

Avoiding Claims in Building Design

Risk Management in Practice

Malcolm Taylor



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Preface

The origins of this book have probably lain dormant in my subconscious ever since I started in practice more than 40 years ago. If anyone had mentioned 'risk' or 'risk management' then, they would have meant little to me, or I suspect to anyone else in practice.

But gradually, over the years little pieces of the jigsaw have been falling into place. My founding profession, quantity surveying, and in later years my experience in management of the design processes, have helped me to recognise the terrible problems which can sometimes result from indifferent management of risk, and some of the techniques which have helped to solve the problems.

It has been the lot of quantity surveyors to observe the results of the actions of other members of the team while remaining detached from many of their activities. The role of the quantity surveyor, in general, has meant that he has not had to undertake the kinds of risks which generate the substantial claims suffered by other members of the design team. The relative detachment of the profession places it in a unique position, compared with its fellow professionals, to observe and to judge risk.

However, there are two reasons why I feel it necessary to confess to having encountered the perils of poor risk management. The first is a confession that I, too, have 'been there' and have suffered the anguish which follows from an act of carelessness. The second is that until the early 1970s, while one would have experienced guilt, one would not have expected to be claimed against. The worst to befall the professional might have been no more than the loss of a client, traumatic as that might have been. Since then the number of claims against practice has grown, almost exponentially.

So I suppose the idea of risk as a subject for a book might have emerged after I became involved in observing the different risk management styles of a substantial cross-section of UK design practice. I also experienced risk at the front end in my own firm, a multidisciplinary practice. So often, after the event, an older and wiser colleague would sigh 'if only I had just ...'. I gradually realised that there are common patterns of risk experience, whatever the size of practice and whatever its nature, and the possibility that I could capture such patterns on paper.

Building designers do seem to be particularly exposed to being claimed against. It has been my experience that many designers have an uncanny knack of falling into trouble which, with a few relatively simple precautions, they could either have avoided or minimised. While many of the precautions this book covers are hardly simple, much is basic common sense, and may appear to be stating the obvious. But it can be the obvious and often the pivotal part of a claim which could reasonably have been foreseen with the help of some risk strategy.

I would have been foolish to set out on this voyage hoping to cover every situation or expecting every word to be accepted as a tablet of stone. Risk is nebulous. A busy practitioner has many preoccupations. Every practitioner has different priorities, which can change from day to day. Few, if any, can afford the luxury to pause every few minutes and ask themselves, 'Have I evaluated the risk?'. However, I hope that this book captures the common patterns of risk, so sharpening awareness of them and establishing some framework for them to be managed.

For a subject which touches, and is touched by, the legal world so frequently, readers may be surprised that there is relatively little reference to legal precedent (court judgments), which nearly always provides a good read at the expense of hapless defendants. I debated this for some time and came to several conclusions. The first was that erudition on the law is for lawyers and there are many excellent books written by lawyers on the law of the construction industry. The second was that I was about to write a book of sufficient complexity without the additional burden for readers which substantial legal commentary would certainly impose. The third was that much of the trouble practitioners face is decided in the courts (if it gets that far) as much on matters of opinion and disputed facts, as on hard legal precedent. And lastly, although the level of court reporting that appears in books and articles can be entertaining, is it always that instructive? One really needs to read actual transcripts to reach the heart of the case, which often enough is found to have little relevance to the current dispute. However, I hope I have given due recognition to the law, which ultimately lays down the tests of what is or is not professional culpability.

Where the male gender has been used in the text, this should be read as referring to both genders.

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I must firstly express my thanks to the Wren Insurance Association in allowing me so much freedom to refer to their activities, and to the members of the Association who have so patiently allowed me to access their risk procedures. Without these sources of information, this book would not have been possible.

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RIBA Publications Ltd - Standard Forms of Agreement SFA/99, CE/99, DB1/99, DB2/99, SC/99, PM/99 and PS/99

Association of Consulting Engineers - Conditions of Engagement Agreements B(1), B(2), E, F

Royal Institution of Chartered Surveyors - Appointing a Quantity Surveyor, Project Manager Agreement

NHS Estates - Agreements for the appointments of project managers, architects, surveyors and engineers for commissions in the NHS and duties under CDM Regulations

Association of Planning Supervisors - Form of Appointment as Planning Supervisors (POA/98)

I am grateful for the timeliness and permission from Building Design Partnership to use the quote which heads the Introduction.

