

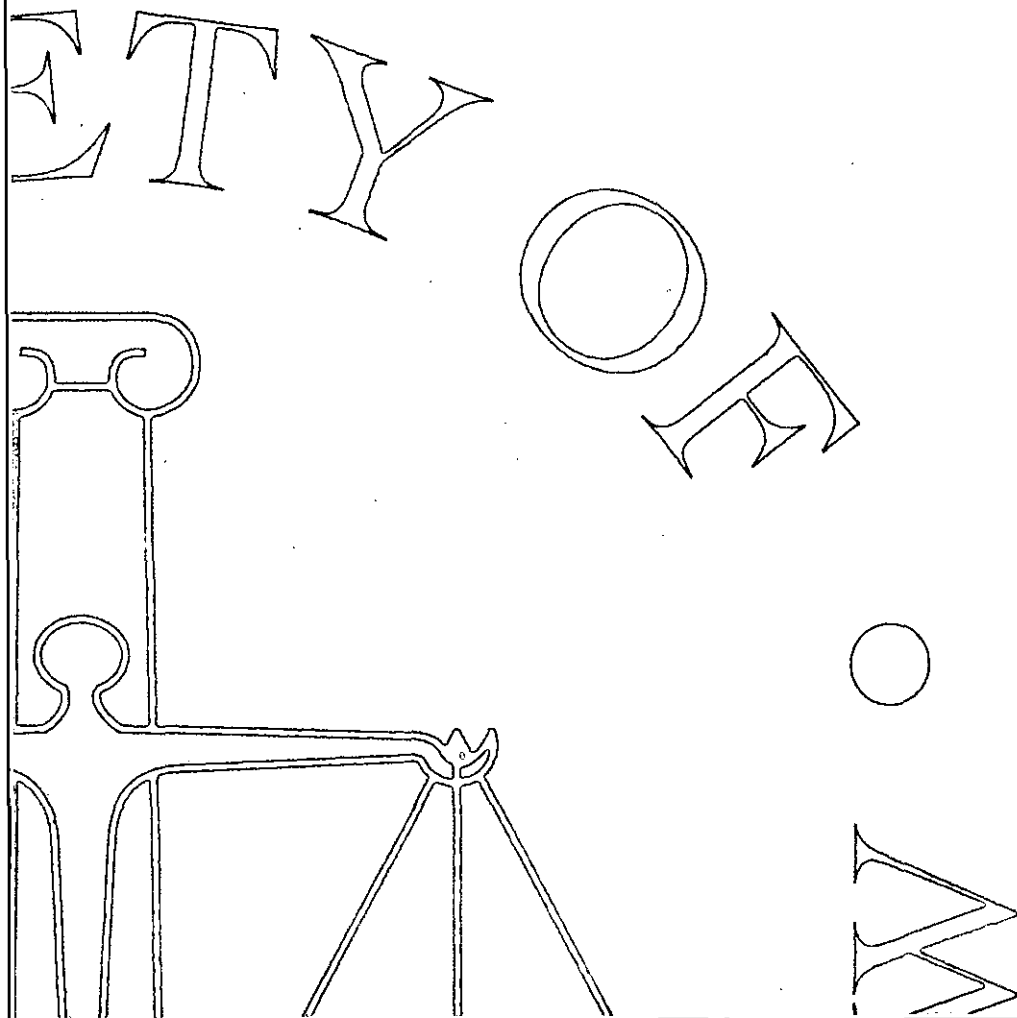


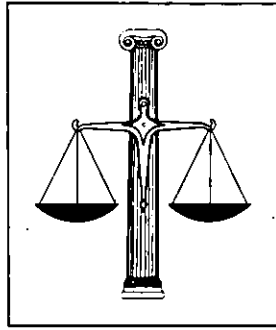
## MANAGEMENT OF LEGAL RISKS IN CONSTRUCTION

**Professor Phillips Capper, Partner at Masons, Solicitors, Wales**

21 September 1994

44





## **Society of Construction Law**

### **MANAGEMENT OF LEGAL RISKS IN CONSTRUCTION**

by

Professor Philip Capper

A Paper given to the Society of Construction Law  
at a meeting in Wales on 21st September 1994

Professor Capper is a Partner of Masons

**SOCIETY OF CONSTRUCTION LAW**  
**Cwmbran, 21st September 1994**

***"Management of Legal Risks in Construction"***

**Background notes for a talk by Phillip Capper**  
**Partner, Masons Solicitors;**  
**and Masons Professor of Construction Law, King's College, London**

