed simply multiplying the original estimated cost by the change in the consumer price index, may give a misleading result. Different cost increase factors may apply e.g. cost of plant, currency cost, fuel cost etc.

Major confusion also surrounds the two terms, Project Budget and Project Estimate, and they are often inappropriately interchanged.

The Project Estimate is the cost built up using specifications, drawings, survey results, bills of quantities, etc. It relies heavily on quantities. Contingency may or may not be included.

The Project Budget is the total amount of money available to carry out the project over its full cycle. It is a combination of the Project Estimate, and allowances for VAT, land costs, Professional Fees, escalation, inflation, currency risk, Clients own project costs, etc. etc. It must ensure that adequate amounts are included for both contingency and minor variations to the project scope, which invariably arise.

To clarify this latter point; contingency is a sum included to cover the 'unknowns' that arise in every project – it is not there to fund changes to the original scope of work. Variations are the cost of all changes to the original scope of work and must be individually estimated and approved in advance of being implemented. In reality, 'minor' variations should be allowed for in the project budget, but 'major' variations should always be assigned a new budget of their own and should not be funded out of the original budget.

Confusion over and poor understanding of, the terms 'budget', 'estimate', 'contingency' and 'variation' contribute in no small manner to poor cost control and major budget overruns.

Recommendations:

- Preliminary estimates based on an unfinalised scope of work and without the benefit of detailed surveys and site investigation should not be published or used in official estimates.
- All estimates published should be qualified as to the scope of work involved and assumptions made. IEI recommends that a standard "Project Budget" form be used for all Project Budgets produced, to ensure clarity of understanding on the scope and level of accuracy of the budget estimate. Consideration should be given to adoption of a % "Margin of Error" with all estimates such as those shown above.
- It should be a requirement that the projected final cost of individual projects is regularly reviewed, updated and published as appropriate. When significant change occurs the reasons for the variance from previous estimates should be detailed. All such information should be published in a timely manner to ensure public transparency and as a source of advice for other projects.

3.2 ENSURE ALL COSTS ARE INCLUDED IN ESTIMATES:

There are many instances of infrastructure projects where early cost estimates were limited in nature and did not contain all final cost elements e.g. VAT, professional fees, management and administrative charges, equipment, furniture and fixtures, statutory charges etc. There have been

particular problems caused where land costs have either not been included in the original estimates or grossly underestimated. Confusion and apparent increase in costs can also be caused by including ongoing maintenance contract costs in some estimates and not in others. It is also important to ensure a realistic “contingency” figure is included. (see 3.5 below)

There is a particular need to ensure adequate costs are included for accommodation works and archaeological works especially on roads projects

Recommendation:

- Ensure that in completing the standard “Project Budget” form proposed under 3.1 above, for a given project, that all potential costs are included. Allowance for inflation should be separately identified in Project Budget.

3.3 THE NEED TO ACCURATELY SCOPE PROJECTS:

The scope of work on projects regularly develops far beyond that originally contemplated. Control of scope growth is always a challenge and the difficulties are exacerbated by the very long schedules on public projects from conception to execution.

Recommendation:

- From the outset (feasibility stages) all projects should have a clear statement of their scope and a schedule of works to be delivered. Changes to the scope of work over previous estimates should be clearly articulated when a new cost estimate is being prepared.

3.4 ENSURE ADEQUATE RISK ASSESSMENT AND CONTROL:

Risk is inherent in the project/construction process but that doesn't mean that it cannot be assessed in advance, controlled, and allowance made for it in project cost estimations.

Risk assessment is now a formalised process in itself and a formal risk assessment should be undertaken on all major projects, and repeated at regular intervals. Risk assessment involves ‘brainstorming’ by all relevant parties to a project in order to:

- (a) Identify all risks to the project success
- (b) Categorise them into ‘Major’, ‘Medium’ and ‘Minor’ with a view to managing them appropriately
- (c) Major risks are assigned to an ‘Action’ to mitigate their effects; medium risks are assigned either an ‘Action’ or a ‘Monitor’; minor risks are assigned a ‘Monitor’
- (d) The potential cost implications of all major risks are estimated, and if the implications are difficult to quantify, they are ‘guesstimated’.
- (e) Responsibility for the action or the monitoring of each risk is assigned to a named individual

This kind of formal risk assessment carries the major benefit of associating costs with risks that could affect the project success, but which under normal cost estimation procedures, never get taken into account.

The risk assessment process must be carried out on a number of occasions throughout the project cycle as early risks disappear or are 'actioned' out, and new risks emerge as the project progresses.