Finally, but certainly not lastly, to my wife Daphne, for her patience and her reading of the manuscript.

Glossary of Terms

The terms shown in bold are those used in this book. Where alternative terms are commonly used in the construction industry, they are shown in italic.

Appointment

(also known as Terms of Engagement)

The contract between client and consultant, either specially written or based on one of the institutes' standard forms of engagement. The term 'appointment' is used to distinguish the instrument from the building/construction contract. *See also* Conditions of engagement, Building contract, Consultant.

Building

(also known as Construction)

The built part of the project. Normally a complete building with elements designed by one or more of the design professions, but may consist of one or more of the elements, or even structures which are not strictly buildings, if they are the subject of risk to the designers of these elements as covered in this book. *See also* Design Team, Project.

Building contract

(also known as Construction contract, Contract)

The term used in this book for the contract between client/employer and contractor to construct the building. *See also* Appointment, Client, Employer.

Client

Person or organisation which commissions (contracts with) consultants and contractor for design and construction. *See also* Employer.

Conditions of engagement

The term used in this book for the standard forms published by the professional institutes as the basis for the appointment between client and consultant. The term is occasionally used in the

industry to mean the appointment. *See also* Appointment, Client, Consultant.

Construction Act

See HGCRA

Construction contract

See Building contract

Consultant

Person or organisation commissioned by the client to carry out professional services in connection with the design of a building. *See also* Client, Design team, Specialist design.

Contract

See Building contract. (This term is occasionally used in the industry to include the appointment.)

Contractor

Person or organisation (normally a limited liability company or plc, or a subsidiary of a larger company) which takes total responsibility for the construction, or the design and construction, of a building project. While retaining such responsibility, it may – and normally does – sublet the greater part of the work to subcontractors.

Contractor design

See Specialist design

Design professions

See Design team

Design team

(also known as Design professions)

The term used in this book to describe the consultants (not necessarily all designers) commissioned by the client to design or contribute professional services for the project. The term excludes specialist designers. *See also* Client, Consultant, Project, Specialist design.

Employer

The term used for ‘client’ in building contracts. *See also* Client.

Firm

See Practice

HGCRA

The Housing Grants, Construction and Regeneration Act 1996, also known as the Construction Act 1996.

Organisation

See Practice

Practice

(also known as Firm, Organisation)

The organisation, either partnership, company or equivalent in a public or corporate authority practising in the relevant professional discipline, which contributes professional services to the project as a member of the design team in a consultancy capacity. *See also* Client, Consultant, Design team.

Principal

A person in the practice with sufficient authority, either singly if a sole principal, or acting as part of and authorised by a corporate structure, to make policy decisions which affect and commit the whole organisation. As a partner in a partnership he will own part of the partnership. As a director in a company he will be vested with similar authority to a partner. The senior principal may have special powers arising from his majority share in the enterprise, or may act only as chairman or managing director. A sole principal is the owner of the whole enterprise. *See also Practice.*

Professions

See Consultant, Design team, Practice

Project

The whole of the work commissioned by the client in the design and construction of the built product in which a part is played by the design team. *See also* Client, Design team

Specialist design

(also known as Contractor design)

Design undertaken by a specialist designer, either contractor or subcontractor, who is not a consultant. As defined by this book, the specialist designer is not a member of the design team. *See also Design team*

Terms of Engagement

See Appointment

Introduction

‘One claim can wipe out profit made on many jobs’
(*Building Design Partnership Practice Newsletter*, 1998)

For whom is this book written?

Essentially, this book is written for all who design building projects or parts of building projects, either in practice as a commercial activity, or in the public service: architects, civil, structural, mechanical or electrical engineers, interior designers, landscape architects and others who contribute to the design of the building project as professionals in their fields. Risk, of course, arises directly from the potential exposure of the organisation to being claimed against on the grounds of its alleged negligence. However, the sources of negligence for the building designer arise increasingly from the interaction of his activities with those of one or more of his fellow professionals within the team. Considerable emphasis has been given to this aspect, so this book may be seen as informative reading for the whole team, irrespective of the problems faced by a professional for his own core activities.