*The ideas in this paper have been developed from Professor Capper's 1992 inaugural Lloyd's Register lecture to the Royal Academy of Engineering on the Practical Management of Legal Risks. They are being taken forward in the context of a current Research Project for the Construction Industry Research and Information Association (CIRLA), leading to the production of "A Client's Guide to Risk Management in the Construction Industry". The Guide is being prepared by Sir William Halcrow and Partners Ltd, in association with Laing Technology Group Ltd, Professor Peter Thompson (AMEC Professor of Engineering Management UMIST), and Professor Capper.*

**Introduction**

The opportunities for contractual risk management are well summarised by Thompson and Perry in their 1992 SERC report *"Engineering construction risks"*.

"Risk management can involve:

- identifying preventive measures to avoid a risk or to reduce its effects
- proceeding with a project stage-by-stage, initiating further investigation to reduce uncertainty through better information
- considering risk transfer in contract strategy, with attention to the motivational effects and the control of risk allocation
- considering risk transfer to insurers

- setting and managing risk allowances in cost estimates, programmes and specifications
- establishing contingency plans to deal with risks if they occur.

Risk management will not *remove* all risk from projects; its principal aim is to ensure that risks are *managed most efficiently*. The client and his project manager must recognise that certain risks will remain to be carried by the client. This 'residual risk' must be allowed for in the client's estimate of time and cost." (p.9: and see further extracts in Annexe 1)

Contractual documents are tools for managing risks. Their purpose is to determine the consequences of particular risks which you must previously have identified. You must have the right tool for the job.

This means choosing a contractual framework, for the construction phase, which is *appropriate* to the objectives and constraints of that project. The aim of this process of choosing an appropriate contract framework is to make more certain the practical and financial consequences of hazards.

An important consideration here is whether risks in construction are to be considered in isolation, or within the financial context of the "whole-life" of the project. The appropriateness of the contract as a risk management tool depends on the nature of your business as client and the experience of the your organisation in relation to the underlying technology of the project.

### **Contracts are adaptable tools**

Contracts are therefore to be viewed as adaptable tools, and not fixed datum points or ends in themselves.

In essence the contract has to define the objectives of the project, qualified by its constraints. It does so by defining what each party has to do, and making provision for a range of "what if" scenarios. But, we must recognise that ultimately competence is more important than procedures; that risk assessment serves judgement; and, judgement is practicable only if trust exists between the parties. These latter parameters are also vital for the management of risk, but are beyond the scope of contractual provision.

The vital parameters requiring definition in the construction contract are:

- what the client has to do
- what the contractor has to do
- by what dates these various tasks each have to be carried out
- pre-defined mechanisms for payment.

The emphasis must be on using the contract documents to reduce uncertainty or provide mechanisms for action when particular uncertainties eventuate into reality. Those mechanisms must in themselves be as clear as possible and based upon defined reference points. It is not an answer to postpone these issues for later judgmental decisions by a contract administrator. Nor should dispute resolution clauses be regarded at the outset as a mechanism for determining the price payable or for fixing in retrospect a reasonable programme. Of course, well planned dispute resolution procedures as part of the construction process can be a way of testing the outcome of some uncertainties.

#### **Are disputes more likely because of traditional contract forms?**

It is an error to believe that disputes are necessarily likely to arise in construction. Paradoxically, disputes are perhaps more likely to arise through the use of traditional UK standard forms. As Thompson & Perry found "existing models do not greatly help the achievements of objectives i.e. they do not make a significant contribution to reducing the effects of risk" [p. 36].

The contractual frameworks enabling modern construction are changing rapidly. The advance of high technology demands integration into construction projects, across disciplines well beyond those of the traditional construction supervisory team - architect or engineer. Despite the many interfaces, the whole has to be managed within a single coherent legal and contractual framework. Traditional multi-party involvement may yield to Partnering techniques but demand is high for single point responsibility. Responsibility is a legal concept. But it is workable only if it is realistic. For example, turnkey lump sum contracting with employer approval of contractor design may seem very attractive at first sight to the financing community. The reality is that it is not likely to prove as certain as to end result as would more appropriate contractual mechanisms.

If a project is let on unduly onerous terms, or it is administered by one discipline whereas substantial components of the project involve other disciplines, there will arise "pinch points". It is the pinch points that provide the fertile ground for growth of legal risks into expensive realities of cost overrun for one party or another.