Recommended occasions when formal risk assessment should take place are:

- (a) At concept stage in a project when the preliminary cost estimate is being carried out.
- (b) During survey/design stage
- (c) At tender stage
- (d) During construction stage (at regular intervals)

The cost estimates associated with risk to the project success should never be 'mixed' with the cost estimates for the 'bricks and mortar' of the project but they should be a major influence on the contingency allowance included in the project budget.

Care is required to ensure that the cumulative cost estimates assigned to project risks do not lead to hasty postponement or abandonment of the project. The purpose of risk assessment is to identify the risks, categorise them and then, ideally, engineer them out of the project.

However, if a particular risk cannot be easily removed out, then the cost must be allowed for it in the project budget, and in any cost benefit analysis.

Recommendation:

- Ensure that formal risk assessment and risk mitigation measures are implemented on all projects from inception through to completion.

3.5 ENSURE A REALISTIC "CONTINGENCY" FIGURE IS INCLUDED:

There has been a reluctance with public infrastructure projects to include a realistic "contingency" figure which has resulted in the final cost of projects apparently overrunning budget. With all such projects, regardless of the nature of the contract, unforeseen issues will arise which will increase the cost of the project. There will be bona fide claims by contractors and design consultants relating to changes in scope, inflation, delays due to exceptional weather, unexpected ground conditions, regulatory or planning delays etc. etc. It is important that those accountable recognise this, ensure appropriate risk analysis is carried out and include a realistic "contingency" figure in cost estimates. The rationale supporting the contingency figure included in the cost estimate should be explained and this figure should be adjusted upwards or downwards depending on market conditions as the contract progresses.

Pressure from those not directly involved in the project to reduce the contingency figure to an unrealistic level should be withstood. It should be made clear that the contingency figure is not a “pot of money” to be spent but is a best estimate of the figure of money which may be required if some problems or potential risks materialise. Such contingency monies should be released only on the written approval of the Client.

Recommendation:

- Ensure a realistic contingency figure is included in project cost estimates and reviewed for appropriateness during the course of the project.

3.6 MINIMISE WORKING RESTRICTIONS ON CONTRACTORS:

In Ireland, restrictions are frequently placed on contractors’ working arrangements which compare unfavourably with those in other countries. These can include daylight working hours only, reduced working hours to minimise noise impact unreasonably, restrictions on construction vehicle size/type or on construction traffic flows etc. Such restrictions can add significantly to both the cost and time to completion of projects.

In addition the Client’s and contractor’s right to deviate from the prearranged alignment of a road, tunnel, railway, water or wastewater pipe etc if physical difficulties are encountered or more economical and environmentally acceptable alternatives emerge, are unrealistically restrictive in Ireland.

Recommendations:

- Minimise working practice restrictions on contractors while affording reasonable protection to the public against the ‘nuisance’ impact of construction.
- Introduce legislation to allow quick decisions be made by Public Sector Clients to deviate from the planned alignment of a project if deemed necessary and environmentally acceptable.

4. IMPROVING PROJECT COST CONTROL:

4.1 ENSURE CLARITY OF RESPONSIBILITY AND COMPETENCE REQUIRED:

Where responsibilities for either cost estimation or project cost control are divided or not clearly specified there is greater potential for confusion, inaccuracies and cost overruns.

One Project Manager (Accountable Officer) should be given overall responsibility by the Client for an individual project from initiation through to completion. This manager should hold the budget for the project and have responsibility for both preparing the project cost estimate and for project delivery including project cost control through

construction. This “Client” project manager should work closely with the “construction” project manager appointed by the contractor – they should in effect work as a team. If this is not possible, as a minimum one individual should have sole responsibility for the cost estimate and subsequently a separate single project manager be given responsibility for overall delivery of the project including cost control.

It is essential that such individuals have a comprehensive engineering understanding of the particular type of project being estimated/controlled otherwise misunderstandings and inaccuracies are very likely to arise at cost estimation stage, inappropriate decisions made and additional costs incurred during construction and opportunities for savings not identified.

Recommendation:

For all infrastructure projects the Client should appoint a single and accountable Project Manager, with appropriate engineering qualifications and experience, to take sole responsibility for project cost estimation and project delivery including cost control.

4.2 ENSURE ADEQUATE PROJECT MANAGEMENT RESOURCES:

It is essential that the Project Manager is delegated the necessary authority and resources. This may involve authority with implications for multiple local authorities and agencies. The Client must ensure that the Project Manager does not get the sole responsibility without the authority and resources. The use of a project charter is recommended, setting out the Project Manager’s role, responsibility and authority.