Quantity surveyors are included. Although they are not designers they play a significant part in the generation of risk, whether acting as direct advisers to the client or as members of the design team.

Inclusion of the project manager has to be qualified. If he is a member of the design team he is part of the team's risk chain and is included. If he is the client's agent (from the building team's viewpoint, has authority to act as client), he is part of the client's risk chain and, like the client himself, should not be included. This is essentially a book for designers and their risks. However, where the project manager is the client's agent and his role establishes risk to the team, his role is explored.

Risk to the contractor has not been included. Even when he or his subcontractors design and many of their risks are similar to the risks which consultant designers bear, the culture is different. Contractors have had to adopt different attitudes from consultant designers for a variety of reasons, some of which will be explored later in the

context of their effects on designer risk. Contractors have had to learn to anticipate trouble as part of their core activity, so they are ahead of many consultants in their risk management techniques and their ability to manage claims. Contractors would not recognise many of the procedures advocated by this book.

While the risks to clients and contractors are not a subject for this book, many risk activities have to be shared between client, contractor and the designer. I have tried to include comment where the risks interface and touch the design professionals.

Some terms of reference

This book is for members of the team who collectively produce an integrated project design, but owe separate duties to the client. It might be helpful to make three points at this stage:

- (1) One person's risk of being claimed against is often the other person's safety. Throughout this book I shall be seeking to suggest how the party bearing the risk might be better protected, rather than always commenting on the safety of the other party. However, the converse will apply to the 'other profession' considering his own risks. This book is not intended to be an academic treatise on the balances of risk between the individual players.
- (2) There has to be a reasonable limit to comment on the sometimes long chain of responsibilities in the whole team (design plus construction) which ultimately land at the feet of one player. There has to be some practical limit to describing how risk is distributed between the sometimes enormous number of organisations which contribute to the risks of design professionals. Generally, I have decided to limit the construction side to the contractor and his subcontractors and to the prime suppliers of construction materials; there are no sub-sub-contractors or subsuppliers in the text. However, similar relationships – and therefore similar risks – arise throughout the wider team.
- (3) Most designers bear the same kinds of risks; where they do, I have called them 'the designer', whether they be architect, engineer or any of the other design professions. However, such simplicity of definition is not always possible. Design needs coordinating on all but the smallest of schemes where services from only one profession are provided. Coordination is carried out by the 'lead consultant'. On most schemes the architect performs this function, a fact recognised by many of the

standard terms of engagement. Moreover, since his lead consultancy role is closely related to his design role (also recognised by standard terms of engagement), there are some distinct messages on risk for this profession which can only be captured by referring to him as 'the architect'. The terms 'coordinator' and 'lead consultant' are normally synonymous and should not be confused with 'project manager' whose often confused role is also explored.

Why do practices need to manage risk?

So far this introduction has been mostly about 'risk' and less about 'claims'. What is the connection between the two? Simply that a claim indicates the existence of a risk. The risk which produces the claim needs to be managed. Both terms will be explored in greater detail later.

As I have indicated in the preface, we live in a world in which we all look to see who we can blame for some misfortune, more frequently than shrugging our shoulders and putting it down to life's experiences. The fashion for blaming someone has extended to looking for recompense even when there is no fault, or even any loss. Sadly it is human nature sometimes to look for fault in others when we admit privately to ourselves that we are the guilty party. Often it is out of our hands to accept, deny or deflect blame to others.

Whatever the source, a claim arising from alleged blame can come from some unexpected directions and is nearly always in the form of a demand for compensation. If this demand gets as far the courts it is called damages. The parts of the process of seeking – and yielding – retribution which this book explores, do not reach this ultimate stage. As explained in the preface, this is for lawyers. Readers who are unfortunate enough to have reached the stage where writs are flying will have been adequately briefed by their lawyers on the course of events. While very few disputes reach the courts, most end in tears for the losing party, whether the consequence is writing out a large cheque, foregoing a part of one's fees or simply not working for that client again.

