



ICE Conditions of Contract

Target Cost Version, First Edition
Guidance Notes

February 2006

Institution of Civil Engineers
Association for Consultancy and Engineering
Civil Engineering Contractors Association

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Associated publications appropriate to the Contract

ICE Conditions of Contract Target Cost Version 1st Edition

ICE Arbitration Procedure 2006

ICE Appendix (2001) to the Scottish Arbitration Code 1999

ICE Conciliation Procedure 1999

ICE Adjudication Procedure 1997

ICE Construction Mediation Procedure 2002

ICE Dispute Resolution Board Procedure 2005

Scottish Arbitration Code 1999

Other ICE Conditions of Contract publications

ICE Conditions of Contract Measurement Version 7th Edition

Guidance Notes to the ICE Conditions of Contract Measurement Version 7th Edition

ICE Design and Construct Conditions of Contract 2nd Edition

Guidance Notes to the ICE Design and Construct Conditions of Contract 2nd Edition

ICE Conditions of Contract Term Version 1st Edition

Guidance Notes to the ICE Conditions of Contract Term Version 1st Edition

ICE Conditions of Contract Ground Investigation Version 2nd Edition

Guidance Notes to the ICE Conditions of Contract Ground Investigation Version 2nd Edition

ICE Conditions of Contract for Archaeological Investigation 1st Edition

Guidance Notes to the ICE Conditions of Contract for Archaeological Investigation 1st Edition

ICE Conditions of Contract Minor Works 3rd Edition (including Guidance Notes)

Agreement for Consultancy Work in Respect of Domestic or Small Works

ICE Conditions of Contract Partnering Addendum

Tendering for Civil Engineering Contracts

1 INTRODUCTION

1.1 Adaptability of ICE contracts As methods of contracting and the procurement process have evolved, the ICE Conditions of Contract for use in connection with civil engineering construction have proved remarkably adaptable. The core provisions of the admeasurement version have provided a base document which has, as appropriate, been amended by the Conditions of Contract Standing Joint Committee (CCSJC) to produce a family of contracts. These ICE contracts range from design and construct, term maintenance and minor works to ground investigation and an archaeological investigation contract, and whilst each provides for a different process they remain broadly familiar. There is a distinct advantage in this approach, both to the parties to the contract to and those involved in its administration.

The Target Cost Version of the ICE Conditions of Contract is intended to fulfil an identified need for such a contract to sit within the framework of the current family. Detailed consideration has been given to the necessary additional clauses and amendments and these Guidance Notes explain the rationale behind these.

1.2 Target Cost Version The Target Cost Version encourages the Contractor to be more closely involved in aspects of design, including any design originally provided by or on behalf of the Employer. The Form of Tender provides for payment to the Contractor on a cost reimbursable basis with a Fee percentage based on the Target Cost of the project and an incentive share arrangement if the costs differ from the target. Both of these should help to provide more confidence to the Employer regarding value for money, and with minor modifications these could include the provision of a guaranteed maximum price above which the Contractor bears the cost.

The Contract is drafted bearing in mind current procurement initiatives and recognising that contractors can add value to any project during the design stages, in particular in connection with buildability, construction techniques and sequences as well as choice of materials.

Utilising the Target Cost Version allows and encourages active collaboration to reduce costs by sharing expertise and jointly managing risks in an open working environment. To allow this to function, a more open style of control and management is required which will permit an early and joint approach to the identification and management of risks. This obligates parties to recognise and understand each other's objectives and promotes closer working relationships.

The Contract could be let on a one- or two-stage basis as described in Section 3.2.

To mitigate additional cost and/or delay as well as minimising potential for dispute, all possible steps should be taken to avoid changes in the Employer's requirements following award of the Contract. The requirements of the Employer should be determined before tender information is sent out. The Employer, Engineer and Contractor agree on the final requirements and Target Cost of the project before the Contract is awarded. Changes in requirements after contracts have been let may lead to substantial changes in cost.

The principle of mutual trust and co-operation along with the integrity of the Target Cost should be maintained in the event of changes so as to mitigate their effects. Opportunities to reduce cost that do not undermine the Employer's fundamental requirements should be encouraged to provide shared cost savings.

If the Contract procedures are followed the parties to the Contract will be provided with an advanced warning of circumstances that may give rise to additional costs or delays or which may warrant a significant change to the project.

The Contract is also drafted with the intention of minimising the incidence of potential disputes and resolving those that may arise in a speedy and non-confrontational manner. The Contract provides the choice of conciliation, adjudication and arbitration to facilitate the resolution of disputes, although mediation, dispute review board or other means of dispute resolution may be utilised by agreement.

The Contract is drafted to comply with the Housing Grants, Construction and Regeneration Act 1996 with the intention that the statutory “Scheme for Construction Contracts” should not apply (see in particular Clauses 60, 66, 66A, 66B, 66C and 66D). Clause 67 deals with the application of the legislation to Scotland and, by implication, the Construction Contracts (Northern Ireland) Order in Northern Ireland.

1.3 Not a legal interpretation

These Guidance Notes have been prepared by the CCSJC specifically to assist users of the ICE Conditions of Contract Target Cost Version in the preparation of contract documents and the carrying out of the project. They do not purport to provide legal interpretation but do represent the unanimous view of the CCSJC on what constitutes good practice.

It should be noted that these Guidance Notes should not and do not form part of the Contract.

2 CONTRACT DOCUMENTS

When Clauses 1 to 72 of the ICE Conditions of Contract Target Cost Version are incorporated in a contract it is recommended that they are incorporated unaltered because they are closely interrelated and any changes made in some Clauses may have unforeseen effects on others.

If it is necessary on a particular contract to make any special contractual arrangements these should be effected by the addition of special conditions in accordance with Clause 72 of the Conditions of Contract. Special conditions should be kept to the minimum necessary to cover the special circumstances of the particular project. The practice of including as special conditions matters which are more appropriate to the Specification should be avoided.

This procedure assists comprehension of the documents, particularly at the tender stage, because it obviates the need for tenderers to scrutinise the standard conditions to check for possible amendments or additions. The Clauses of the Target Cost Version follow the numbering used for the ICE Conditions of Contract Measurement Version 7th Edition as these will be familiar to users. There are, however, a number of changes in detail to suit the target cost concept.

3 OVERALL CONCEPT

3.1 Introduction The ICE Conditions of Contract Target Cost Version will allow and incentivise collaboration to reduce costs. To allow this to take place a more open style of control and management is required which will permit an early and joint approach to the identification and management of risks and opportunities.

Use of the Contract should promote

- the early involvement of the contractor in the development of the project overall and in particular in the details of
 - understanding the Employer's requirements
 - design and buildability
 - selection of construction processes and materials
- the early involvement of the Employer and designers in
 - construction techniques and methods
 - selection and procurement of sub-contractors
 - planning and operation of the site set-up to consider site roles more specifically and possible integration of the teams to reduce cost
- incentivisation of designers to reduce construction costs and improve safety by participation in appropriate share arrangements
- management and allocation of risk and
- ownership of risk by the party in the best position to control the risk, leading to reduced risk provisions in the Contractor's Target Cost.

3.2 Principles The fundamental principles of Target Cost Version are listed below.

- Rates and prices are submitted by the tenderers together with schedules for identifying
 - opportunities for value engineering
 - risk and risk ownership and
 - the Fee.
- The Employer may adopt a one-stage or a two-stage process when inviting tenders. The one-stage process leads to a final offer of a Target Cost at the time of the submission of tenders. The two-stage process allows an initial offer which is followed by a period of development and negotiation to determine the Target Cost based on the above schedules.
- The Employer, the Engineer and the Contractor should act as an integrated team so that the Employer benefits from the Contractor's expertise whilst the Contractor benefits from the close co-operation that is needed for value engineering and risk management.

- The Employer and the Contractor will share savings or overexpenditure in the outturn cost of the Works, excepting those risks:
 - which the Employer retains, e.g. changes in the Employer's requirements that may give rise to a change in the Target Cost and
 - for which there may be costs but where Target Cost will not be changed, e.g. extreme weather.
- The Contractor will receive his Total Cost properly incurred in providing the Works plus a Fee.
- The Employer should expect a lower Target Cost that reflects the reduced uncertainty brought about by improved cash flow, the incentive mechanism, agreed risk ownership and a joint approach to risk management. The Employer and the Contractor have a common aim and incentive to reduce the Total Cost.
- The Contractor, in principle, is paid for the cost he incurs as a result of undertaking the work. This will include the cost he incurs in the rectification of any defective work, provided these are not Disallowed Costs.
- The Contractor's Fee which could be a percentage or a lump sum should be so set as to recover overheads, profit, depreciation, insurances, financing costs, etc., such that any resource not used in directly providing the Works is included in the Fee and not recovered in the Total Cost.
- The Total Cost should be attributable to the Works and measurable through contemporaneous contract records, which should be freely available to and audited by the Engineer.

3.3 Mutual benefits A number of mutual benefits that can result from the use of the Target Cost Version are listed below.

- There is greater clarity of cost outcome due to an appropriate Target Cost and share arrangement and to risk ownership having been recognised.
- The Contractor has an incentive to keep the Total Cost below the Target Cost in order to benefit from the Contractor's Share arrangement.
- The Contractor is motivated to self-police, reduce costs and minimise defects.
- There will be possibilities to reduce the size of the overall project team by sharing systems and processes, e.g. with the establishment of jointly agreed cost collection and reporting systems.
- There should be a more open compatibility of design with buildability issues.

- There should be a reduced instance of claim preparation, assessment and negotiation particularly if the process for early identification and management of risk is established and operated effectively along with an agreed process to manage changes regardless of why they are required.

The Contract enables these benefits to be achieved by encouraging a more open and collaborative approach to control and management. This can provide potential for cost reduction in overall project administration across the client/contractor team.

There is further potential to reduce any contractor provisions that may be included for

- cash flow – there will be greater certainty with payment being in line with costs (the financing of cash flow should be included in the Fee)
- risk – through early and joint identification, ownership, mitigation and management. Target Cost adjustments which are not fully used by the Contractor provide reduced costs compared with the Target Cost.

3.4 Shared responsibilities

The Target Cost Version enables the Employer, the Contractor and the Engineer to contribute in each other's traditional areas of responsibility by

- Contractor input into
 - Employer's requirements
 - design buildability
 - selection of building systems and materials
 - project development at an earlier stage
 - management of Employer's risks.
- Employer and designer input into
 - construction techniques/methods
 - sub-contracting procurement strategy and the selection of sub-contractors
 - Site set-up and operation (where part of the Target Cost savings are available by creating integrated Employer/designer and Contractor teams reducing man-marking)
 - management of the Contractor's risks.

3.5 Incentives to reduce costs

The Contractor is incentivised to reduce costs through the share arrangement of savings or overexpenditure. Overhead and profit is part of the Fee and is based on the Target Cost. It is either a fixed percentage of the Target Cost or a lump sum determined during the tender period. The whole of the supply chain may also be incentivised to reduce construction costs by participation in the share arrangements via use of the ICE Conditions of Contract Partnering Addendum.

The Employer may wish for greater certainty of price by including in the Contractor's Share a Differential Percentage band where the share percentage is 100%. This may give rise to the inclusion in the Target Cost of Contractor's provisions for additional risk.

3.6 Differences from other ICE contracts

A target cost contract requires the parties to approach the administration of a project in a fundamentally different way to other forms of contract. In particular the drafting of the ICE Target Cost Version provides for and encourages

- collaborative working in a spirit of mutual trust
- the approach to the management of risk and opportunities for improvement
- the Target Cost with associated variation provisions
- open-book presentation of costs
- the Contractor is paid the cost of carrying out the Works as defined by the Total Cost
- sharing of the Total Cost, both above and below the Target Cost
- the approach to remedial works (correcting defects)
- greater confidence that the final Total Cost will be within the original Target Cost.

There is no provision for retention (but see Appendix 4 to these notes) or for nominated sub-contracts.

3.7 Risk management

To determine the Target Cost effectively and manage the Contract through to completion, there must be a risk schedule or register established which documents all foreseeable risks. It is essential that risk is owned and managed collaboratively to minimise cost, time and the Target Cost adjustments. Though the Contract defines who carries which risks, the emphasis in a Target Cost approach is to openly document and quantify the possible effects of these on the particular project. The principles of shared risk management do not change the overall concepts but merely promote the early recognition of the issues and possible consequences to allow exploration of mitigation measures. Such opportunities can enable new ideas and ways of working to be considered that can benefit both parties.

3.8 Payment to the Contractor

Payment to the Contractor is made on the basis of cost incurred plus the Fee stated in the Appendix to the Form of Tender. This is a significant departure from the admeasurement basis in the ICE Conditions of Contract 7th Edition Measurement Version.

To make this work as efficiently as possible the systems used for recording cost, control and verification should be jointly agreed to minimise duplication.

The format and content of monthly statements should be agreed at the outset together with procedures to monitor the Total Cost against the Target Cost value.

The concepts of Disallowed Cost (Clauses 1(1)(j), 49(3)) and economic working (Clause 8(7)) should be fully understood by all parties.

The Contractor's Share payment incentive (Appendix to the Form of Tender) requires a full understanding of how this is calculated and when it becomes applicable. See Appendix 2 to these notes for a worked example.

3.9 Adjustments to the Target Cost The Contract permits adjustments to be made to the Target Cost in accordance with the terms of Clauses 5, 6, 12, 13, 18, 31, 36, 40, 42, 51, 52 and 58. In order to keep the incentive alive, Target Cost adjustments should be made before “varied” work commences (Clause 52).

3.10 Remedial works In a Target Cost contract the issue of remedial works needs to be considered very carefully because of

- the impact on Total Cost and the effect on Contractor’s Share
- the historical approach to defective work.

Whilst zero defects should be the aspiration, civil engineering projects are rarely completed without the need to undertake some remedial work.

The principle of the Contractor being reimbursed for rectifying such remedial work can be a difficult concept because of the traditional approach in which such work is seen to be his own responsibility.

In the Target Cost Version, prior to substantial completion, the Contractor is reimbursed for undertaking remedial work (provided such costs are not Disallowed Costs) but, because the cost is carried into the Total Cost, the resulting increase in Total Cost will affect the Contractor’s Share. This is a clear incentive for the Contractor to “get it right first time”.

After substantial completion the Contractor bears the full cost of remedial works. This will provide added focus in respect of managing workmanship issues and dealing with them as soon as they become apparent before substantial completion. This approach should ultimately be more cost-effective and less disruptive to the parties.

Within the Target Cost the Contractor would still make an allowance for remedial works within his price (or risk register) but this allowance is most likely to be less than in a traditional contract because the team attempts to eliminate, manage and/or mitigate all risks.

3.11 Summary The principles behind the Target Cost Version mean that it is in the interests of the team to help each other to minimise cost and waste in whatever form they arise. Any inefficiency should be regarded as a failure of the team as a whole.

4 CHOICE OF TARGET COST CONTRACT

The ICE Conditions of Contract Target Cost Version can be used for any works where the Employer may desire to make better use of and allow pooling of expertise to incentivise all parties to arrive at the most efficient way of achieving the Employer's requirements.