There can be an unwillingness to finance the allocation of Local Authority or other Client staff to manage major projects adequately. This is generally a small fraction of the total project cost. Adequate Client project management staffing is vital not merely to control cost but also to ensure the quality of the work finally delivered. It does not seem logical for Client organisations to skimp on funding the cost of a small number of engineers to oversee multi million pound projects when the return in terms of project cost and delivery is so obvious.

Recommendation:

- Public Sector Client organisations should commit adequate engineering resources to project manage infrastructure projects.

4.3 IMPLEMENT COMPREHENSIVE PROJECT MANAGEMENT SYSTEMS:

Use of comprehensive standardised project management systems will ensure the smooth running of contracts with minimum surprises for Client and contractor and a greater possibility that the project will be delivered on time and to budget. Such systems should include: -

- Clear written definition of the responsibilities and authority of all parties.

- Common training in the approach and systems to be used for all parties involved (Client, contractor and consultant).
- Establishment and monitoring of good communications and relationship processes between Client, contractor and consultants. Relationship failure causes increased costs.
- Continual risk monitoring to ensure early identification of unforeseen events and early decisions on how to deal with them.
- Ongoing cost trending and monitoring of earned value. Whilst monthly cost forecast updates would be the norm on private sector projects, on some public sector projects no cost trending is done between the initial estimates and construction enquiry.

Also while expenditure to date may be monitored, earned value and forecast cost to completion is often not estimated on a regular basis. Each of these should be included on the Agendas of all monthly project site meetings.

Decisions are being made all the time during design, development and construction. Costs are changing over time as a result of inflation, regulatory changes, time delays, scope changes etc. The cumulative effect of these should be monitored on an ongoing basis and action taken to find balancing savings, if cost growth is to be controlled and value for money achieved. Overall, a value engineering approach should be used both in initially scoping out a project and in amending the scope subsequently if deemed necessary, to ensure optimum value and service delivery for the Client.

Recommendation:

Implement a standardised project management and value engineering approach and systems on individual projects.

4.4 REDUCE PROJECT RISKS AND UNKNOWNNS:

If there are obvious risks or unknowns in a contract as issued to tender it goes without saying that the contractor will build in a risk premium to his tendered price. Furthermore if the scope or nature of the contract changes due to new information or constraints emerging after tender this will have an adverse impact on the final cost. Problems often arise with public projects where decisions to go ahead with preplanning and design are made too late. This can result in enquiry documentation being based on preliminary and incomplete information resulting in potentially inflated tender prices or cost overruns. It is particularly important to ensure that the following elements of a project are completed before enquiry documentation is completed and tenders sought.

- Comprehensive site survey and site investigation.
- Final decision on options regarding routing for roads, electricity and gas networks, rail, water supply, waste water services etc
- Full archaeological clearance
- Completion of all land and right of way acquisition.

- Acquisition of full planning permission and all other regulatory and statutory permissions.

By commencing preplanning and design earlier the cost of this work will not increase significantly. However, it will facilitate production of more complete and accurate engineering documentation and the cost of the overall project and the risk of cost overruns will be significantly reduced.

Recommendation:

Commence preplanning and design of projects at a much earlier stage than at present. Commitment of greater expenditure at the early planning and design stage of projects invariably results in significant reduction in project risks and unknowns and thus lower final cost, more accurate cost estimation and faster completion of construction.

4.5 IMPLEMENT APPROPRIATE DISPUTE RESOLUTION PROCEDURES:

It is in the nature of construction that unforeseen events may occur or different interpretations of contract documentation be taken by Client and contractor or between contractor and subcontractor.

It is important that any disputes which arise as a result are resolved quickly to avoid the risk of delays and further cost inflation. Under the current IEI Form of Contract both conciliation and arbitration are available to the parties involved in a dispute. Conciliation has the potential to provide a resolution to the dispute acceptable to both parties, quicker and cheaper than arbitration as there are no legal representatives/costs involved.

The proposed new FIDIC based Conditions of Contract approved by the Forum for the Construction Industry and awaiting clearance from the Attorney General have new dispute resolution procedures included which will reduce uncertainty for both Client and contractor. This should have a positive impact on tender prices and cost outcomes.

Recommendations:

- Public Sector to approve and implement the new FIDIC based Conditions of Contract as soon as possible. These are currently only awaiting Attorney General clearance.
- Pending implementation of above, utilise Conciliation as the preferred dispute resolution mechanism where appropriate.