### **Designing the contractual framework: provisions for uncertainty**

The most important element in the practical management of legal risk is the design and construction of the *contractual framework*. Of course words and phrases of contracts are vitally important, but many of the legal risks that require management arise outside the legal words and phrases. They arise through the chosen methods of administration of the contract and through traditional approaches - some now unfortunately out-moded - to the resolution of problems as they arise.

The essential reason for having a *contract* at all is this: to try, so far as legal provisions reasonably can, to render more certain the practical and financial consequences of matters which are physically and factually uncertain at the time of entering into the contract.

It is a very peculiar characteristic of construction projects, that they very often proceed despite high degrees of uncertainty. The participants show remarkable commercial willingness to go forward with uncertainty as to design solutions, uncertainty as to the eventual scope of the works, and uncertainty as to the time periods that will realistically be required in order to complete the works. Further uncertainties necessarily cascade from those, such as outturn costs, scope of sub-contract works and terms. The norm has been traditionally to postpone addressing uncertainties, leaving enormous discretion to be exercised in the future by those administering the contract. The management of construction risks will be better achieved by more pro-active contractual strategies.

### **Casting the provisions in context**

The ability for all concerned to attribute realistic financial figures, and hence cover for risk, to those uncertainties depend not just upon the particular contractual words or phrases. Rather, it depends critically upon the area of construction and management practice within which it has been chosen to operate the contract, and whether one can achieve a harmony and synthesis

between those who are performing the works and those who are procuring and monitoring the works. Nowadays, that is a much more complex grouping. The demands and constraints of those financing and those eventually operating the works may be as significant or more significant than those of the design/construction team. Yet, you have to guard against differing perceptions of particular risks. As Thompson and Perry observed:

"If recognised, a risk also tends to be seen differently by engineering, financial, commercial and legal departments, by the eventual users of the completed facility, and by general managers and their advisers. The attitudes, experience and careers of individuals may cause genuine differences of understanding of objectives, and so affect their evaluations and perceptions of risk. Differences can be particularly acute between client, consultants, bankers and insurers on export projects. These 'institutional' risks can seriously affect the initial identification and subsequent management of potential risks crucial to project success."

#### **Inappropriateness in the use of traditional forms**

There is another aspect of inappropriateness that can be illustrated by reference to the FIDIC and ICE forms. They were of course designed for civil engineering works. Civil engineering works are conventionally treated as relatively uncertain in their scope: what ground conditions will be encountered? What quantities will actually be required? So of course one has to allow for change and resolution of the problems. That is why the FIDIC and ICE forms are *remeasurement* forms of contract. Even the price is not certain at the outset. It is designed to be uncertain - to be left to the end and fixed by reference to what was actually done. But when forms such as these are carried into modern integrated projects - and not just large scale ones - demand arises to render more fixed a price at the outset, despite the inappropriateness of the conceptual basis of the form to such different contexts. So, FIDIC has been applied not just to uncertain price contracts but also to fixed price contracts; not just to civil engineering works in the ground of uncertain scope, but to electronics, pipelines and energy production contracts, even though those may well involve standard off-site fabrication type components, where the pricing mechanism would have been capable of more price certainty at the outset.

Thus a central aspect of legal risk management is this: not only are the difficulties of legal risk as much a product of the institutional ways in which we handle projects, but also more to the point they are the product of the

*inappropriateness* of choice of contract relative to specification, and relative to the project.

#### *Degree of definition of the works*

Take a critical example: how well are the works defined at tender stage? Very often it is said that one must not let a job until the works are defined. But that is frequently commercially impossible - not a realistic expectation. So the legal community and commercial community have developed innovative contractual frameworks, such as construction management, or project management (eg the New Engineering Contract).

You have to make sure that the pricing mechanism that is adopted is appropriate to the degree of the definition of the works at tender stage. Of course it may be said: financiers like fixed price (or lump sum) contracts; contractors prefer cost plus; civil engineers assume a remeasurement basis. The question is: which projects are appropriate for which pricing basis?

The risk management issue is not that uncertainties are inevitable. Rather, how can one relate the realities of a particular construction project, and its recognised uncertainties to the finite commercial realities encompassing it, such as financing and completion risks? So lump sum pricing is appropriate where there is a high degree of definition of the works at tender stage. But it would be odd to apply a remeasurement contract such as FIDIC) to a project which is predominantly a process plant construction. Cost plus obviously has dangers of inefficiency, but at least it is flexible and can be made more attuned to the day to day circumstances of the project: if combined with target incentives and close monitoring it avoids the inefficiencies of contingent pricing.