The fundamental differences with the use of this form are that

- the Contactor's profit is increased in total and as a percentage where the final contract cost (Total Cost + the Fee) to the Employer is reduced
- the mutual interest in reducing cost can reduce duplication of effort and will encourage collaboration focused on increasing efficiency
- there is transparency of costs incurred in delivering the Works – this is essential in order to drive down costs for subsequent works and projects and
- by minimising the inclusion of contractor provisions for risk – the Employer should consider taking ownership of risks that the Contractor is not in the best position to control.

The combination of these factors will give rise to increased cost clarity.

A target cost contract can be particularly suitable when Employers wish to develop and build long-term relationships with their supply base to drive down the Target Cost on successive projects through collaborative working and the incorporation of best practice on similar projects.

To provide for the lowest Target Cost and subsequent Total Cost the Employer's requirements must be clearly set out and understood by the whole team.

To allow scope to reduce costs through collaboration and value engineering the Employer's requirements should identify those elements of the requirements that are 'fixed' along with those that can be considered for cost savings.

If the main contract is a target cost contract then any sub-contract does not necessarily have to be a target cost sub-contract. A sub-contract can be any of the measurement, design and construct, investigation or minor works contracts as is appropriate to the nature of the Works and the definition of the requirements at the time of tendering for the sub-contract.

5 TENDERING AND CONTRACTOR SELECTION

5.1 Tendering process The process of compiling invitations to tender, tendering and Contractor selection for a target cost contract does not have to be unlike that for other contract forms. It is however important that the principal issues are decided early in the process with the Employer to provide a smooth process and avoid unnecessary and duplicated work by the tenderers.

The principal issues to be decided at the outset are

- whether a prequalification process is required to select the Contractors to be invited to tender
- identification of Employer requirements that are firm and in turn those that the tenderer can look at to develop opportunities
- whether it is to be a one- or two-stage tendering process.

The one-stage process would be where the design is reasonably progressed and with the Employer's requirements established. In this case the Contractor would be selected on capability, fee, target cost, opportunities identified and risks identified with proposed ownership.

The two-stage process would be where there is limited or no design, the Employer's requirements are to be developed and early Contractor input is regarded as advantageous. In this case the Contractor would be selected on capability, fee, and opportunities and risks identified. Levels of site preliminaries could also be considered.

With a two-stage process consideration will need to be given to the point at which a contractor will be appointed as preferred bidder or as the Contractor and how much input contractors can reasonably be expected to provide at their own cost.

With both a one- and two-stage process there will be a period of negotiation during which time the opportunities and risks are explored, discussed and quantified. This provides the opportunity for tenderers to review the proposals and explore avenues to modify the design, construction sequences and material selection to generate savings.

This may involve some detailed considerations so it is important that sufficient time is allowed for the process to be properly carried out and that any areas that are not open for discussion are clearly identified. It follows also that roles and responsibilities must be defined to ensure that all necessary aspects of any proposals are properly investigated.

5.2 Selection considerations A number of key issues must be considered by the Employer in consultation with the Engineer in advance of the selection process. These are summarised as

- the need, if any, for a pre-qualification system
- the process to be used to select the Contractor(s) – consider the following
 - expertise in the field and access to design expertise if required
 - supply chain capability

- Contractor's Fee
- level of site prelims (if not part of target)
- price for pre-construction input – need not be part of the Target Cost as the Target Cost cannot be determined until the design is suitably developed and the Contractor may be prepared to provide this at his own risk
- when to select the tenderers, how much input they will have in design development, what effect there will be on costs if tenderers' work is duplicated during design development and what level of commitment can realistically be expected from multiple tenderers
- understanding how much of the design must be completed before the Target Cost can be agreed and or Contract awarded
- determine at what stage a single tenderer (preferred bidder) can be selected to arrive at the Target Cost.

5.3 Number of tenderers It is recommended that an appropriate number of tenderers are invited to tender depending on the nature and complexity of the contract. Any subsequent negotiations can take place with a reduced number or a single tenderer depending on the level of input involved. Clear direction on the level of and amount of detail required to be developed during the negotiation stage must be given and if this is extensive then consideration should be given to the payment of a development sum to those tenderers involved. A client should be mindful of the cost of tendering as ultimately it will be reflected in the cost of work.

There may be overriding legislative requirements that modify the above recommendations, these include UK Contracts Regulations or EC Public Procurement Directives required by the EC Regulations.

5.4 Tender period It is an essential feature of this type of contract that the tenderer has adequate time not only to price the documentation but also to study design and material issues as may be required to identify and develop value engineering opportunities.

The period needs to reflect the size and scope of the project but it is recommended that an absolute minimum period of 4 weeks is allowed. It may be necessary to follow this with a similar period for negotiation and further development of opportunities, or even longer if a two-stage process is adopted.

5.5 Information to tenderers In addition to information included in the Appendix to the Form of Tender, tenderers will need to be given adequate information on the items that are firm Employer's requirements and in-turn those that the tenderer can look at to develop opportunities. The focus should be to avoid any wasted effort.

An outline of the Employer's requirements should be included with details of

- the Employer's design brief and also details of matters which are to be considered immutable regarding the general layout, design requirements, appearance, plant and equipment to be installed, performance requirements, offices and/or other accommodation required, accesses, etc., and any limitations on site availability (Clause 42(1))

- any performance specifications for the Permanent Works and/or any general specifications stipulated by the Employer
- any particular matters affecting the safety of adjacent structures or existing works which may affect the design or methods of construction
- details of any particular information that is to be included with the tenderer's submission, including details of health and safety policy, insurance cover required, details of items of plant and any special materials proposed for use and details of any special types of construction to be used together with the information required to be submitted in respect of opportunities for value engineering and risk management schedules
- details of site surveys, ground investigation reports, hydrological surveys and details of pipes and cables in, on or over the ground that have been obtained by or on behalf of the Employer and which are relevant to the Works (Clause 11(1))
- the envisaged tender acceptance date and Works Commencement Date with a clear statement as to whether these dates are definite or are given only for guidance
- the required form of submission of the Target Cost including a breakdown comprising predetermined elements for analysis and comparison, rates and prices, a risk schedule and possible opportunities for value engineering.

It should be noted that no provision is made for the use of nominated sub-contractors.

5.6 Examination of tenderers' submissions

The Employer (using any necessary expert advice) will need to satisfy himself that tenderers' submissions are sound in concept and would fulfil his needs and requirements (whether expressly stated by him or not). This is particularly important if a contractor's ideas are being incorporated into the project.

The Employer should also satisfy himself that the programming, expenditure and risk profiles are acceptable to him.

Tenderers' submissions are likely to contain matters that need to be clarified and possibly adjusted. Agreements reached at any resulting negotiations and meetings with each tenderer will need to be recorded accurately, especially in respect of any matters where a contractor's submission differs from the Employer's requirements as issued to tenderers. This is to ensure that any resulting contract will be unambiguous.

Examination of the submissions will need to cover the following

- an assessment of the contractor's prices
- review of the submitted opportunities for value engineering
- examination of the risk schedule
- review of alternatives to the tender requirements.

Following these initial assessments it will be possible to determine which tenderers will go forward into the negotiation stages and how much work and further development is required during the subsequent negotiations to enable the Target Cost to be finalised.

It is important during these negotiations that tenderer's submissions and details of any varied proposals remain confidential.

Final submission of the Target Cost will need to be in a form that will allow costs to be captured and monitored against site works once these have commenced, as set out in the information to tenderers and agreed in any subsequent tender negotiations.

5.7 Negotiation The negotiation stage will focus on more detailed discussions of the contents of the tenderer's submission and exploration of the items listed as opportunities for value engineering together with an expansion and valuation of the items in the risk schedule.

Each of the opportunities should be examined and an assessment made of the viability and effect on total cost.

The risk schedule items (these will include Employer's risks) need to be quantified and discussed to develop plans for mitigation, thereby allowing the effect on the Total Cost to be considered.

Once all these items have been tabled, negotiations to determine a final Target Cost can be concluded.

5.8 Contractor selection At the completion of the negotiations the Employer must make a final selection and the details of what will be incorporated into the Contract should be confirmed.

6 MATTERS FOR THE EMPLOYER TO DECIDE DURING THE PREPARATION OF THE TENDER DOCUMENTS

6.1 Procedures to be followed It is recommended that the procedures generally set out in the ICE publication “Tendering for Civil Engineering Contracts” be followed. This may be supplemented with a process and time period for discussions and negotiations to take place. Any stipulations or requirements in this respect should be made clear to the tenderers.

Desk studies, any preliminary design studies and any ground or archaeological investigations should be carried out prior to completion of documents so as to identify as far as possible any matters that may affect the project. Such information as is available about the Site should be made available to tenderers to enable them to assess the Contract requirements and price accordingly (and see sub-paragraph (f) below).

6.2 Appointments by the Employer Under these Conditions of Contract the Employer has to appoint an Engineer (who may be a person, firm or company) to supervise the carrying out of the Works as well as generally to administer the Contract. If the Engineer so appointed is not a single named person the Engineer has a duty, after the award of the Contract, to notify to the Contractor in writing the name of the Chartered Engineer who will act on his behalf and assume the full responsibilities of the Engineer under the Contract (see notes on Clause 2).

One of the first appointments an Employer has to make is that of the Planning Supervisor under the Construction (Design and Management) Regulations 1994 (more commonly known as the CDM Regulations) (Clause 71(1)(b)). Under these Regulations the Planning Supervisor is required, in the first instance, to manage the preparation of the Health and Safety Plan. Other duties are referred to in the note on Clause 71 of these Guidance Notes, however, as the Notes are not exhaustive, the Regulations should be studied in detail.

6.3 Decisions by the Employer During the preparation of the tender documents the Employer, generally in consultation with or with advice from the Engineer, must decide

- (a) what details are to be finalised at the time of appointment of the Contractor
- (b) the list of all documents that are part of the tender (to be included in Part 1 of the Appendix to the Form of Tender)
- (c) the duration of the Defects Correction Period if required (Clause 1(1)(g) and Part 1 of the Appendix to the Form of Tender)
- (d) any requirements where the Employer’s approval has to be obtained before the Engineer can act as required under the Contract must be listed in Part 2 of the Appendix to the Form of Tender (see Clause 2(1)(b))
- (e) whether any restrictions are to apply to sub-contracting (Clause 4)
- (f) the number and type of Drawings to be provided to the Contractor (Clause 6(1))

- (g) whether or not a formal contract agreement will be required from the successful Contractor (Clause 9)
- (h) whether a performance bond will be required from the successful Contractor, and if so its amount (Clause 10)
- (i) what information he has relevant to the Site and Works and which is to be passed to the Engineer so that details can be included in documentation prepared for the Contract (in this connection it would be advisable for the Employer to note carefully the contents of the Guidance Note for Clause 11)
- (j) the minimum level of third party insurance to be called for (Clause 23(3))
- (k) the Works Commencement Date (Clause 41(1)) if this is to be pre-set
- (l) what restrictions, if any, apply to the availability of any part or parts of the Site and/or the access to the Site and what access is to be provided by the Contractor (Clause 42(1))
- (m) whether provision should be included for Sectional completion (Clause 43)
- (n) the time that should be allowed for completion of the Works or (if appropriate) any Section of the Works (Clause 43)*
- (o) whether or not to include a contract price fluctuation clause
- (p) the level of, and any limit to, any liquidated damages to be levied for any delay in substantial completion of the Works or (if appropriate) each Section of the Works (Clause 47)
- (q) whether provision should be made for payment for materials not on Site under the vesting procedure (Clause 54(4))*
- (r) the arrangements for the Contractor's Share (Clauses 1(1)(e) and 60(5))
- (s) the minimum amount of an interim certificate to be paid (Clause 60(7))
- (t) the bank whose base lending rate is to be used in calculating any interest due on a late payment (Clause 60(9))
- (u) whether to appoint a named adjudicator to act under the provisions of Clause 66B
- (v) on the arrangements for the Principal Contractor to be appointed under the Construction (Design and Management) Regulations 1994 (or any amendment or modification to them)

- (w) the extent to which the Health and Safety Plan for the Works required under the Construction (Design and Management) Regulations 1994 (or any amendment or modification to them) and the Health and Safety Files needed to be prepared and to be available for issue to or inspection by tenderers.

*If so decided by the Employer these matters may be left for the Contractor to complete when tendering.

7 AWARD OF THE CONTRACT

After the Employer has made his choice of tenderer, he will issue a letter of acceptance to the successful tenderer (who thereupon becomes the Contractor). The documents, together with any agreed amendments and the letter of acceptance, should include all the parts of the Appendix to the Form of Tender duly completed. Any other agreements made subsequent to the submission of the tender that will form the Contract should also be included in Item 21 of Part 1 of the Appendix to the Form of Tender. These will also include the Contractor's Submission (the tenderer's submission as amended) and any agreements made during the negotiation stages.

If required the Contractor will then enter into and execute a formal contract agreement, as set out in Clause 9.

8 OPERATION OF THE CONTRACT

8.1 Practical considerations Whilst it essential to recognise that a formal contract exists, the essence must be on much closer working relationships and a pooling of knowledge and expertise. All parties need to be aware of their contractual obligations and more importantly the consequences and effects of decisions upon each other.

The key requirements are

- a spirit of mutual trust, openness and co-operation between the Employer, the Engineer, the Contractor and other members of the supply chain
- both the Employer and the Contractor must be prepared to accept the cost implications of any underspend or overspend
- there must be acceptance by both the Employer and the Engineer that costs will be incurred in rectifying remedial work prior to substantial completion and that generally this is part of the Total Cost
- there must be a common understanding at what stage the Contractor can be appointed and what mechanism (if any) will exist for payment of costs already incurred
- the Contractor must be prepared to involve the Employer's team in his sub-contract strategy and to provide full and accurate details of his costs in an agreed format
- the Target Cost should be in an agreed format against which construction costs can be captured and monitored together with agreement of the process required for the verification of costs
- a mechanism should also be agreed to monitor each month the cost forecast against the Target Cost for the completed construction of the Works and the estimate Target Cost value of the Works carried out up to the end of each month
- the Employer must be prepared to accept that there may be some adjustment to the Target Cost post contract award and that whilst the Contractor may make proposals which lead to cost savings these do not reduce the Target Cost but instead the savings form part of the share arrangement.

Two principal items require more detailed consideration

- opportunities for value engineering put forward by the Contractor
- the management of risk.

8.2 Value engineering – Contractor opportunities Providing an incentive for the Contractor to reduce costs is intended to stimulate the tabling of cost-saving opportunities. It is essential that proper processes are established to log and assess proposals in a structured, timely manner, and in particular the following matters need to be considered in detail

- the benefits of the opportunity being put forward, including overall effect on cost, whether direct or indirect – there may be design-change costs and other knock-on effects
- possible impact of design changes on the overall project
- the total effect of any opportunity
- whether or not a Target Cost adjustment is required – note the provisions of Clause 51(4).

8.3 Risk management Care must be taken during discussions on the shared management of risk. It must be remembered that the Contract defines who carries which risks and how these affect the Target Cost. The principles of shared risk management do not change the overall concepts but merely promote the early recognition of the issues and possible consequences to allow exploration of mitigation measures.

In essence the following process is promoted.