5. COST EFFECTIVE PROJECT PROCUREMENT:

5.1 ENSURE APPROPRIATE FORM OF CONTRACT:

It is important to note that most preliminary or pre tender cost estimates are based on Bill of Quantity rates which do not take account of the contract form and allocation of risk which may subsequently be decided.

Decisions made on the form of contract will have an impact on the certainty/accuracy of the project cost estimate and indeed on the final out turn cost. Excluding Public Private Partnership a range of types of contract are available for public infrastructure projects including but not limited to the following.

(A) TRADITIONAL IEI BOQ “REMEASURE” TYPE CONTRACTS:

With this type of contract the Client endeavours to issue an enquiry for pricing by contractors which is as complete and accurate as possible. The Client carries the risk and cost in relation to changes in scope, unforeseen or unspecified events, delays outside the control of the contractor etc. and price variation clauses are included. The Client will get greater certainty in relation to competitive tendering but less certainty in relation to the final cost. This has been the traditional type of contract used for public infrastructure up to recently. If the public sector retains responsibility for many of the risks associated with project execution, the overall cost to the public may well be lower, even if individual projects sometimes significantly overrun. In addition experience has shown that normally where Clients have appointed high quality adequately resourced resident engineering teams to administer contracts cost overruns are minimal.

(B) DESIGN/BUILD CONTRACTS:

In recent times Design/Build contracts have become more common and are becoming the norm for large NRA Roads projects. With this type of contract, the Client may benefit from a more innovative and cost effective solution due to a “common agenda” approach being taken by the Designer/Contractor team. There is also a good degree of certainty in relation to the cost estimate produced immediately post tender provided the Client does not introduce subsequent changes. However it should be acknowledged that the private sector charges a premium and sometimes a high premium for the risk transfer inherent in this type of contract which can result in a higher total cost to the Client.

(C) TARGET COST OR PARTNERSHIP TYPE CONTRACTS:

The problems associated with both contract types (a) and (b) above are well known, with contracts often being completed late, above budget or outside specification or indeed a combination of all three. A more innovative approach, often used in the private sector, is now beginning to be used for public infrastructure projects internationally. This involves the Client, design consultant and contractor working in partnership to achieve the Client’s objectives on a target cost, pain/gain share basis. This provides the advantages of both the standard BOQ Remeasure and the Design/Build type contracts without the usual disadvantages. It provides the Client with greater certainty in relation to both achieving a minimum cost solution and an accurate estimate of final cost provided an appropriate pre-selection bidding process is used to select the “Partnering”

contractor. This type of contract has been successfully used by the Northern Ireland Department of Regional Development, Water Service for major water supply and water treatment projects and is currently being piloted on Road Projects in Northern Ireland.

Recommendations:

- Pilot Target Cost/Partnering type contracts across a range of infrastructure areas – roads, water supply, waste management, public housing etc. should be initiated.
- All capital projects should be subjected to performance management using appropriate performance indicators and benchmarked. Once a database of completed projects has been generated, ranked in terms of value for money and/or minimum cost overrun, it should become apparent which project procurement type and project control systems provide the best approach for infrastructure development.

5.2 ENSURE APPROPRIATE SHORT LISTING AND CONTRACT AWARD PRICE

Difficulty can arise when preparing tender lists. Often insufficient attention is paid to short listing and unsuitable firms may be included in order to get a sufficient number of tenders (applies particularly to specialist contracts).

There is still pressure on public sector Clients to accept the lowest tender. In some cases the lowest tenderer has poor references, a poor safety record, is known for being claims conscious and has inadequate site management experience on previous contracts. Even allowing for this it is very difficult to discard the lowest tender as the threat of a legal challenge is always present.

More freedom should be given to allow public sector clients to short list and assess tenders using all relevant criteria rather than tender cost only. The following issues should be taken into account:

- Relevant experience
- Health and safety record and approach
- Proposed site management
- Approach to quality of workmanship
- Claims history
- Anticipated out-turn cost
- Client references in relation to all criteria

To assist in this process, particularly in relation to legal issues, consideration should be given to post-completion appraisal of all major public sector projects. This could be used as reference material on a national database, thus providing continuous assessment of contractors' performance which could be used in short listing or tender assessment.

Recommendations:

- Ensure short lists for tendering include only companies to whom the Client would be satisfied to award the contract.
- Only accept the lowest tendered price for a project if it appears to be adequate to cover the cost of the project and realistic compared to other tenders received.