#### *Certainty of price vs uncertainty of design*

The modern movement in apportioning responsibility is towards single-point, often with fixed price and contractor responsibility for design. But those with a financial dependence on a turnkey solution will want their own opportunities for technical monitoring. It is a major source of legal risk that requires careful contractual definition how to provide for contractor design responsibility and yet client participation in approval processes. Experience shows that many legal risks eventuate as disputes because of the inappropriateness of approaches to those two roles. Very often delay on a project arises because the approval process on the client's side is misunderstood. This is even more true when there is a mixture of performance specification and descriptive specification.



### *Weakness on programming obligations*

Take one more example of the potential inappropriateness of traditional approaches to construction contracts: the traditional standard forms are weak on programming techniques. Of course, programmes are frequently required because of the completion risk for the financing of the project (especially where there is a revenue flow required by a particular date). Nevertheless it is frequently the case that the contractual significance of the programme is inadequately defined. The JCT family of forms, in particular, makes almost no use of programming techniques as such. The standard engineering forms, ICE and FIDIC, are not much better in this respect: a programme is provided for (in clause 14), but is not integrated by milestones, incentives, etc, into the framework of obligations of client and contractor. More recently published forms provide better models in this respect such as GC/Works 1/Edition 3 and the New Engineering Contract.

### **Contracts are not adversarial: disputes need not be inevitable**

With better attention to the management of uncertainty, and appropriateness of contract framework, projects do not have to commence on the basis that disputes are inevitable.

Projects do not have to be adversarial in nature, nor are forms of contract necessarily adversarial in nature, as is frequently suggested. What is true is that *uncertainty* is more likely to produce disputes. By realistic appraisal at the outset of levels of uncertainty it is often possible to remove the seeds of what would otherwise be eventual disputes.

There are ways of handling and managing risk which ought to prevent disputes arising in the first place, even during the progress of the project. The traditional contract administrator is in the position closely to monitor the project and particularly the quality systems implemented for the project. He ought to know in some detail first hand the basic facts. A Disputes Review Board, a Panel of Experts or an Adjudicator has the merit of being able to stand back more and assess what has happened. Certainly, it is necessary to find methods of keeping the dispute review mechanism (whatever form it takes) informed as to what is going on the project.

"Alternative" methods dispute resolution - not just for smaller scale projects - have considerable merits, such as mediation or conciliation, even if not inherently binding other than by agreement. Particularly while the project is

continuing they enable cheap effective removal of difficulties, so that the project can progress satisfactorily and get back on track. It is undesirable that such matters should fester and become an impediment to progress.

### **The context, and competence, of the client**

To some extent, these matters depend upon the competence or experience of the client and the competence of others in the project sharing the risk. Some suggest that among the aims underlying the traditional ICE approaches were to make the public sector client have the risk pushed away from him and have it resolved in a very accountable way which can be explained to public accounts committees. By contrast, when one looks at, for example, the process side of the industry one has, for example, large oil companies as clients who themselves are much more competent in the technology of the project. They are therefore much more capable of assessing the risks and coming to an appropriate bargain. That may explain the view that on the process side of the industry there are more effective forms of contract and more effective dispute resolution.

A further way of expressing risk laden differences in types of client is a scale between resourced and not resourced, at least in a financial sense. This may be just as significant as the relation of the product in a technical sense to the business of the procurer. So, of course, for example in the oil industry, if one takes a large purchaser of a plant, which is itself as an organisation not only extremely skilled in the previous procurement of such plants, but also in their management and general understanding of that industry; such an organisation has a more obvious "whole life cost" interest in that project. That may make the construction phase of it, relative to the whole life of it and of the organisation, further down the scale. The opportunity and revenue benefits over the whole life of the project may be much more significant. The particular project is then but part of an overall pattern of procurement within the business which itself may be international. That puts a completely different perspective on the management of risks that arise and their solution.

This latter context is in stark contrast to the typical context of the most difficult and intractable disputes. Those frequently arise where in retrospect there is a lack of knowledge as to what has really happened, or worse still, none of the participants can really afford (because of the isolated context of the project relative to the continuing life of that entity) to deal with what has now happened. It may not be fully appreciated why the problem arose but it is certainly the case that neither side can now afford to accept the cost of putting

it right. By contrast, if the problems arise in a context which is reasonably well resourced and can be viewed in the context of the whole life of the project, then the chances are that a constructive path can be found out of that problem. It is also likely in the latter context that the market place will enjoy a high degree of cohesion between those buying such engineering and those providing it.