Changes in society's perception of the professional

Just why the making of claims against consultants is a popular sport now, yet was unusual even 30 years ago, is an interesting puzzle. Possible reasons are worth exploring. Not only are they interesting in themselves, but they have some bearing on the essence of this book.

Part of the reason must lie in the changing class system in the UK. The professional man used to be a member of a rigid caste which created an umbrella of protection from the vulgar slings and arrows of attack. Judges often felt embarrassed to have to pronounce on members of their own class. Like the ritual in the sanctuary of the medieval church, the mysteries of professional practice were protected from public view. Only the professional's peers were permitted to know a little and never enough them for them to set standards of professional competence. The middle classes from which professionals were drawn were careful to keep the shop closed through the selection barriers for succession they invented: the high cost of becoming qualified and experienced enough to practise, the school one went to, the club one belonged to, and so on. While this undoubtedly allowed a great deal of inefficient practice and the potential for many people to occupy positions they did not deserve, it also perpetuated a climate in which the professional was rarely sued.

If one ever did have the temerity to question the services of one's doctor, dentist, lawyer, accountant, or indeed architect or engineer, one did not sue without hesitation. Thomas Bouch's design errors which contributed to the Tay Bridge disaster might have resulted in his removal as engineer to the Forth Rail Bridge project and the subsequent disgrace that destroyed him, but as far as I am aware the directors of the North British Railway never actually sued him.

Newspapers (the early media) knew their place even though there seem to have been no particular legal constraints which would have prevented them from 'blowing the whistle' on demonstrably bad practice.

All this has changed. Although a class system might still exist, it is very different. Society no longer holds in awe the consultants it employs. We have become used to questioning their pronouncements and our professional advisers are fair game to the most penetrating comment. We live in a consumerist society and are encouraged by the many consumer bodies to complain at the merest whim. We are, by and large, more literate and have the time to read and argue.

The legal rules by which a professional is judged liable by the courts have on paper remained static for many years; the test of a professional man (again, a definition of protection possibly invented by his peers in happier days) of 'reasonable skill and care' remains. However, this may be more illusory than we think. The case of *Greaves v. Baynham Meikle* [1975] 3 All ER 99 came close to merging skill and care with the more onerous 'fitness for purpose' test. One wonders how much longer professionals will be able to shelter behind the lesser test of their competence.

The Middle East may be responsible for some of these shifts in attitude. In the early oil-rich days of the 1950s, many UK practices sought fortune in the enormous building schemes that the Middle Eastern states were able to afford. Consultants found to their surprise that they were treated as contractors and had to change their cultures. The ripples reached to UK practice itself.

The media have become all powerful and respect nothing. Some of us might have expected the courts to restrain some of the more extreme examples of trial by media, but generally they have not. A well aimed and sustained press campaign can ruin a professional's case long before it reaches the courts. Proving actual liability is almost a side issue.

Probably, for all this, we live in a better and healthier society now. But the penalties can be painful for professionals in practice. Sometimes I think that they have not adjusted sufficiently to this harsh new world, as, say, the contracting world has by developing the toughness necessary to survive. There is a dichotomy here. If toughness is a necessary ingredient for better risk management, it sits uneasily with the nature of professional practice. Good designers are good partly because they are idealists. Commercial awareness is not a priority. They expect to be treated decently when they treat with decency the hand which feeds them. A professional's essential ethic is to be open, even-handed, honest and truthful. Good clients will still recognise and respect these qualities and will not abuse them. Having chosen a man for his brilliant design skills, it is recognised that he needs some sympathy when problems beset him. Unfortunately for most designers, that sort of client is rare. So there is hurt and bewilderment when, having done what he thought was a good job, the designer finds the knife put in by a clever lawyer who has grasped an opportunity for his client.

Does insurance affect the frequency of claims?

It would be wrong not to concede that insurance might play some part in everyone's readiness to have a go at building designers. Some commentators have argued that as the designer is nowadays heavily insured (they say), why not have a shot at him, since even if he yields, he will not have to pay? I have never been sure whether this is anecdote or fact, but it is an accusation to be taken seriously. Its veracity is, or was, supported by some evidence, in that insurers used to forbid practitioners from declaring that they had insurance. A more far fetched theory was that practitioners became careless because they enjoyed the comfort of insurance. This in my experience is nonsense.