- The documenting (begins during the tender period) and tabling of a risk management schedule to allow the risks to be openly assessed, costed and proactively managed – note that the responsibilities for risk are not fundamentally changed but the way in which they are managed is more open.
- All risks should be documented and estimated costs set against them.
- Any identified risks the Employer agrees to own should be reflected in the Contract.
- An action plan must be developed to mitigate these as openly as possible by sharing ideas to ensure they are tackled in the most efficient and proactive way possible.
- Risk items and their costs are recorded as they arise to identify their overall effects.
- Target Cost and the share arrangement should be set at such levels that encourage the team to increase efficiency and drive down cost.

8.4 Joint processes The success of a target cost contract will depend not only on the accuracy and detail of the design but also on the common understanding and acceptance of each party's obligations and the use of joint systems and processes. Key elements are

- the process by which costs are captured and monitored against the completed works and Target Cost to ensure an accurate assessment of value to the Employer
- monitoring and managing the quality of work to limit the occurrence of defects and so to encourage a position of zero outstanding work at completion
- the process and methodology of jointly identifying and managing risk, including the effect on cost

- monitoring changes and managing the effects of these on Target Cost
- managing and monitoring the programme.

8.5 Adjustments to the Target Cost

The Conditions of Contract permit adjustments to the Target Cost sum and possible additional payments in accordance with the terms of Clauses 5, 6, 12, 13, 18, 31, 36, 40, 42, 51, 52 and 58.

It is essential that a risk schedule is drawn up with any Employer-owned risks identified. All risks need to be proactively managed to minimise costs and to determine any Target Cost adjustments. In order to maintain the incentive, Target Cost adjustments are made before varied work commences (Clause 52).

8.6 Cost, cost verification and value

Payment to the Contractor is on the basis of the reimbursement of allowable costs – such costs should be justified and verifiable but they exclude those items covered by the Fee (see Part 3 of the Appendix to the Form of Tender).

Cost incurred should be monitored against the estimated Target Cost value of the Works on a monthly basis.

The Fee is stated as a percentage of the Target Cost in Part 2 of the Appendix to the Form of Tender.

8.7 Price fluctuation

Unlike other versions of the ICE Conditions of Contract, the Target Cost Version does not include any version of a contract price fluctuation clause for use in the Contract as a special condition (Clause 72). The reasons for this are twofold.

- The Contractor will be paid on the basis of his costs for undertaking the Works.
- The Contractor should include an estimate of the effects of cost inflation in his Target Cost.

Under these circumstances there is no general need to make an express provision in the Target Cost Version for cost inflation. However, there might be exceptional circumstances when such a provision could be of benefit to the parties (rather than the Contractor simply including an increased risk allowance in his tendered Target Cost), such as times of high inflation or out of the ordinary cost increases on particular elements of the work (labour, plant, materials) outside the control of either the Employer or the Contractor.

In times of high inflation the parties to the Contract could agree a mechanism to deal with effects of cost inflation. General inflation based on a suitable index could be agreed and the increase between the tender base date and contract completion date could be applied to the Target Cost.

For out of the ordinary cost increases, such as rises on costs for particular materials, a similar approach could be adopted or the Employer and the Contractor could simply agree to benchmark the cost and provision at the start of the Contract and for any increase to be paid by the Employer in addition to the Target Cost.

Clarity and transparency of any agreement to share inflationary increases will be required. It will be necessary for both the Employer and the Contractor to accept that a degree of approximation will usually be inherent in whatever mechanism is included in the Contract.

8.8 Contractor's design responsibility

The Contractor's design responsibility is set out particularly in Clause 8. Value engineering proposals need to consider carefully the issue of who will be responsible for any redesign required, including the impact on other related issues.

9 ENGINEER'S ROLE IN THE TARGET COST VERSION

9.1 Introduction The Engineer's role in principle is not vastly different from that in the Measurement Version in that he is required to administer the Contract, in particular to deal with the effects of changes. There is however a different emphasis on a number of key areas in the Target Cost Version, which provides for the incentive for the Contractor to propose value engineering solutions and identify other opportunities for efficiencies. The Engineer has a more proactive role, working with the Contractor to enable the team to capitalise on such opportunities and jointly minimise the effects of risks and issues before they occur.

The role includes

- the analysis and co-ordination of value engineering opportunities – these may be use of materials, design and methods or sequences of construction – refer to Clause 8(7)(b)
- the control and co-ordination of the overall above effects on design
- the management of risk and the mitigating measures to drive down the effects of risk on cost
- the verification of cost and monitoring cost against the value of the completed works.

9.2 Preparation of documents At this early stage it is essential to give consideration to the format of the submission of the Target Cost. The Engineer should be involved in the decision of whether a one-stage or two-stage tendering process is adopted (see Section 3.2). This is to ensure that the Total Cost can be readily understood and monitored against value as construction proceeds.

The process of scheduling risk items should also be commenced – this initial work may be in parallel with tenderers, who will draw up their own risk schedule during the tender period.

9.3 Tendering and negotiation During the tender period and subsequent negotiations it is likely that tenderers will question elements of the design, materials or methods and sequences of construction in an effort to explore opportunities for reducing costs and managing risk. It should be noted that to ensure a free flow of ideas and information individual tenderers' ideas should remain confidential.

It is important during this period that the Engineer maintains control of the overall process by being clear on any further items that may be explored.

Some of the tenderers' proposed opportunities may impact on fixed aspects of the design and these may need to be examined with the Employer to confirm acceptability.

Following submission of the tender the negotiation period will enable a wider consideration of the risks and opportunities to enable a Target Cost to be negotiated. These negotiations need to be controlled by the Engineer to ensure that the Employer's requirements are covered and a competitive Target Cost is agreed.

Analysis of the final submissions by the Engineer will be required to confirm the detail which will be incorporated into the Contract. This will require presentation to and confirmation by the Employer to ensure clarity in the Contract awarded.

9.4 Value engineering – alternative proposals The Engineer will be required to review alternative value engineering opportunities produced by the Contractor. These could be tabled at any time during the tender/negotiation period or after Contract award.

An early indication of whether the proposal has sufficient potential to merit a more detailed analysis (Clause 8(7)(b) refers) should be given by the Engineer before the team should go on to develop and agree implementation of the proposal.

The main purpose of any analysis will be to ensure that opportunities can be incorporated into the Works without detriment to the Employer's fixed requirements of the project. This may require elements of redesign to be carried out by the Engineer or the Contractor, depending on who has design responsibility. The Engineer's responsibility under Clause 8(2) for the design co-ordination must also be fully considered.

Implicit within this analysis will be the need to assess the effect on costs since the main purpose of the submission of opportunities will be to reduce the cost of the project in relation to the Target Cost. It is essential that the Engineer understands his role in this and the authority with which he can act. He will need to ensure that the effects on overall cost direct and indirect (such as additional preliminary costs) are properly considered before approval in principle is given. Also to be considered are the long-term effects, e.g. maintenance.

The emphasis must be on maintaining or increasing the Contractor's incentive, which requires early agreement of opportunities and associated costs. Clause 51(3) "Variations proposed by the Contractor" and Clause 52 "Valuation of variations ordered" should also be noted in this respect.

9.5 Risk management Realistic ownership and successful management of risks may provide the biggest area for cost savings. This can only be achieved with a joint approach and a commitment to openly register, quantify and estimate the cost of the risk items to allow a plan for mitigation to be drawn up.

Whilst emphasis must always be on the basis of a joint approach to pool ideas and explore possibilities, all parties still need to be fully aware of who carries the risk of a particular item and what impact each party can have if the process is to work effectively. The Engineer should ensure that this is the case.

The Engineer should establish a formal procedure to quantify risks and provide an open forum to clearly identify who will manage these risks and how. This process must begin during the tender period and continue through negotiations and after award. The process itself must be properly managed and co-ordinated if the drive to manage risks and to reduce cost is to be maintained. A proactive approach to estimating costs is required in advance, before any work is carried out. In the case of an Employer-owned risk, Target Cost adjustments (if any) can be made early thus allowing the incentive to be kept alive. Clause 52(1) places the emphasis firmly on estimates being agreed in advance and the Engineer should confirm any variations timeously.

See Sections 8.3 and 8.5 of these Guidance Notes on risk management processes.

9.6 Cost verification, valuation and certification

Any move from an admeasurement approach to cost reimbursement cost provides a significant shift in emphasis. The processes by which costs are recorded, assigned to elements of the Works and verified must be jointly agreed and understood.

Clause 8(7) places responsibilities on both the Contractor and the Engineer to ensure that the work is carried out in an economic and efficient manner. This may well encourage a transparent open-book approach that can be verified readily (Clause 8(8)), but whatever process is adopted should be to the satisfaction of both and have due regard to commercial confidentiality.

Payment under the Target Cost Version is based on the reimbursement of cost properly incurred (Total Cost). Clause 60 requires the Contractor to submit monthly statements showing current Total Cost, estimated current Target Cost value and forecast of Total Cost to the completion of the Works.

For the Engineer to certify payment he will be required to verify the costs incurred and assess the Target Cost value of the work completed. This will also include an assessment of the Fee to date.

Whilst there is no bill of quantities to monitor against, the Target Cost should have an agreed breakdown or activity schedule (Item 6 of Part 2 of the Appendix to the Form of Tender). If payment is to be made at the end of the month against the completed activities only, the breakdown structure should reflect this more rigid discipline. If, however, partially completed activities are to be included in the monthly measurement then the degree of completion should be decided in order to minimise the amount of work involved in carrying out the measurement.

Familiarity with Clauses 1(1)(j) (Disallowed Cost), 8(7) (value engineering and economic working) and 49(3) (cost of work of repair of defects) is required along with the detail in the Appendix to the Form of Tender.

There is no provision for retention as it is not regarded appropriate for this form of contract (see Appendix 4 to these Guidance Notes should an Employer insist on a retention).

9.7 Cost monitoring and control

The Engineer should monitor the costs against the breakdown of the Target Cost provided in the agreed format. The programme approved by the Engineer should reflect the breakdown without necessarily including every item in the schedule. This programme can then be used as one of the ways to monitor progress. It is important to establish early systems to monitor cost against value and establish a monitoring of progress. This may be done in a number of ways, depending on the scope and value of the Contract, but whichever processes are chosen they should be agreed between the parties.

Clause 60(4) requires that as well as issuing his monthly payment certificate, the Engineer provides a statement of the Target Cost for the completed Works. The Engineer should review the information provided by the Contractor under Clause 60(1) together with the progress achieved against the programme. The amount of work still to be undertaken and the difference between the sum certified and the Target Cost value of the Works carried out up to the end of that month should be reviewed to give an indication of whether the Contract is likely to be delivered below, at, or over the Target Cost and by approximately how much.

9.8 Specification and quality of work

One of the fundamental changes in the approach to the Engineer's role is that of dealing with work at variance with the Specification. The Contractor is not entitled to claim costs for defective work which is required to be rectified after substantial completion but it is almost inevitable that some defective work will arise during the period on Site.

Instructing work to be re-done, modified or changed will have an impact on the Total Cost of the project (except those works covered by Clauses 1(1)(j) and 49(3)). 'Defective' work will need to be assessed on an individual basis to determine whether or not it will materially affect the outcome of the project. It may be more beneficial to the Employer to accept work which differs from the specification rather than to require work to be re-done. Such compromise is not unique to this form of contract.

9.9 Contractor's Share

The Contractor's Share is defined by a calculation and determines the amount (positive or negative) of the Contractor's incentive payment.

Clause 60(5) requires the Engineer to assess the Contractor's Share and to include the amount in any certificate to be issued after the date of substantial completion or in any month where the Total Cost exceeds the current Target Cost in line with details provided in the Appendix to the Form of Tender. See also Appendix 2 of these Guidance Notes for a worked example on the Contractor's Share.

10 NOTES ON SPECIFIC CLAUSES

Clause 1(1)(j): Disallowed Cost The bona fide mistake has to be distinguished from negligence, which would be considered as a Disallowed Cost. The Contractor needs to know that he is not going to be penalised for a bona fide mistake. The Employer needs to know that he is not going to suffer because the Contractor does something negligently. This means there will be subjective judgements during the progress of the Works. (See also Guidance Notes on Sections 3.6 and 3.8.)

The aim of the Contract is to incentivise the Contractor to minimise wastage of both materials and resources. However some wastage is inevitable and it will be included in the Total Cost but not in the Target Cost.

Clause 1(1)(l): Employer The Employer has a number of duties to perform under the Contract.

If a formal contract agreement (Clause 9) is required by the Employer he is responsible for its preparation. The Employer also has responsibility for approving the Contractor's performance security (Clause 10(1)). For his own protection he should also check the terms and coverage of the Contractor's insurance policies and verify that premiums have been paid (Clauses 25(1) and (3)).

The Employer is responsible for ensuring that the Contractor will be given possession of and access to the Site to enable him to commence and proceed with the Works. Any restrictions must be set out in the Contract documents. The Employer is also responsible for ensuring that payments are made to the Contractor by the final date for payment following certification by the Engineer.

The Employer has the power, in certain circumstances, to terminate the employment of the Contractor, but note that the Contract remains in force (Clause 65(1)).

Clause 1(1)(o): Fee The constituents of the Fee are stated in Part 3 of the Appendix to the Form of Tender. The Employer may state how the Fee is broken down for the purposes of assessing the tenders. However, the Contractor may add into Part 3 any items he chooses in the make-up of his Fee.

The Fee is expressed as a percentage of the Target Cost, which means that the sum finally due to the Contractor will depend on the final Target Cost that will include any variations. If it is preferred to have the Fee stated as a lump sum, then the appropriate percentage must be calculated and inserted in Part 2 of the Appendix to the Form of Tender and a document stating any conditions on that lump sum included in Item 21 of Part 1 of the Appendix to the Form of Tender.

As it may not be appropriate to vary the Fee with every minor change to the Target Cost at the same time it is beneficial to vary the Fee for major changes. A mixture of both may be used. This would be expressed as a lump sum Fee for the Target Cost +/- 10% (say) with a percentage Fee applicable to increases in the Target Cost in excess of 10%.

It may not be appropriate to provide linear Fee reductions for decreases (beyond the 10%) in the Target Cost. This could be addressed by

- reducing the percentage applicable to Target Cost decreases

- making the lump sum Fee applicable to +10%/–20% (say)
- making Fee reductions applicable to Target Cost decreases subject to negotiation and agreement.

Clause 1(1)(v): Target Cost As each project is unique, the relevant breakdown structure and prices and/or rates should be identified in Item 6 of Part 2 of the Appendix to the Form of Tender. This may lead to resource costing the programme as a simple way to assess the monthly statement. This breakdown structure is essential for the purposes of assessing tenders and assessing any variations on the Target Cost. As an aide, the Employer should provide as Part 4 of the Appendix to the Form of Tender an outline activity schedule, which would not be intended as a definitive document. Any specific items of cost, Provisional Sums or Prime Cost Items that are to be either included or excluded from the Target Cost should also be identified in Items 19 and 21 of Part 1 of the Appendix to the Form of Tender.

Clause 1(1)(x): Total Cost The Contractor is paid his costs (less any Disallowed Costs), making this in effect a cost-reimbursable contract. For the main differences and benefits of a target contract see the Guidance Notes on Section 3.

Clause 1(6): Communications in writing As more communications are being carried out using electronic means, a “tamper proof” IT system is recommended to record all communications. In the absence of such a system, the parties should adopt a process that enables electronic communications to be tracked.