These differences can be illustrated by reference to advantages and disadvantages of Construction Management methods of procurement. Construction Management illustrates very well the difference between the experienced client who can often make very good use of construction management, and the inexperienced employer who might be much less well fitted to enter into direct contracts with many works package contractors directly.

### **The "open texture" of language, and approximation in legal methods**

The law interfaces with risk assessment both at the stage of contract drafting, and in the carrying out of that contract. But, the contract draftsman and the ultimate tribunal are still limited by the open texture of language and the necessary approximate methods which are involved in methods for legal trials and the assessment of evidence. Legal techniques will attempt best assessments of the meaning of risk probabilities. Nevertheless, in the law, ideas of causation and likelihood retain substantial elements of impression rather than purely analytical scientific method. The solution to such apparent shortcomings is in the identification, collection and maintenance of records. Good and cogent evidence of pertinent data will reduce levels of uncertainty in the contractual risk assessment.

Much will depend on the extent and period of the tendering process and whether there is a realistic opportunity for the contractor to initiate his own investigation and substitute his own judgment, especially when such an exercise has already been undertaken on behalf of the employer.

### **Some conclusions for procurement strategy**

The common goal is, so far as reasonably possible, to meet the client's objectives. So, the purpose of the contract framework, as a tool in risk management, is to cause - by definitions and incentives - the risks to be identified and managed by practical means most likely to achieve that goal.

The contractual framework is a fundamental tool, to be designed and used creatively. Just as planning is a tool for the reduction of uncertainty and, for example, funding is a potential tool for responding to the eventuation of uncertainties.

Key words in procurement strategy are "appropriateness" and "realism". A definition of appropriate contractual provisions has to be a considered response to the particular circumstances of each project. A considered response has also to be an articulated response. Too often uncertainties are left unaddressed in qualifications to tenders, or unexpressed and conflicting assumptions carried into the project by the different participants. A typical example can be discrepancies and inconsistencies that arise between stated elements of the client's brief and expectations arising from quality standards and codes of practice.

Simplistic contractual devices, such as ill considered transferring away of risk, may in fact in the end cost more money. Managing risks, recognising the principles in this overview, is likely to save money.

## ANNEXE 1

The 1992 SERC project report "*Engineering construction risks*" by P A Thompson and J G Perry included amongst its conclusions:

- **All too often risk is either ignored or dealt with in an arbitrary way:** simply adding a 10% 'contingency' onto the estimated cost of a project is typical. This is virtually certain to be inadequate and cause expensive delay, litigation, and perhaps bankruptcy.
- The greatest uncertainty is in **earliest stages** of a project, which is also when decisions of greatest impact are made. Risk must be assessed and allowed for at this stage.
- ...
- **Flexibility in project design and the risk of later changes** should be considered in detail before completing proposals for sanctioning.
- Risks change during most projects. Risk management should therefore be a **continuing activity** throughout the life of a project.
- ...
- On most construction projects, the client deceives himself if he uses single figure estimates of cost and time for appraisal and funding decisions. **Ranges of estimates** should be used, including specific contingencies and tolerances for uncertainty.
- **Delay in completion** can be the greatest cause of extra cost, and of loss of financial return and other benefits from a project. **The first estimate of cost and benefits** should be based on a realistic programme for a project. On this basis the potential effects of delays can be predicted realistically.
- Attention to contract strategy based upon systematic consideration of risk can achieve significant cost savings for a project. There is growing acceptance in the UK that traditional contractual arrangements are no longer the best basis for managing today's high -risk projects. **The proposals for funding (sanction) a project** should therefore include recommendations on contract strategy.

- **Competitive tendering coupled with traditional contractual arrangements limit the realistic management of risk. The pressure is always on those bidding for contracts to keep their tender prices as low as possible, which can put both them and their clients at great financial risk if things go wrong. When some provision has been made for eventualities, it is often buried in the total bid. This hinders the effective management of risk and militates against a systematic and equitable basis of payments.**

...

- **The overriding conclusion drawn from the research is that clients and all parties involved in construction projects and contracts benefit greatly from reduction in uncertainty prior to their financial commitment. Money spent early buys more than money spent late. Willingness to invest in anticipating risk is a test of a client's wish for a successful project.**

*scl94rsk*