Clause 2: Duties and authority of Engineer The Engineer is appointed by the Employer to supervise the Contract, and to that end the Engineer has conferred on him by both Parties the powers and duties vested in him under the Contract.

It is in the interests of both the Employer and the Contractor that any queries or problems that arise during construction should be resolved expeditiously. For this reason the Contract requires that the Engineer's function shall be exercised by a single named Chartered Engineer even though the appointed Engineer may have been a person, firm or company.

If Clause 2(2)(a) applies and/or Clause 2(2)(b) could apply and the Employer decides that it will be necessary for a person who is not a Chartered Engineer to be appointed to assume the full responsibilities of the Engineer under the Contract this must be drawn to the attention of contractors when tenders are invited.

Good practice dictates that the Engineer, when carrying out his functions under the ICE Conditions of Contract, should keep the Employer informed of progress, performance, variations and all other relevant matters.

Clause 2(4): Delegation by Engineer The Engineer may delegate any of his functions to others, except those specified in Clause 2(4)(c). Both the Engineer and the Engineer's Representative may appoint people to assist them to carry out their duties. The Contractor must be notified of the names and functions of these assistants. This means that the Engineer and the Engineer's Representative can take advice from appropriate experts and may delegate part or parts of their responsibilities to such experts under the terms and limitations of the Contract.

Clause 2(7): Dissatisfaction The Engineer should be given the opportunity to resolve any issues between the Contractor and the Engineer's staff before the matter is dealt with under Clause 66.

Engineer's independence and impartiality

The Engineer acts as the agent of the Employer to supervise the construction of the Works and to satisfy himself that the Works are being constructed in accordance with the Contract. Of no less importance are those functions which require the Engineer to make decisions regarding any changes to the Works that need to be made in the course of construction or which arise from the allocation of risks. In all aspects of his duties under the Contract both the Engineer and the Engineer's Representative are required by Clause 2(8) to act in accordance with the terms of the Contract, impartially towards both parties to the Contract, having regard to all the circumstances.

The Engineer has the duty to exercise his professional judgement honestly and impartially to decide such matters as unforeseen conditions (Clause 12), extensions of time (Clause 44) and the valuation of variations to the Works (Clause 52) and to formally decide any issues where the Contractor is dissatisfied with an action of an assistant of the Engineer's Representative or the Engineer's Representative himself (Clause 2(7)).

Provision is made in the Conditions of Contract for the Employer to stipulate that his approval must be obtained before the Engineer exercises his authority on specific matters. The particular matters on which the Engineer can only so act after receipt of approval from the Employer must be clearly set out in Item 15 of Part 1 of the Appendix to the Form of Tender (Clause 2(1)(b)) so that the Contractor is aware of the restrictions imposed at the time of tender.

It follows that if the Employer has placed restrictions on the powers of the Engineer before the Contract is made that prevent the Engineer from acting without prior approval, the responsibility for acting within the terms of the Contract is assumed by the Employer. Any action or any failure to act on his part which is not within the terms of the Contract may render him liable for damages due to breach of contract.

Clause 3(2): Rights of third parties

By this Clause the acquisition of rights by third parties is excluded.

Clause 4: Sub-contracting

Clause 4 recognises the practice in the industry of the use of sub-contractors and self-employed labour. In general the Contractor should be free to choose his own sub-contractors. The intention of this type of contract is to involve the Contractor at an early stage and allow the Employer (and his Consultants) and the Contractor to liaise on the packaging up of sub-contract elements and the terms under which they are to be sub-let.

There are two aspects to Clause 4(1). The first allows the Employer, at the tender stage, to advise the Contractor via Item 4 of Part 1 of the Appendix to the Form of Tender of those aspects of the work which the Contractor must not sub-contract to others without the specific authority of the Engineer.

The second aspect requires the Contractor to advise the Engineer of the name and address of a proposed sub-contractor as soon as the sub-contractor is appointed and in advance of that sub-contractor's entry on to the Site or start of work. The Contractor should take care not to create a binding obligation to his sub-contractor until he is sure the Engineer will not object.

Under Clause 4(2) the Contractor is fully responsible for all sub-contracted work and for the acts, defaults and neglects of any sub-contractor or his employees. The Engineer's acceptance of a sub-contractor in no way relieves the Contractor of this responsibility.

The provisions of Clause 4(3) in respect of sub-contracting firms give the Engineer power to require the removal from Site of sub-contractors or other persons in the circumstances described.

Clauses containing provisions that could relate to design work that may be carried out by a sub-contractor are as follows.

- Clause 4(1) requires notification of any design sub-contractor upon his appointment.
- Clause 4(3) covers the removal from the Site of any sub-contractor in the circumstances described.
- Clause 6(1) covers the supply of Drawings, Specifications and other documents.
- Clause 6(2) deals with the question of the copyright of Drawings, Specifications and other documents provided by the Contractor.
- Clause 7(2) covers the supply of further documents if required by the Engineer.
- Clause 8(2) deals with the question of design responsibility (see also note against Clause 8(2) below).
- Clause 8(3) includes provisions for the submission of the Contractor's design information to the Engineer for acceptance.
- Clause 8(4) deals with the question of responsibility following approval and also makes it clear that the Engineer is responsible for the integration and co-ordination of the Contractor's design with the rest of the Works.
- Clause 8(5) covers the provision of operation and maintenance manuals.
- Clause 16 contains provisions similar to those in Clause 4(3) and covers the dismissal from the Site of individuals in the circumstances described.

The above provisions cover the employment of sub-contractors in all normal circumstances. If an Employer wishes to exercise total control over the selection of a sub-contractor for employment by the Contractor for part of the Works and subject to any applicable procurement legislation, the Contract may simply specify the use of a particular supplier or sub-contractor and the Contractor would allow for this in his tendered rates and prices.

Nominated sub-contractors

As the Contractor has a period of negotiation with the Employer and the Engineer prior to the award of Contract, it is unlikely that the provisions for a Nominated Sub-contractor as in the Measurement Version 7th Edition will apply. The Contractor will clearly have an important input as

to who will be employed as a sub-contractor. Should a nominated sub-contractor be necessary then the necessary contractual arrangements should appear as a special condition.

Clause 8(2): Design responsibility The Contractor will not generally be responsible for the design or specification of the Permanent Works, but provision is made whereby the Contractor can be required to design part or parts of the Permanent Works. Under the provisions of Clauses 8(2) and 58(3) the Contractor can be responsible for the design or specification of Permanent Works only to the extent that the Contract expressly so provides.

If the Contractor is made responsible for the design of any part or parts of the Permanent Works, the exclusion of liability for design under Clause 20(2)(b) will, to that extent, not apply and responsibility for the design of such part or parts of the Works will be placed on the Contractor under Clause 20(1) (Care of the Works).

Clause 8(5): Operation and maintenance instructions The Certificate of Substantial Completion (Clause 48) does not necessarily require the operation and maintenance manuals to be ready at the date of substantial completion. They must however be completed by the end of the Defects Correction Period. It should be made clear in the Specification if any operation and maintenance manuals are required to be completed at the time of substantial completion so that the Employer is in a position to use the Works as intended.

Clause 8(7)(b): Value engineering and economical working The Contractor should endeavour to suggest changes to the Works in order to reduce overall costs (see notes on Clauses 51 and 52). The benefit to the Contractor is that the Contractor's Share will increase.

Professional indemnity insurance

Some standard Contractor's All Risks insurance policies (provided as required under Clause 21(1) for the insurance of the Works) will exclude all risks associated with the design of any part of the Works or the provision of interpretation or advice. Other such policies provide cover against loss of or damage to elements which are properly designed if they are lost or damaged as a result of the defective design of another element. Damage to parts defectively designed will not usually be covered.

If design responsibility is excluded under the Contractor's standard insurance of the Works policy the Contractor must consider whether to accept any liability resulting from a failure of design himself or whether to cover it by insurance, or if he employs a separate design engineer whether or not he should require that design engineer to carry insurance against any loss arising as a result of a design failure. In either event advice should be sought from the insurers.

In the absence of special arrangements (such as project insurance taken out by the Employer) cover against damage to a defectively designed part of the Works can be provided only by a professional indemnity insurance policy. Under the Contract, liability for a design failure will still lie with the Contractor, but if the Employer requires the risk to be covered by insurance this requirement needs to be set out clearly in the instructions to tenderers and should state the minimum cover to be provided by the policy. The tenderers can also be asked to indicate any excess (or deductible amount) on their professional indemnity insurance policy.

Depending on the way any Contractor's design work is carried out (either by the Contractor in-house or by a separate design engineer) different situations may exist. If the Contractor has a current professional indemnity insurance policy it will normally provide cover to the Contractor up to the policy limit whether the design is carried out by the Contractor in-house or is sub-let to a reputable design engineer. Under the provisions of Clause 4(2) the Contractor remains fully responsible for all sub-contracted work.

Particular points to be noted by Engineers and Employers are as follows.

- Under the second part of Clause 8(2) it is made clear that the Contractor must exercise all reasonable skill, care and diligence in his design.
- Under Clause 4(1) notification has to be given to the Engineer of the name and address of any sub-contractor to whom any design work is entrusted upon appointment.
- The requirement that liability for a failure of design be covered by insurance can be written into the Contract if the extent of design by the Contractor warrants this.
- Professional indemnity insurance policies are annual policies which have to be renewed every year and provide cover only while they remain in force. Since the cover under such a policy applies only to claims made in that year and not to those arising from negligence in that year which gives rise to a claim in a later year, the Contractor or design sub-contractor needs to establish the duration of the insurance required.

Clause 10: Performance security Generally bonds may be considered unnecessary for this type of Contract. Requiring a bond shows a distrust of the Contractor's ability to carry out the Works and is contrary to the spirit of mutual trust and co-operation intended by this form of Contract. The pre-qualification process should determine the financial viability of the Contractor. As the Employer ultimately pays for the cost of the bond, he could carry out a risk assessment to determine if the bond is necessary. If a bond is called for then a lump sum item should be identified in the Target Cost for the provision of the performance security required under Clause 10(1). For guidance on the ICE Form of Default Bond see Appendix 1 of these notes.

Clause 11: Provision and interpretation of information Employers seek certainty of expenditure on a project, and to assist in this objective it is beneficial to both the Employer and the Contractor for all information held to be provided at tender stage. The effect of Clause 11(1) is that information obtained by or on behalf of the Employer relevant to the Works shall only be taken into account to the extent that it was made available to the Contractor before the submission of his tender. The interpretation of all such information remains the Contractor's responsibility. If the Employer fails to make available such relevant information at the proper time he cannot later argue that it ought to have been known to the Contractor. The Contractor would, however, always be expected to have obtained for himself any information that was otherwise readily available and if possible to have visited the Site (Clauses 11(2) and 11(3)).

Clause 12: General *Adverse physical conditions or artificial obstructions*

It is impossible for either of the contracting parties to foresee every circumstance that may affect the Works. It is, however, an essential feature of these Conditions of Contract that the Contractor accepts full responsibility for physical conditions or artificial obstructions that could reasonably have been foreseen by an experienced contractor. It is the Contractor's obligation to carry out the Works and he must therefore propose any measures to deal with the conditions or obstructions encountered, for the Engineer's consent.

The Parties rely on the Engineer's assessment of the effect of the circumstances encountered but the consequences of any unforeseeable risks have to be dealt with separately in accordance with the terms of the Contract. Such circumstances may result in an increase in the Target Cost and/or extra time becoming due to the Contractor.

It is clearly in the Employer's own interests to have an adequate ground investigation carried out before tenders are invited.

Clause 12: Adverse physical conditions and artificial obstructions

Clause 12(1) requires the Contractor to give written notification to the Engineer as early as is practicable of any physical condition or artificial obstruction encountered which the Contractor considers he could not have reasonably foreseen whether or not there is any intention to claim for an increase in the Target Cost or an extension of time. Such notification must give details of any anticipated effects, the measures being taken or proposed and their estimated cost and any consequential delay and/or interference with the construction of the Works.

Notification of the intention to claim for an increase in the Target Cost or an extension of time is still required and can be made at the same time or as soon as is reasonable thereafter (Clause 12(2)).

Following receipt of written notification, the options open to the Engineer under Clause 12(4) include requiring the Contractor to investigate any alternative measures that may be available for dealing with the situation.

Due to the nature of adverse physical conditions and artificial obstructions the work to remedy the problem is often required to be carried out urgently. It may not be possible to agree the cost of the work in advance of it being carried out in accordance with Clause 52. By agreement the variation may be valued based on contemporaneous records.

Clause 14: Programme to be furnished

Clause 14 calls for the submission of a programme and general method statements for construction within 21 days after the award of the Contract (Clause 14(1)). Such a programme and method statements are intended as a management tool to indicate to the Engineer when specific areas of the Site and/or additional information and/or Drawings will be required by the Contractor and to enable an assessment to be made of any failure by the Contractor to maintain the required rate of progress on the Contract (Clause 46(1)). Provision is made for the Engineer to accept the Contractor's programme (Clause 14(2)) and accept the method statements (Clause 14(7)), but not for him to approve them.

After the Contractor has submitted his programme and/or method statements the Engineer has 21 days in which to accept them, reject them or request further information.

In respect of the programme the Contractor then has 21 days in which to submit a revised programme or provide the further information requested. When the Contractor submits a revised programme a further 21-day period is allowed for acceptance or rejection. If, after submission by the Contractor of a Clause 14 programme, the Engineer fails to respond within the 21 days allowed the programme is deemed to have been accepted as submitted.

The same specified restrictions do not apply in the case of method statements and methods of construction (Clause 14(6)) since it may well take longer than a predetermined time to provide revised calculations, etc., or verify that they are in accordance with the Contract.

It is always possible to include in the documentation for a contract a programme or method statement for carrying out the whole or any part of the Works. Similarly the Contractor can be required to submit his programme or method statement with his tender. Such programmes and method statements could then become contractual requirements which the Engineer may not change without the agreement of the parties. Should any outside influence prevent compliance with any such programme or method statement the responsibility for the delay that occurred or for any increase in costs arising as a result of the delay could be the responsibility of the Employer. It is recommended that programmes and method statements are not contractual documents.

Sanction for not providing a programme

A programme is fundamental to the good management of a project as it enables the Employer to forecast his expenditure and the Contractor to resource his work in the most efficient manner. Persistent failure by the Contractor in providing a programme could constitute a breach of contract under Clause 65(1)(i) and the Contractor would have to suffer the consequences of this failure.

Clause 16: Removal of Contractor's employees

The provisions of Clause 16 in respect of individuals give the Engineer power to require the removal from Site of any of the Contractor's employees in the circumstances described.

Clause 19: Safety and security

Responsibility for safety is imposed by the Health and Safety at Work etc. Act 1974 and other statutes. It would therefore be inappropriate and could be misleading for such responsibility to be spelt out in the Conditions of Contract because the parties cannot, by their Contract, alter or avoid their respective statutory responsibilities or exclude the Health and Safety Executive's powers of intervention.

If and to the extent that special safety provisions are required in connection with a specific project, such provisions can properly and appropriately be included in the Specification (which, like the Conditions of Contract, is itself a Contract document) or in the Health and Safety Plan.

Clauses 20 to 25: General

Care and insurance of the Works

Attention is drawn to the fact that the liability clauses – Clause 20 in respect of the Works and Clause 22 in respect of third party responsibilities – place full responsibility on the Contractor (save, in respect of the Works, for the Excepted Risks listed in Clause 20(2) and, in respect of third party liabilities, for the exceptions listed in Clause 22(2)).

Clauses 21 and 23 provide safeguards for the Employer by ensuring, through the insurances that the Contractor is required to provide (up to the limits of indemnity stated in the policies), that the Contractor will be able to meet any obligations that arise and for which he is responsible under Clauses 20 and 22.

The Contractor may have a limit of indemnity on his third party policy that is in excess of the limit stated in the Contract. This would provide the Contractor (and therefore the Employer) with additional protection because the Contractor's liability is not limited to the minimum amount stated in the Contract. However, the Contractor in all cases remains liable for the total amount should any claim be settled at an amount in excess of the minimum amount of insurance cover required under the Contract (Clauses 21(1) and 23(3)).

The Contractor's responsibility to carry employer's liability insurance is a statutory obligation and thus needs no provision in the Conditions of Contract.

No reference is made to professional indemnity insurance for any design work required under the Contract. Design of Temporary Works that is incidental to work being carried out under the Contract is normally covered under the policy provided for the insurance of the Works (Clause 21). Design liability for any part of the Permanent Works, if it is to be covered by insurance, would have to be covered under a separate special professional indemnity insurance policy agreed by the Parties (see note against Clause 8(2)).

Clause 20: Care of the Works Under Clause 20(1)(a) the Contractor is made fully responsible for the care of the Works and for all materials, plant and equipment for incorporation therein from the Works Commencement Date (defined in Clause 41(1)), normally until substantial completion.

Under Clause 20(1)(a) the Employer takes over full responsibility for completed work from the date of issue of a Certificate of Substantial Completion. It is therefore essential for the Engineer to give the Employer advance notice of his intention to certify completion so that any requisite insurance can be arranged.

Clause 20(3): Rectification of loss or damage By increasing the Target Cost for the cost of rectifying loss or damage due to any of the Excepted Risks in Clause 20(2) the Contractor's Share is not altered for the rest of the Works.

Clause 21(1): Insurance of the Works etc. The Contractor's insurance policy covering the Works must be for the full replacement cost plus an additional 10% to cover additional costs that may arise incidental to the rectification of any loss or damage, but there is no requirement under the Contract for the Contractor to insure his own plant and equipment.

The Contractor may, for his own protection, have some insurance cover for his own plant and equipment against loss through accident, fire, theft and the like.

Clause 25(1): Evidence and terms of insurance It is in the Employer's interests that insurance policies taken out on his behalf are verified as meeting the requirements of the Contract and that there is evidence of payment of premiums.

- Clause 25(2): Excesses** The excesses carried by a Contractor on his insurance policies must be disclosed at the time of tender by his entering the relevant amounts in Item 3 of Part 2 of the Appendix to the Form of Tender. The excesses (or uninsured losses) that the Contractor carries under his insurance policies are the Contractor's own responsibility. Although it should be verified that the excesses quoted are not too high for a particular project, it would not be appropriate for them to be queried unless they appear to be unduly large in relation to the known resources of the Contractor.
- Clause 26: Giving of notices and payment of fees** Unless indicated otherwise in the Contract, all notices will be given by the Contractor and any fees required will be paid by the Contractor with the cost being reimbursed under Clause 26(2).
- It is not intended that the Contractor should be responsible for obtaining any planning permission in respect of the Permanent Works or for any Temporary Works designed by the Engineer in their designated positions on Site.
- If any planning permission as required under sub-clause (3)(c) of this Clause has not been obtained prior to commencement of work on Site or in due time the warranty given ensures that the Contractor will be granted an extension of time for completion of the Works and the Target Cost shall be increased should there be any delay in the granting of the planning permission required.
- Clause 27: New Roads and Street Works Act 1991** The Contractor must be given full details of all conditions or limitations imposed by the highway authority or by any other responsible authority when a licence is granted or consent is given for the carrying out of street works covered by the Act. Other authorities may include but are not limited to traffic, bridge, sewer and transport authorities.
- Statutory obligations arising under the New Roads and Street Works Act 1991 may extend beyond the date of issue of the Defects Correction Certificate. Any reinstatement of road surfaces will have been inspected by the Engineer but the Employer's liability for this work may continue for several years. If problems arise the Employer may have to go back to the Contractor to resolve them.
- Clause 28: Patent rights** Any Contractor's submission with his tender or during the Contract should identify any patented items of materials or plant for incorporation in the Works and that could involve the Employer in an ongoing obligation.
- Clause 29: Interference with traffic and adjoining properties** Any requirements already established for the control of traffic or in relation to access to properties should be set out in the specification.
- Clause 36(1): Quality of materials workmanship tests and samples** Quality Assurance procedures are not referred to as such in these Conditions of Contract. It should be made clear in the tender documentation if they are required and details should be given in the Specification.
- Clause 36(2): Cost of tests and samples** If a test or sample is required as a consequence of the Contractor's default or failure to carry out his obligations then the Target Cost is not increased but the Contractor's cost is included in the Total Cost. If a test or sample is required as a result of the Contractor's negligence then the Contractor's cost is a Disallowed Cost.

Clause 39(2): Default of Contractor in compliance In the unlikely event of the Contractor defaulting on complying with an instruction from the Engineer to remove unsatisfactory work or materials, the Employer may employ others to carry out the work. There is no change in the Target Cost. The Contractor will be charged the full cost of doing the work.

Clause 41: Works Commencement Date The Works Commencement Date is defined as one of three alternatives and is the starting date for the time allowed for the completion of the Contract, irrespective of when work actually commences.

Clause 43: Time for completion Either the Employer or the Contractor is required to state in Part 1 or Part 2 respectively of the Appendix to the Form of Tender the completion time for the whole of the Works or completion times for each of the separately identified Sections comprising the whole of the Works.

Where completion times are stated for separately identified Sections of the Works it is necessary to ensure that the Sections so identified plus “the Remainder of the Works” cover the whole of the Works.

Clause 44: Extension of time for completion Under Clause 44(2) the Engineer must make an assessment of the delay suffered by the Contractor upon receipt of any particulars of delay under Clause 44(1). In addition, in the absence of any notification, the Engineer may make a similar assessment if he considers that the Contractor has in fact suffered a delay. In either event the Contractor must be notified in writing of the Engineer’s assessment.

This requirement is included to ensure the timely recording by the Engineer of any delay suffered or claimed to have been suffered by the Contractor, but there is no need for any decision to be made at that time as to whether any extension of time for completion of the Works should be granted.

Under Clause 44(3) the Engineer has a duty to grant an interim extension of time for completion as soon as he considers that such an extension is due. This is to ensure that the Contractor does not incur an increase in the Total Cost by accelerating progress unnecessarily due to doubt as to whether or not an extension of time will be granted. If a claim for an extension of time is rejected the Contractor must be notified without delay.

Clause 46: Rate of progress If the Contractor’s progress is too slow to achieve completion by the due date then he is required to expedite his rate of progress. Any increase in cost will be part of the Total Cost but the Target Cost will not be changed. If, however, the Employer requires that the Works be completed earlier than the time for completion set by or arising under the Contract, acceleration measures can be agreed between the parties and the Target Cost adjusted accordingly.

Clause 47: Liquidated damages for delay in substantial completion Clause 47 covers in detail the different situations that can exist either in dealing with the whole of the Works (Clause 47(1)) or where the Works is divided into Sections (Clause 47(2)). There is also provision for a reduction in the damages payable should any part of the Works or part of a Section of the Works be certified as complete.

When the Works is divided into Sections, Item 11 of Part 1 of the Appendix to the Form of Tender states the liquidated damages payable should completion of any of the separately identified Sections of the Works (including the Remainder of the Works) be delayed.

It must be noted that the liquidated damages for delay quoted in Item 11 of Part 1 of the Appendix to the Form of Tender are alternatives and that if completion dates are quoted or required for Sections then liquidated damages should not be quoted for failure to complete the whole of the Works within the overall time for completion.

Provision is made in Clause 47(4)(a) for a limit to be placed on liquidated damages if this is thought to be appropriate.

Clause 47(4)(b) provides that if no sum or sums for liquidated damages are quoted in the Appendix to the Form of Tender then no damages, whether liquidated or unliquidated, will be payable.

Clause 47(6) sets out the procedure to be followed if, after liquidated damages have become payable, the Engineer issues a variation order or accepts that a Clause 12 situation or any other situation outside the control of the Contractor exists which in either event will involve further delay to that part of the Works.

In such a case the Employer's entitlement to liquidated damages is suspended until the further delay comes to an end. Both the commencement and termination of such further delay must be notified in writing by the Engineer.

- Clause 48(1): Notification of substantial completion** The final tests referred to under Clause 48(1) may include any performance or similar tests set out in the Specification.
- Clause 48(2): Certificate of Substantial Completion** Both parties should be clear as to what is required for the issue of a Certificate of Substantial Completion, including any documentation and manuals. Any necessary operation and maintenance manuals must be provided in sufficient detail to enable the Employer to take over and run the Works. Any particular requirements for such manuals should be set out in the Specification.
- Clause 48(3): Premature use by Employer** If the Contractor requests a Certificate of Substantial Completion for a part or a Section of the Works which the Employer has used prematurely then the Engineer shall issue a Certificate of Substantial Completion on the basis that any outstanding work or defects will be completed during the Defects Correction Period. In this instance the Contractor is paid for completing the work and rectifying defects.
- Clause 48(4): Substantial completion of other parts of the Works** The Certificate of Substantial Completion for a part of the Works should only be issued with the consent of the Contractor on the understanding that any outstanding work or defects will be completed during the Defects Correction Period. In this case the Contractor will be paid for any outstanding work but is not paid for rectifying defects in this part of the Works, as it should be delivered defect free. It is therefore up to the Contractor to assess when he requests the Certificate to be issued.
- Clause 49: Outstanding work and defects** It should be appreciated that there is a change in accounting procedures from the date of substantial completion of either a part of the Works or the whole of the Works. There will be no payments for correcting defects in the completed Works as they are Disallowed Costs. However the provisions of Clause 48(3) do apply.

It should be noted that the ICE Conditions of Contract are not suitable without amendment for landscaping work or tree planting, etc., for which an extended period of care and maintenance is usually required.

If a contract let under the ICE Conditions of Contract does include an element of landscaping work or tree planting it must be made clear that any extended care and maintenance requirements that have to continue beyond the end of the Defects Correction Period will not be considered as defects to be remedied before the issue of the Defects Correction Certificate.

Clause 51(1): Ordered variations Clause 51(1) specifically permits the ordering of variations during the Defects Correction Period. In the valuation of such variations Clause 52(1) permits account to be taken, for example, of the fact that by then the Contractor may well have left the Site and may need to return to it specially.

Clause 51(3): Variations proposed by the Contractor One of the objectives of a target cost contract is that the Contractor should be seeking ways of reducing the cost to the Employer and thereby increasing his own benefit through the Contractor's Share. It therefore should be made clear at the outset of any discussions whether or not a particular proposal has originated from the Contractor. If the Contractor is to be encouraged to seek savings in time and/or cost he is entitled to a just reward.

In the Target Cost Version, where variations proposed by the Contractor are accepted and provide a cost saving, there is provision in Clause 51(4) for sharing the consequent effects between the Employer and the Contractor. As the Target Cost is not adjusted there is therefore the potential for the Contractor's Share to be increased. The Target Cost is adjusted for other variations ordered by the Engineer.

Clause 52: Valuation of ordered variations Clause 52 makes it clear that all efforts should be made to agree the value of a variation and the delay consequences before the varied work is carried out. Whenever the Target Cost is being adjusted reference should always be made back to the original composition of that part of the work breakdown structure to avoid duplication.

In situations where an alteration has already been ordered the Contractor is still required to submit his quotation for the change for acceptance or negotiation with the Engineer. If no agreement is reached the Engineer notifies the Contractor of the figure he considers reasonable for adjustment of the Target Cost based either directly (Clause 52(3)(a)) or indirectly (Clause 52(3)(b)) on the Target Cost breakdown structure set out in Part 2 of the Appendix to the Form of Tender. If the Contractor remains dissatisfied he may pursue this under Clauses 53 and 66.

It should be noted that the Engineer is not debarred from requesting that a variation is valued taking into account that there will be no extension of time granted. In this case the valuation and any acceleration costs should be identified separately.

Clause 53: Additional payment The procedure for requesting adjustment to the Target Cost under the Contract is set out in detail in Clause 53. The Contractor's right to such adjustment is subject to his providing details of his request to the satisfaction of the Engineer.

Clause 54: Non-removal of materials and Contractor's Equipment It should be noted that there is no provision for goods or materials owned by the Contractor becoming, when on Site, the property of the Employer.

**Clause 58(1) and (2):
Use of Provisional Sums
and Prime Cost Items** Should any Provisional Sums or Prime Cost Items be included in the Contract, they can only be used with the consent of the Engineer. Valuation of such work will generally be in accordance with Clause 52 if an estimate has not been accepted. Usually Provisional Sums are excluded from the Target Cost because the work to which they refer may never be carried out. However Prime Cost Items are intended to be carried out so the value is included in the initial Target Cost.

It should be made clear at the tender stage what Provisional Sums and what Prime Cost Items are included in or excluded from the Target Cost by the Employer inserting the information into Items 19 and 21 of Part 1 of the Appendix to the Form of Tender. These may have a bearing on the percentage Fee that is to be stated in Item 2 of Part 2 of the Appendix to the Form of Tender and also on the Contractor's Share. If these items are included in the Works post award of Contract then the Target Cost requires to be adjusted accordingly, also taking into account the amount that may already have been included in the Target Cost.

Clause 60: General *Certificates and payment*

The payment provisions take account of the requirements for the Housing Grants, Construction and Regeneration Act 1996 with respect to timing and the provision of information. The Target Cost requires a relevant breakdown structure in order to assess the value of the monthly statements. See the Guidance Note on Target Cost definition in Clause 1(1)(v).

Guaranteed maximum price It is possible to make this a guaranteed maximum price Contract by stating that the Contractor's Share is 100% when the Total Cost is in excess of the higher value quoted in Item 20 of Part 1 of the Appendix to the Form of Tender for the Differential Percentage band. However it must be remembered that the Target Cost can be increased justifiably, so in this case it is important that the Engineer notifies the Employer monthly as to the final outturn of the Target Cost and Total Cost. This will enable the Employer to decide on any appropriate action needed regarding his budget requirements.

Clause 60(1): Monthly statements The Contractor submits to the Engineer on a monthly basis a statement of both the Total Cost and the Target Cost up to the end of that month with supporting documentation so that it can be assessed by the Engineer. The Contractor also provides his estimate of the final outturn Total Cost for the completed Works for the Engineer to verify.

**Clauses 60(2) and (4):
Monthly certification** The Engineer (or his representative) certifies the Total Cost to the end of the month and assesses the Target Cost value (using the Target Cost breakdown structure set out in Part 2 of the Appendix to the Form of Tender). The certified amount and the Fee based on the verified Target Cost is the amount due to the Contractor (less any previous payments). The Engineer must also estimate each month what the final Target Cost will be and keep the Employer advised (see the proforma in Appendix 3 to these notes).

The Contract requires the Engineer to issue and deliver his Certificate to the Employer (with a copy to the Contractor) within 25 days of the date of delivery of the Contractor's monthly statement to the Engineer's Representative.

Clause 60(5): Contractor's Share The Contractor's Share is calculated as shown in the example in Appendix 2 to these notes. If towards the end of the Contract and before the date of substantial completion the Total Cost exceeds the Target Cost of the whole of the Works, then the Contractor's Share is taken into account so that the Employer is not overpaying the Contractor. This is also demonstrated in the example in Appendix 2 to these notes. It should be noted that the share percentage is applied incrementally to the Differential Percentage band. In the worked example in Appendix 2 to these notes, in the Final Account where the Total Cost is less than the Target Cost the share percentage used is 40% for the 2% of the Differential Percentage band from 100% to 98%. For the Differential Percentage band from 98% to 91.18% the share percentage used is 30% for that 6.82% part of the band.

Clause 60(6): Time period for payments Payment to the Contractor becomes due on certification by the Engineer with the final date for payment being within 28 days of delivery of the monthly statement to the Engineer or the Engineer's Representative. A final date for payment is a requirement of the Housing Grants, Construction and Regeneration Act 1996.

Clause 60(9): Interest on overdue payments Clause 60(9) states that interest is due to be paid for each day a payment is overdue and that the interest is to be compounded monthly.

As the Engineer is required to certify on the basis of the statement submitted by the Contractor under Clause 60(1) the Contractor when submitting each monthly statement should include the amount of all interest that he claims as due under Clause 60(9) up to that statement date in his monthly valuation under Clause 60(1)(a).

The bank whose base lending rate is to be used for the calculation of interest must be specified in Item 14 of Part 1 of the Appendix to the Form of Tender.

Any sums payable to the Contractor after certificates have been corrected by the decision of an adjudicator or the award of an arbitrator may include interest, provided it is included in the decision or award.

Clause 60(10): Certificates and payment notices This Clause provides that the Engineer's certificate shall also serve as the Employer's notification to the Contractor of the amount to be paid and the basis on which it was calculated. As the Engineer's certificate has to be issued at least 3 days before the final date for payment the Contractor has at least 3 days' notice of the difference made by the Engineer from the amount claimed by the Contractor in his statement.

If the information is not provided with the Engineer's certificate the Contractor is entitled to ask for full details as to how the amount certified by the Engineer has been arrived at. This information could be essential to enable the Contractor to make payments at the time they are due to any sub-contractors employed on the Contract. Details of any alterations in the rates claimed by the Contractor for new or changed items or any reduction in the quantities claimed could also be necessary so that the Contractor can decide whether to indicate his dissatisfaction with the valuation and the certificate issued under the provisions of Clause 66.

Clause 60(11): Notice of intention to withhold payment This Clause supplements the provisions of Clause 60(10) and requires that the Contractor be notified by the Employer at least 1 day before a payment is due if the payment being made will differ in any respect from the amount certified by the Engineer. Details of how any amount being withheld has been calculated and the grounds for so doing have to be stated.

Clause 61(1): Defects Correction Certificate This Clause provides for the Engineer issuing a Defects Correction Certificate to confirm that the Contractor has completed all the requirements of the Contract and remedied any defects.

Clause 62: Urgent work or repairs This Clause allows the Engineer to request that the Contractor carry out any urgent repairs. If the Contractor is unable or unwilling to carry out these repairs, the Clause authorises the Employer to do so and to charge the Contractor for any part of the repairs that were the Contractor's liability.

Clause 64: Default of Employer This Clause makes provision if the Employer is in default and sets out the events upon which the Contractor may rely to terminate his employment under the Contract after giving due notice to the Employer. This Clause balances the provisions of Clause 65 which covers any default of the Contractor.

Clause 65: Default of Contractor Should the Contractor be in default in any of the ways detailed in Clause 65(1) then the Employer is entitled to enter the Site to expel the Contractor and then complete the Works by other means. In that event the Contractor will not be entitled to further payment until the Engineer certifies under Clause 65(5)(b) the difference between what would have been payable to the Contractor and the actual cost to the Employer of achieving completion. If the difference is an amount due to the Employer then he may recover this from the Contractor or his bondsman.

See Appendix 1 to these notes regarding payments from the Surety under the ICE Form of Default Bond.

Clause 66: General *Avoidance and settlement of disputes*

The traditional "step-by-step" approach of the earlier dispute resolution clauses has been abandoned and the parties may now use the procedures for the most part in any order which they find convenient. In order to meet the requirements of statutory adjudication and some aspects of judicial interpretation, Clause 66 has been rearranged as a series of five Clauses in the interests of user convenience.

Two major changes are the deletion of the reference back to the Engineer for a formal decision and the introduction of a new dispute-avoidance provision. The Engineer's decision, although historically very effective in resolving disputes without recourse to arbitration, has in recent years been perceived to have lost credibility as a belief in the Engineer's independence has dwindled in the face of modern commercial and litigation pressures. The emphasis has therefore been transferred to pre-dispute problem-solving measures.

Clause 66(1): Avoidance of dispute This is purely declaratory, but makes it clear that the following clauses can be used at will and are not necessarily to be taken in any particular order.

Clause 66(2): Advance warning This requires each party to give the other advance warning of any matter which, if not resolved, could develop into a dispute. The warning must be in writing, with a copy to the Engineer, and the parties must meet (with the Engineer if appropriate) within 7 days to try to find a solution. If this cannot be achieved, such parts of the problem which remain unresolved must be recorded in writing.

Although expressed in mandatory terms, this procedure is essentially consensual. However, subsequent tribunals may take any failure to operate this procedure in good faith into account when considering how to award costs in the proceedings before them.

Clause 66A: General *Notice of Dispute and amicable dispute resolution*

This Clause provides a mechanism for defining when a dispute comes into existence and what matters are in issue, and then sets out a range of consensual options aimed at encouraging the parties to find their own solutions.

Clause 66A(1): Notice of Dispute The Notice of Dispute is intended to establish the nature of any dispute or difference and to provide a starting point for any further action. However, the party intending to issue a Notice of Dispute must first have exhausted any means of recourse available elsewhere in the Contract (e.g. including, but not confined to, Clauses 12 or 44).

Clause 66A(2): Amicable dispute resolution This Clause offers the parties conciliation or construction mediation (under the ICE Conciliation Procedure or ICE Construction Mediation Procedure) or any other form of negotiation, including the involvement of facilitators (or “outside neutrals”). The desired option is initiated by a notice in writing seeking the other party’s agreement, so these provisions are essentially consensual – but they are susceptible to the same sanction in respect of subsequent costs as is available for the advance warning procedures should a party fail to negotiate, etc., when it would be appropriate to do so.

As with all consensual procedures, any result achieved does not become binding upon the parties unless they both sign a written record of such agreement.

Clause 66A(2)(c): This Clause protects third parties acting as conciliators, mediators or facilitators from further involvement in dispute resolution procedures once their services have been terminated.

Clause 66A(3): Effect on Contractor and Employer For the avoidance of doubt, this Clause requires the parties to continue to perform their respective obligations under the Contract “with due diligence” without regard to any dispute or action thereon which may from time to time be in hand.

Clause 66B: General *Adjudication*

This Clause is broadly unchanged, since the requirement is that the Contract be “statute-compliant”.

The Contract incorporates by reference the ICE Adjudication Procedure 1997 (or any amendment or modification in force at the time of the Notice of Adjudication).

Following a Notice of Adjudication, 7 days are allowed for appointing the adjudicator and referring the dispute to him, whereupon he is given 28 days (or such period as may be permitted) in which to reach his decision.

Once a decision has been reached and notified to the parties it becomes binding (but not necessarily final). The dispute (not the decision) can be referred to arbitration.

A failure to give effect to a decision is excluded from the arbitration agreement, leaving the parties free to seek enforcement through the courts.

Clause 66B(1)(a): The Housing Grants, Construction and Regeneration Act 1996 only gives the right to adjudicate disputes arising under a construction contract as defined in the Act. This Clause, however, widens that right so as to encompass the same range of disputes as has always been referable to arbitration under the ICE Conditions of Contract.

Clause 66B(3): This Clause provides that an adjudicator's decision becomes final as well as binding if the dispute(s) to which it refers is not referred on to arbitration within 3 calendar months of the decision. Thus the Notice to Refer must be issued before that time limit has expired if it is to be valid but, on the other hand, there is nothing to stop a Notice to Refer from being issued before the dispute has been referred to adjudication (in which case both the adjudication and the arbitration may proceed in parallel).

Clause 66B(4): This Clause will normally give the adjudicator authority to determine the extent of his jurisdiction. In practice this means that he can rule on what is (and what is not) before him based on the Notice of Adjudication, and it will be particularly important if the referring party has neglected to issue a Notice of Dispute. This provision does not allow an adjudicator to expand his jurisdiction unless both parties agree.

In the event that no Notice of Dispute was issued, Clause 66B(4)(b) requires the referring party to pay the adjudicator's costs in determining the extent of his jurisdiction which would not have been necessary had an appropriate Notice of Dispute been issued.

Clause 66C: General *Arbitration*

Save for the provisions concerning appointment, this Clause is largely unchanged.

Clause 66C(1)(b): Since the ICE Procedures are no longer part of a "step-by-step" series, there is no reason why a Notice to Refer need await the completion of any antecedent step. It is thus now perfectly valid to issue a Notice to Refer at the same time as the Notice of Dispute to which it relates – but not before, since there would not be any dispute yet in existence at that stage.

Clause 66D: General *Appointments*

The provisions regarding appointment of arbitrators, adjudicators, conciliators, and construction mediators have for ease of reference all been collected into this new Clause.

Clause 66D(2): President or Vice-President to act Under the various ICE Procedures the period of time before an application to the ICE President for an appointment could be made used to vary. This Clause provides a uniform 21-day period before application can be made for the appointment of an arbitrator, conciliator or construction mediator (and follows the usual Court Procedure Rules in this respect). In each case the 21-day period is initiated by a notice in writing. Note that the Notice to Concur has been deleted.

Clause 66D(3): Appointment of an adjudicator in default of agreement is by the Institution of Civil Engineers and not its President, and the timing is governed by statute; hence the provision of this separate Clause.

Clause 67(1): The law of the Contract As a consequence of the amendments to Clause 66, Clause 67 has been considerably simplified and is now headed as “The Applicable Law” to deal with the general case. The application to Scotland remains mainly as amended in 2001 for all ICE Conditions of Contract but has been simplified as a direct result of the amendment to Clause 66.

Clause 67(2): Application to Scotland Following publication of “The Scottish Arbitration Code 1999”, the Sponsoring Bodies have agreed that that Code should be adopted for ICE arbitrations in Scotland. Accordingly, the ICE’s “Arbitration Procedure (Scotland) (1983)” has now been withdrawn and, in its place, the 1999 Code will apply as modified by the ICE’s “Appendix (2001) to the Scottish Arbitration Code 1999” which is published separately. In particular, Clause 67(2)(e) of the Conditions of Contract deals with the method of enforcement of an arbitrator’s award or an adjudicator’s decision in Scotland and Item 18 of Part 1 of the Appendix to the Form of Tender is not required in Scotland.

Application to Northern Ireland The provisions of the Housing Grants, Construction and Regeneration Act 1996 (HGCR Act 1996) have been covered by amendments to various clauses in the Conditions of Contract but when the Construction Contracts (Northern Ireland) Order 1997 (CC (NI) Order 1997) was published it had a different clause numbering system from that used in the HGCR Act 1996.

For ready reference the Sections of the HGCR Act 1996 are cross-referenced below to the applicable paragraphs of the CC (NI) Order 1997. It should however be noted that there are differences in the text between the Act and the Order. The HGCR Act 1996 came into force on 1 May 1998. The CC (NI) Order 1997 came into force on 1 June 1999.

| HGCR Act 1996 Section | Construction Contracts (NI) Order 1997 Paragraph |
|----------------------------------|---|
| 104 | 3 |
| 105 | 4 |
| 106 | 5 |
| 107 | 6 |
| 108 | 7 |
| 109 | 8 |
| 110 | 9 |
| 111 | 10 |
| 112 | 11 |
| 113 | 12 |
| 114 | 13 and 16 |
| 115 | 14 |
| 116 | 14(c) |
| 117 | 15 |

Clause 69(1): Labour tax landfill tax and aggregate levy fluctuations Clause 69 applies to statutory tax changes and also to the Finance Act 1996 (Sections 39–71 and Schedule 5) and the Landfill Tax Regulations 1996. It is made clear that only those rates of tax chargeable under the above Act and Regulations in force at the date for return of tenders shall be deemed to have been included in the tender rates, whether or not future increases or decreases are then foreseeable. Increases or decreases after the date for return of tenders are covered in Clause 69(2). These provisions are also extended to cover aggregate levy payable following the Finance Act 2001.

Clause 71: CDM Regulations 1994 The Construction (Design and Management) Regulations 1994 apply to all construction contracts, other than

- site surveys
- exploration and abstraction of mineral resources and activities preparatory thereto carried out at the site of such exploration or abstraction
- projects for which the construction phase will not last more than 30 days and which do not involve more than 500 person days of construction
- projects for which the local authority is the enforcing authority under the Health and Safety (Enforcing Authority) Regulations 1989
- construction (but not demolition) where not more than 5 persons are employed at any one time or
- construction for a private client in respect of his own dwelling.

Anybody entering into a contract where the CDM Regulations apply should study the Regulations in detail. The list of exclusions above is not exhaustive.

Under the Regulations the Employer is required to appoint, as soon as practicable, a Planning Supervisor responsible, among other things, for the preparation and monitoring of a Health and Safety Plan for the Contract, or for the project of which the Contract is a part.

The name of the Planning Supervisor is included in Item 16 of Part 1 of the Appendix to the Form of Tender, and the Health and Safety Plan for the project and the Health and Safety Files in respect of each structure included in the project (to the extent that they have been prepared) will be available for inspection by tenderers.

Under the Regulations the Employer is also required to appoint for the project as soon as practicable a Principal Contractor with particular responsibilities regarding safety for the project whose name (if one has been appointed by that time) is also included in Item 17 of Part 1 of the Appendix to the Form of Tender.

The Contractor could be asked to act as Principal Contractor.

Where the responsibilities are not covered by separate contracts they are likely to be covered in the Specification, with appropriate items inserted in the breakdown structure of the Target Cost.

Clause 72: Special conditions As indicated in the Guidance Notes on Contract documents (Section 2), special conditions may be added.

Retention The use of retentions is considered to be inappropriate in this type of collaborative contract. However it is recognised that some Employers would still prefer to hold a retention of the Contractor's payment. In this case Appendix 4 to these notes has been written so that it can be included as a special condition at or after Clause 72.

**Appendix to the
Form of Tender – Item 21**

It is anticipated that the tender documents will indicate how the Contractor can contribute his expertise in construction. The implication must therefore be that the tender documents will not be the final contract documents. This type of contract means that both Part 1 and Part 2 of the Appendix to the Form of Tender can be changed during the negotiation period post tender but pre award of Contract. All documents relevant to the tender should be listed by the Employer in Item 21 of Part 1 of the Appendix to the Form of Tender and should include references to the Specification, Drawings and other relevant papers and correspondence. This list should be updated with all documentation that is subsequently agreed following negotiation post tender and pre contract.

APPENDIX 1

ICE FORM OF DEFAULT BOND

General The Bond may be called only if the Contractor is expelled from the Site as a result of insolvency or is removed from the Site under any other of the provisions of Clause 65 (Default of Contractor). If the Contractor has not been expelled from the Site, there is sufficient redress in the Contract (e.g. retention, set-off, damages, etc.) to deal with other matters which might constitute a default. The Bond relates to Clause 65 for matters of expulsion and certification subsequent to that expulsion, and to the Contractor's failure to pay the Excess Sum (or any part of the Excess Sum remaining unpaid). The "Excess Sum" is an amount due to the Employer under Clause 65(5).

Surety Bond The reference to Clause 66 enables the Surety, if he so wishes, to utilise the same adjudication provisions which are available to the Contractor in order to challenge any Engineer's certificate under Clause 65(5).

The Surety has the right to receive copies of any notice served on the Contractor under Clause 65(1) or any certificate served under Clause 65(5), and to request information or to inspect the Site. There is a condition precedent to payment by the Surety which is that the Employer must send the Surety within 14 days a copy of any notice under Clause 65(1) and of a certified copy of the Clause 65(5) certificate. This certificate must be certified by the Engineer as a true copy and it may be an interim certificate or a final one. It is essential that the Employer makes sure that copies of these documents are sent by recorded means within the 14 days allowed.

By accepting this Bond, the Surety undertakes, within the period stated, to pay the Excess Sum up to the amount of the Bond. If the Surety wishes to contest the certificate he may seek the decision of an adjudicator in the first instance under the provisions of Clause 66B of the Contract. The adjudicator's decision is binding unless and until the dispute is finally determined by legal proceedings, by arbitration or by agreement.

The provision in clause 1(6) of the Bond in relation to a previous adjudication between the Employer and the Contractor prevents a second adjudication taking place on the same matter.

The time periods have been set so that payment is not delayed unnecessarily in the event of there being no dispute. On the other hand, in the event of a dispute, the Surety has sufficient time to protect his interests. Clause 1(7) of the Bond specifies the time for payment at 7 days from the decision of the adjudicator in the event that there is no other direction.

APPENDIX 2

Worked example of payment mechanism for a target cost contract

Scenario

A 10-month contract with 50-week Defects Correction Period

Item 20 in Part 1 of the Appendix to the Form of Tender

20 The Contractor's Share is based on the following (Clauses 1(1)(e) and 60(5))

| Differential Percentage band | Share percentage |
|------------------------------|------------------|
| Lower than 98% | 30% |
| From 98% to 102% | 40% |
| Higher than 102% | 25% |

Contractor's tender

| | | | |
|-------------|--------|--------|--|
| Target Cost | 103.00 | | |
| Fee @ 6% | 6.18 | 109.18 | Appendix Part 2 As % of Target Cost, Cl 60(3) |

Post tender negotiation

| | | | |
|-------------|--------|--------|-------------------------|
| Target Cost | 100.00 | | Value engineering, etc. |
| Fee @ 5% | 5.00 | 105.00 | As % of Target Cost |

Target Cost plus Fee = **105.00**

End of Month 1

| | | | |
|---|-------|--|---|
| Cumulative payment to Contractor for the previous month's certificate | 0.00 | | |
| Contractor's statement of Total Cost to end of Month 1 | 11.00 | | Cl 60(1)(a) |
| Contractor's estimate of Target Cost to end of Month 1 | 10.00 | | Cl 60(1)(b) |
| Engineer's certification of Total Cost to end of Month 1 | 10.00 | | Cl 60(2)(a) Disallowed Cost of 1.00, Cl 60(2)(b) |
| Engineer's verification of Target Cost to end of Month 1 | 9.00 | | Cl 60(3) |

Payment to Contractor

| | | | |
|--|---------------------|----------------|---|
| Fee @ 5% of 9.00 | 0.45 | | Fee payable is 5% of Target Cost, Cl 60(3) |
| Certified Total Cost | 10.00 | | |
| Total cumulative payment due at end of Month 1 (excluding Contractor's Share) | 10.00 + 0.45 | = 10.45 | |
| Payment due to Contractor (excluding Contractor's Share) | 10.45 – 0.00 | = 10.45 | |
| Total cumulative payment due at end of Month 1 (including Contractor's Share) | 10.45 + 0.00 | = 10.45 | No Contractor's Share relevant for this certificate |
| Payment due to Contractor (including Contractor's Share) | 10.45 + 0.00 | = 10.45 | Within 28 days of Contractor's statement, Cl 60(6) |

**For when the Total Cost is less than the Target Cost
i.e. when the Differential Percentage is lower than 100% (CI 60(5))**

End of Month 9

| | | |
|---|-------|---|
| Cumulative payment to the Contractor for the previous certificate | 77.32 | |
| Contractor's statement of Total Cost to date to end of Month 9 | 90.00 | CI 60(1)(a) |
| Contractor's estimate of Target Cost to date to end of Month 9 | 95.00 | CI 60(1)(b) |
| Engineer's certification of Total Cost to date to end of Month 9 | 88.00 | CI 60(2)(a) Disallowed Cost of 2.00, CI 60(2)(b) |
| Engineer's verification of Target Cost to date to end of Month 9 | 93.00 | CI 60(3) |

Payment to Contractor

| | | | |
|--|-----------------|----------------|---|
| Fee @ 5% of 93 | 4.65 | | Fee payable is 5% of Target Cost, CI 60(4) |
| Certified Total Cost | 88.00 | | |
| Total cumulative payment due at end of Month 9 (excluding Contractor's Share) | $88.00 + 4.65$ | = 92.65 | |
| Payment due to Contractor (excluding Contractor's Share) | $92.65 - 77.32$ | = 15.33 | |
| Total cumulative payment due at end of Month 9 (including Contractor's Share) | $92.65 + 0.00$ | = 92.65 | No Contractor's Share relevant for this certificate |
| Payment due to Contractor (including Contractor's Share) | $92.65 - 77.32$ | = 15.33 | Within 28 days of Contractor's statement, CI 60(6) |

Certificate of Substantial Completion issued end of Month 10

Scenario

The Engineer has increased the Target Cost by 2.00 (CI 51(1)) and has Disallowed Cost of 3.00 (CI 60(2)(b))

End Month 10

| | | |
|--|--------|---|
| Cumulative payment to Contractor at the end of the previous month | 92.65 | |
| Contractor's statement of Total Cost to date at substantial completion | 95.00 | CI 60(1)(a) |
| Contractor's estimate of Target Cost to date at substantial completion | 102.00 | CI 60(1)(b), CI 51(3) |
| Engineer's certification of Total Cost to date at substantial completion | 92.00 | CI 60(2)(a) Disallowed Cost of 3.00, CI 60(2)(b) |
| Engineer's verification of Target Cost to date at substantial completion | 102.00 | CI 60(3) |

Payment to Contractor

| | | | |
|----------------------|-------|--|--|
| Fee @ 5% of 102 | 5.10 | | Fee payable is 5% of Target Cost, CI 60(3) |
| Certified Total Cost | 92.00 | | |

| | | | |
|---|------------------|-----------------|--|
| Total cumulative Payment due at substantial completion (excluding Contractor's Share) | $92.00 + 5.10$ | = 97.10 | |
| Payment due to Contractor (excluding Contractor's Share) | $97.10 - 92.65$ | = 4.45 | |
| Total cumulative payment due at substantial completion (including Contractor's Share) | $97.10 + 3.20$ | = 100.30 | |
| Payment due to Contractor (including Contractor's Share) | $100.30 - 92.65$ | = 7.65 | Within 28 days of Contractor's statement, Cl 60(6) |

Contractor's Share at substantial completion (at the end of Month 10)
Reference Item 20 of Part 1 of the Appendix to the Form of Tender, as above

| | | | |
|---|---|----------------|---|
| The Differential Percentage (DP) is calculated | $\text{Total Cost} \times 100/\text{Target Cost}$ | | |
| The Differential Percentage at substantial completion | $92.00 \times 100/102.00$ | = 90.20 | This is less than 100% so the Contractor's Share is added to the Total Cost + Fee, Cl 60(5) |
| Insert the greater of the DP and the lower DP band | 98% | | |
| Insert the lesser of the DP and the lower DP band | 90.20% | | |
| Apply the share percentage to the applicable DP band using the figures in Item 20 example above | | | Cl 60(5) |
| The first band is 100 – 98% of 102 @ 40%, i.e. | | | |
| The first 2% band of underspend of the Target Cost is accredited to the Contractor at 40% | $2\% \times 102.00$ | = 2.04 | |
| | $40\% \times 2.04$ | = 0.816 | |
| The next band is less than 98% of 102 @ 30%, i.e. | | | |
| The remaining $(98 - 90.2) = 7.8\%$ of underspend of the Target Cost is accredited to the Contractor at 30% | $7.8\% \times 102.00$ | = 7.956 | |
| | $30\% \times 7.956$ | = 2.387 | |
| Contractor's Share at substantial completion (added to the Total Cost + Fee) | $0.816 + 2.387$ | = 3.20 | This figure is transferred to the payment certificate for substantial completion |

Final account within 6 months after end of the Defects Correction Period (Clause 60(8))**Scenario**

The Contractor's statement of Total Cost has been reduced by 1.00 as a result of the Contractor's revision. The Engineer has Disallowed Cost of 1.00 (CI 60(2)(b)) which has changed due to re-assessment with the Contractor.

| | | |
|---|--------|---|
| Cumulative payment to Contractor for the previous certificate | 100.30 | |
| Contractor's statement of Total Cost for the whole of the Works | 94.00 | CI 60(1)(a) |
| Contractor's estimate of Target Cost for the whole of the Works | 102.00 | CI 60(1)(b) |
| Engineer's certification of Total Cost for the whole of the Works | 93.00 | CI 60(2)(a) Disallowed cost of 1.00, CI 60(2)(b) |
| Engineer's verification of Target Cost for the whole of the Works | 102.00 | CI 60(3) |

Payment to Contractor

| | | | |
|---|-----------------|-----------------|--|
| Fee @ 5% of 102 | 5.10 | | Fee payable is 5% of Target Cost, CI 60(3) |
| Certified Total Cost | 93.00 | | |
| Total cumulative payment due at final account (excluding Contractor's Share) | 93.00 + 5.10 | = 98.10 | Total Cost plus Fee |
| Payment due to Contractor (excluding Contractor's Share) | | | Not relevant at final account |
| Total cumulative payment due at final account (including Contractor's Share) | 98.10 + 2.90 | = 101.00 | |
| Payment due to Contractor (including Contractor's Share) | 101.00 – 100.30 | = 0.70 | |

Contractor's Share at final account (within 6 months of the Defects Correction Period)

Reference Item 20 in Part 1 of the Appendix to the Form of Tender, as above

| | | | |
|--|--|---|---|
| The Differential Percentage (DP) is calculated | Total Cost × 100/Target Cost | | |
| The DP at final account | $93.00 \times \frac{100}{102.00} = 91.18$ | This is less than 100% so the Contractor's Share is added to the Total Cost + Fee, CI 60(5) | |
| Insert the greater of the DP and the lower DP band | 98% | | |
| Insert the lesser of the DP and the DP band | 91.18% | | |
| Applying the share percentage to the applicable DP band using the figures in Item 20 example above | | CI 60(5) | |
| The first band is 100 – 98% of 102 @ 40%, i.e. | | | |
| The first 2% band of underspend of the Target Cost is accredited to the Contractor at 40% | $2\% \times 102.00 = 2.04$ $40\% \times 2.04 = \mathbf{0.816}$ | | |
| The next band is less than 98% of 102 @ 30%, i.e. | | | |
| The remaining (98 – 91.18) = 6.82% of underspend of the Target Cost is accredited to the Contractor at 30% | $6.82\% \times 102.00 = 6.956$ $30\% \times 6.956 = \mathbf{2.087}$ | | |
| Contractor's Share at final account (added to the Total Cost + Fee) | 0.816 + 2.087 | = 2.90 | This figure is transferred to the payment certificate for the final account |

Comment

There appears to be a discrepancy between the amount paid at the date of substantial completion, 100.30, and the Final amount, 101.00. This is not the case. This difference is reconciled by the fact that in the final account the Engineer has certified 93.00 in place of 92.00 and the additional 1.00 Total Cost that has been certified must be accounted for. With the Contractor's Share at 30% in this example, the Contractor receives an additional 0.70, i.e. $100.30 + 0.70 = 101.00$.

Note: the Contractor has a margin of $101.00 - 93.00 = 8.00$

- Expressed as a percentage margin of the Total Cost is $8.00/93.00 = 8.60\%$
- Expressed as a percentage margin of the Target Cost is $8.00/102.00 = 7.84\%$

Note

It should be noted that the Target Cost at substantial completion is likely to be fixed (if not finally agreed). The Total Cost will always rise due to outstanding work and late invoices. In the absence of a gross error, there will generally be a net payment due to the Contractor at final account.

**For when the Total Cost is greater than the Target Cost
i.e. when the Differential Percentage is higher than 100% (CI 60(5))**

End of Month 9

| | | |
|--|--------|---|
| Cumulative payment to Contractor for the previous certificate | 91.48 | |
| Contractor's statement of Total Cost to date to end of Month 9 | 105.00 | CI 60(1)(a) |
| Contractor's estimate of Target Cost to date to end of Month 9 | 95.00 | CI 60(1)(b) |
| Engineer's certification of Total Cost to date to end of Month 9 | 102.00 | CI 60(2)(a) Disallowed Cost of 3.00, CI 60(2)(b) |
| Engineer's verification of Target Cost to date to end of Month 9 | 93.00 | CI 60(3) |

Payment to Contractor

| | | |
|--|------------------|---|
| Fee @ 5% of 93.00 | 4.65 | Fee payable is 5% of Target Cost, CI 60(4) |
| Certified Total Cost | 102.00 | |
| Total cumulative payment due at end of Month 9 (excluding Contractor's Share) | $102.00 + 4.65$ | = 106.65 |
| Payment due to Contractor (excluding Contractor's Share) | $106.65 - 91.48$ | = 15.17 |
| Total cumulative payment due at end of Month 9 (including Contractor's Share) | $106.65 - 0.00$ | = 106.65 No Contractor's Share relevant for this certificate |
| Payment due to Contractor (including Contractor's Share) | $106.65 - 91.48$ | = 15.17 Within 28 days of Contractor's statement, CI 60(6) |

Note

In this example the Total Cost does not exceed the Target Cost for the whole of the Works at the end of Month 9 so the Contractor's Share is not calculated for this month, CI 60(5).

Certificate of Substantial Completion issued end of Month 10

Scenario

The Engineer has increased the Target Cost by 2.00 (Cl 51(1)) and has Disallowed Cost of 4.00 (Cl 60(2)(b))

End Month 10

| | | |
|--|--------|---|
| Cumulative payment to for the previous certificate | 106.65 | |
| Contractor's statement of Total Cost to date at substantial completion | 110.00 | Cl 60(1)(a) |
| Contractor's estimate of Target Cost to date at substantial completion | 102.00 | Cl 60(1)(b) Cl 51(3) |
| Engineer's certification of Total Cost to date at substantial completion | 106.00 | Cl 60(2)(a) Disallowed Cost of 4.00, Cl 60(2)(b) |
| Engineer's verification of Target Cost to date at substantial completion | 102.00 | Cl 60(3) |

Payment to Contractor

| | | | |
|---|-----------------|-----------------|--|
| Fee @ 5% of 102 | 5.10 | | Fee payable is 5% of Target Cost, Cl 60(3) |
| Certified Total Cost | 106.00 | | |
| Total cumulative Payment due at substantial completion (excluding Contractor's Share) | 106.00 + 5.10 | = 111.10 | Total Cost plus Fee |
| Payment due to Contractor (excluding Contractor's Share) | 111.10 – 106.65 | = 4.55 | |
| Total cumulative payment due at substantial completion (including Contractor's Share) | 111.10 + (1.31) | = 109.79 | |
| Payment due to Contractor (including Contractor's Share) | 109.79 – 106.65 | = 3.14 | Within 28 days of Contractor's statement, Cl 60(6) |

Contractor's Share at substantial completion (at the end of Month 10)

Reference Item 20 of Part 1 of the Appendix to the Form of Tender, as above

| | | |
|--|------------------------------------|------------------|
| The Differential Percentage (DP) is calculated | Total Cost × 100/Target Cost | |
| The DP at substantial completion | $106.00 \times \frac{100}{102.00}$ | = 103.92 |
| Insert the lesser of the DP and the higher DP band | 102.00 | |
| Insert the greater of the DP and the higher DP band | 103.92 | |
| Applying the share percentage to the applicable DP band using the figures in Item 20 example above | | Cl 60(5) |
| The first band is 100 – 102% of 102 @ 40%, i.e. | | |
| The first 2% band of overspend of the Target Cost is charged to the Contractor at 40% | $2\% \times 102.00$ | = 2.04 |
| | $40\% \times 2.04$ | = (0.816) |

The next band is greater than 102% of 102 @ 25%, i.e.

The remaining $(103.92 - 102) = 1.92\%$ of overspend of the Target Cost is charged to the Contractor at 25% $1.92\% \times 102 = 1.96$
 $25\% \times 1.96 = (0.490)$

Contractor's Share at substantial completion (deducted from the Total Cost + Fee) $(0.816) + (0.490) = (1.31)$ This figure is transferred to the payment certificate for substantial completion

Final account within 6 months after end of the Defects Correction Period (Clause 60(8))

Scenario

The Contractor's statement of Total Cost has been reduced by 1.00 as a result of the Contractor's revision. The Engineer has Disallowed Cost of 2.00 (CI 60(2)(b)), which has changed due to reassessment with the Contractor.

| | | |
|---|--------|---|
| Cumulative payment to Contractor for the previous certificate | 109.79 | |
| Contractor's statement of Total Cost | 109.00 | CI 60(1)(a) |
| Contractor's estimate of Target Cost for the whole of the Works | 102.00 | CI 60(1)(b) |
| Engineer's certification of Total Cost | 107.00 | CI 60(2)(a) Disallowed Cost of 2.00, CI 60(2)(b) |
| Engineer's verification of Target Cost for the whole of the Works | 102.00 | CI 60(3) |

Payment to Contractor

Fee @ 5% of 102.00 5.10 Fee payable is 5% of Target Cost, CI 60(4)

Certified Total Cost 107.00

Total cumulative payment due at final account (excluding Contractor's Share) $107.00 + 5.10 = 112.10$ Total Cost plus Fee

Payment due to Contractor (excluding Contractor's Share) Not relevant at final account

Total cumulative payment due at final account (including Contractor's Share) $112.10 + (1.56) = 110.54$

Payment due to Contractor (including Contractor's Share) $110.54 - 109.79 = 0.75$

Contractor's Share at final account (within 6 months of the Defects Correction Period)

Reference Item 20 of Part 1 of the Appendix to the Form of Tender, as above

| | | |
|---|-------------------------------------|---|
| The Differential Percentage (DP) is calculated | Total Cost \times 100/Target Cost | |
| The DP at final account | $107.00 \times 100/102.00$ | $= 104.90$ |
| Insert the lesser of the DP and the higher DP band | 102.00 | |
| Insert the greater of the DP and the higher DP band | 104.90 | This is greater than 100% so the Contractor's Share is deducted from the Total Cost + Fee, CI 60(5) |

Applying the share percentage to the applicable DP band using the figures in Item 20 example above

CI 60(5)

The first band is 100 – 102% of 102 @ 40%, i.e.

| | | | |
|---|---------------------|-------------|--|
| The first 2% band of overspend of the Target Cost is charged to the Contractor at 40% | $2\% \times 102.00$ | $= 2.04$ | |
| | $40\% \times 2.04$ | $= (0.816)$ | |

The next band is greater than 102% of 102 @ 25% i.e.

| | | | |
|---|------------------------|-------------|--|
| The remaining (104.90 – 102.00) = 2.90% of overspend of the Target Cost and is charged to the Contractor at 25% | $2.90\% \times 102.00$ | $= 2.958$ | |
| | $25\% \times 2.958$ | $= (0.740)$ | |

| | | | |
|--|---------------------|------------|---|
| Contractor's Share at final account (deducted from the Total Cost + Fee) | $(0.816) + (0.740)$ | $= (1.56)$ | This figure is transferred to the payment certificate for final account |
|--|---------------------|------------|---|

Comment

There appears to be a discrepancy between the amount paid at the date of substantial completion, 109.79, and the Final amount, 110.54. This is not the case. This difference is reconciled by the fact that in the final account the Engineer has certified 107.00 in place of 106.00 and the additional 1.00 Total Cost that has been certified must be accounted for. With the Contractor's Share at 25% in this example, the Contractor receives an additional 0.75, i.e. $109.79 + 0.75 = 110.54$.

Note: the Contractor has a margin of $110.54 - 107 = 3.54$

- Expressed as a percentage margin of the Total Cost is $3.54/107 = 3.31\%$
- Expressed as a percentage margin of the Target Cost is $3.54/102 = 3.47\%$

Note

It should be noted that the Target Cost at substantial completion is likely to be fixed (if not finally agreed). The Total Cost will always rise due to outstanding work and late invoices. In the absence of a gross error, there will generally be a net payment due to the Contractor at final account.

APPENDIX 3

PROFORMA MONTHLY PAYMENT CERTIFICATE

From Part 1 of the Appendix to the Form of Tender

20 The Contractor’s Share is based on the following (Clauses 1(1)(e) and 60(5))

| Differential Percentage Band | Share percentage |
|---|---|
| Lower than % 1 | % 2 |
| From % 3 to % 4 | % 5 |
| Higher than % 6 | % 7 |

From Part 2 of the Appendix to the Form of Tender

- | | |
|--|---|
| 1 The Target Cost is (Clause 1(1)(v)) | £ 8 |
| 2 The Fee is (expressed as a percentage of the Target Cost) (Clauses 1(1)(o) and 60(3) and Appendix Part 3) | % 9 |

Engineer’s estimates

- | | |
|---|---------|
| At the end of Month | |
| Estimate of the Total Cost of the Works carried out (Clause 60(2)(a)) | £ |
| Estimate of the Target Cost value of the Works carried out (Clause 60(4)) | £ |

MONTHLY PAYMENT CERTIFICATE

| | | |
|---|---------|----|
| End Month | 10 | |
| Cumulative payment to Contractor for the previous certificate | £ | 11 |
| Contractor's statement of Total Cost (Cl 60(1)(a)) | £ | 12 |
| Contractor's statement of estimated Target Cost (Cl 60(1)(b)) | £ | 13 |
| Engineer's certification of Total Cost (Cl 60(2)(a)) | £ | 14 |
| Engineer's verification of Target Cost (Cl 60(3)) | £ | 15 |

Payment to Contractor

Contractor's Fee 9 % × 15 £ 16

Total cumulative payment due at end of month 14 + 16
 £ + £ = £ 17

Payment due to Contractor (excluding Contractor's Share) 17 - 11
 £ - £ = £ 18

Contractor's Share (when applicable)

Enter either item 34 from page 3 OR item 44 from page 4 £ 21

Total cumulative payment due at end of month (including Contractor's Share) 17 + 21
 £ + £ = £ 22

Payment due to Contractor (including Contractor's Share) 22 - 11
 £ - £ = £ 23

Differential Percentage

For the Target Cost insert the greater of 8 and 15 £ 19

Differential Percentage is the Total Cost × 100 / Target Cost (Clause 1(1)(j))

Differential Percentage = 14 × 100 / 19
 £ × 100 / £ = % 20

If in any month before the Certificate of Substantial Completion is issued 20 is greater than 100%, the Contractor's Share must be assessed (Cl 60(5)).

For a Differential Percentage less than 100%

The Contractor has underspent relative to the Target Cost and the Contractor's Share is

Insert the greater of and %

Insert the lesser of and %

The value of the first band of underspend of the Target Cost is

$$[100 - \text{30}] \% \times \text{5} \% \times \text{19}$$

$$[100 - \dots\dots\dots] \% \times \dots\dots\dots \% \times \text{£} \dots\dots\dots = \text{£} \dots\dots\dots \quad \text{32}$$

The value of the next band of underspend of the Target Cost is (may = 0)

$$[\text{1} - \text{31}] \% \times \text{2} \% \times \text{19}$$

$$[\dots\dots\dots - \dots\dots\dots] \% \times \dots\dots\dots \% \times \text{£} \dots\dots\dots = \text{£} \dots\dots\dots \quad \text{33}$$

The Contractor's Share is +

$$\text{£} \dots\dots\dots + \text{£} \dots\dots\dots = \text{£} \dots\dots\dots \quad \text{34}$$

Transfer this item to page 2 as
this is added to the Total Cost + Fee

Differential Percentage

For the Target Cost insert the greater of and £

Differential Percentage is the Total Cost × 100 / Target Cost (Clause 1(1)(j))

$$\text{Differential Percentage} = \text{14} \times 100 / \text{19}$$

$$\text{£} \dots\dots\dots \times 100 / \text{£} \dots\dots\dots = \dots\dots\dots \% \quad \text{20}$$

If in any month before the Certificate of Substantial Completion is issued is greater than 100%, the Contractor's Share must be assessed (Cl 60(5)).

For a Differential Percentage greater than 100%

The Contractor has overspent relative to the Target Cost and the Contractor's Share is

Insert the lesser of and %

Insert the greater of and %

The value of the first band of overspend of the Target Cost is

$$[\text{40} - 100] \% \times \text{5} \% \times \text{19}$$

$$[\dots\dots\dots - 100] \% \times \dots\dots\dots \% \times \text{£} \dots\dots\dots = \text{£} (\dots\dots\dots) \quad \text{42}$$

The value of the next band of overspend of the Target Cost 19 is (may = 0)

$$[\text{41} - \text{6}]\% \times \text{7}\% \times \text{19}$$

$$[\dots - \dots]\% \times \dots \% \times \text{£} \dots = \text{£} (\dots) \quad \text{43}$$

The Contractor's Share is 42 + 43

$$\text{£} (\dots) + \text{£} (\dots) = \text{£} (\dots) \quad \text{44}$$

Transfer this item to page 2 as this is deducted from the Total Cost + Fee

APPENDIX 4

RETENTION

Reasons for excluding retentions For a target cost contract to be of maximum benefit to both the Employer and the Contractor there requires to be close co-operation between the parties. The intention is to provide a zero-defects project at substantial completion. The original purpose of a retention was for the Employer to withhold a certain amount of money in order to ensure that the Contractor returned to the Works to correct any defects. Should the Contractor fail to do so then the Employer had the right to employ someone else to make good the defects and payment would be made out of the retained sum of money or a claim made against the Contractor.

The benefits and mechanisms of a target cost contract have been explained, earlier and in the more collaborative atmosphere it is considered that each party would wish to maintain the goodwill so that future projects can be undertaken together. Under such circumstances it would seem unlikely that a contractor would jeopardise future work by not correcting defects. It should also be noted that the final account has not been made, and the worked example shows that even on a reasonable overspend there may still be a payment due to the Contractor.

The concept of retention is incompatible with this type of contract, but it acknowledges the fact that some Employers and their advisers would be unhappy at not being able to levy a retention. Considerations may include the time period and value of the Contract, whether extensive tests are included and the extent of any ancillary Works. It may be considered necessary to hold sufficient money to allow for the Contractor having to remobilise to Site to repeat defective work.

Where retentions are applied in the other ICE Conditions of Contract the repayment is done in two stages – at substantial completion and at the end of the Defects Correction Period. Should a retention be required in the Target Cost Version the repayment is in a single stage at the end of the Defects Correction Period. To compensate for this the recommended levels of retention have been reduced and a retention-free amount has been added in order to reduce the overall cost to the Employer through lower financing costs.

Use of the R Clauses The Clauses below may be incorporated by reference or directly in to the Contract as one of the special conditions following on after Clause 71. They are based on the ICE Conditions of Contract 7th Edition Measurement Version and have been modified to suit this Target Cost Version.

Rates of retention and repayment The rate of retention to be deducted in accordance with Clause R1 is to be stated in the additional items in Part 1 of the Appendix to the Form of Tender in Clause R6. All of the retention is repaid at the end of the Defects Correction Period, consequently the rate and limit of retention are recommended not to exceed 2% and 1.5% respectively. In order to assist the Contractor's cash flow during the early part of the Contract, provision has been made for a retention-free amount.

THE RETENTION CLAUSES

Retention R1 Any monthly payments made pursuant to Clauses 60(2) (3) and (5) shall be subject to a retention after the amount certified (before deducting any previous payments on account) exceeds the retention-free amount stated in the additional items to Part 1 of the Appendix to the Form of Tender in Clause R6.

R2 The retention shall be the difference between

(a) an amount calculated at the rate indicated in and up to the limit set out in the Appendix to the Form of Tender upon the amount due to be paid to the Contractor under Clauses 60(2) (3) and (5) and

(b) any payment which shall have become due under Clause R3.

Payment of retention R3 At the end of the Defects Correction Period or if more than one the last of such periods there shall become due to the Contractor the whole of the retention money. Within 10 days of the date of the end of the said period the Engineer shall certify the amount due.

Payment becomes due on certification of the amount due with the final date for payment being 14 days after the end of the said period notwithstanding that at that time there may be outstanding claims by the Contractor against the Employer.

Provided that if at that time there remains to be carried out by the Contractor any outstanding work referred to under Clause 48 or any work ordered pursuant to Clauses 49 or 50 the Engineer may withhold certification until the completion of such work of so much of the said retention as shall in the opinion of the Engineer represent the cost of the work remaining to be carried out.

R4 Clauses 60(10) and (11) apply to this Clause

Works substantially completed

R5 (5) If upon abandonment of the Works any Section or part of the Works has been substantially completed in accordance with Clause 48 or is completed so far as to be usable then in connection therewith the Employer shall not be entitled to withhold payment under Clause R3 of the retention money or any part thereof except such sum as the Contractor may allow under the provisions of Clause 63(5).

Appendix to the Form of Tender Part 1 R6 The following Items shall be added to Part 1 of the Appendix to the Form of Tender.

RA1 Retention-free amount £

RA2 Rate of retention

(recommended not to exceed 2%) (Clause R1) %

RA3 Limit of retention (% of Tender Total) (Clause R1)
(recommended not to exceed 1.5 %) %

Price fluctuation R7 If a price fluctuation is agreed between the parties for the whole or a part of the Contract then the retention may be applied to the changes in the prices.