Even if the first theory has any validity, argument seems academic for two reasons:

- Insurers have the reputation for not being a soft touch. Acting on behalf of the insured (as well as the desire to protect their own pockets), they do not yield easily to claims and in fact have greater resources to fight claims than had the claim been left to the practitioner to defend.
- The practitioner who 'goes bare' (does not insure his liabilities) on the grounds that he is not worth suing is today a rarity. Did Bouch escape action against him because he was uninsured? Most professional bodies now stipulate a minimum level of insurance that their members should have. And, even if some do not, the clients themselves expect to see evidence of insurance before they will appoint a consultant.

Nevertheless, suspicion may still exist that insurance fuels the extent of claims and I cannot altogether deny the force of this theory.

Professionals need the weapons to fight back

It is part of my purpose in writing this book to attempt to restore some balance, to level the playing field and to give the practitioner some of the weapons he needs to deflect the knife (or even turn it on his accuser); to give him the weapons to practise, as far as possible, safely; and when he is in a hole, to show how to dig himself out of it.

Clearly, the main aim of this book is to try to help reduce the chances of being claimed against. One positive result must surely be that by practising more safely, the practice and the wider team will enjoy a trouble free job, with harmony and satisfaction for all, including builder and client. However, as part of this process the reader has to come to terms with weaknesses as well as strengths. No organisation is perfect. I have had to face this in the writing of the book; it would be one-sided and not very helpful to ignore weaknesses. But it would be a pity if some readers treated the book solely as a means of exploiting weakness. I do hope this will not happen.

Claims – failure of management or design?

This book largely concentrates on the processes of management as determinants of the qualities of risk management. But some will argue that it must be the quality of design which imposes the greater risks in practice. This is a fair point.

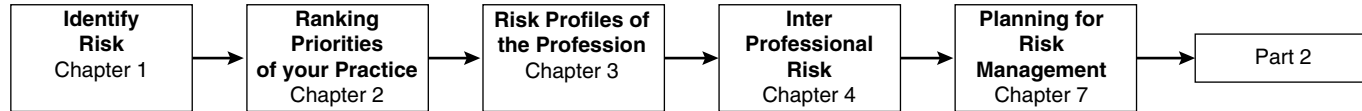
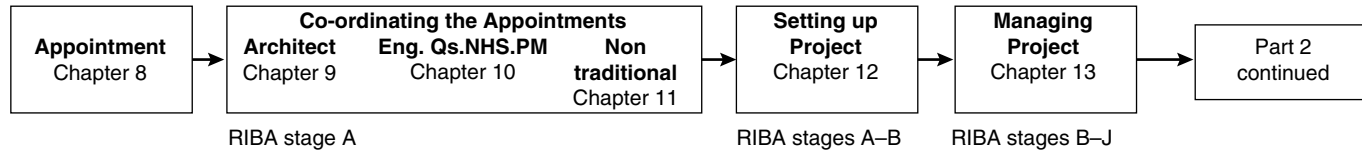
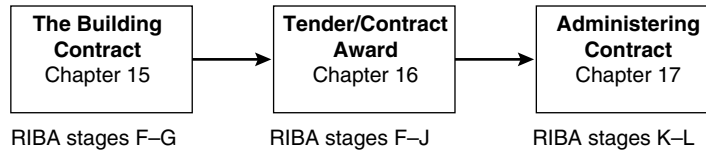
Insurers have found that the matters which lead to successful claims against practitioners have their origins in poor management rather than poor design. This has been recognised by at least one insurer who encourages better management as being at the heart of better risk management. Also, RIBA Indemnity Research published a set of risk management principles which supported this.

That is not the end of the discussion. Practitioners, who after all are or were once designers, already know their design vulnerabilities. They already know what should be done to ensure that roofs do not leak, that briefing temperatures are maintained, and that piles do not fail. They already know that innovative design demands special care. If they were not aware of the importance of sound design, they would not be in practice. They have the weapons to ensure, as far as reasonably possible, that their designs are competently executed. Help is to be found from a vast variety of sources: national standards, legislation, research bodies, articles in magazines, their own feedback. Their libraries are full of advice. But how many libraries contain help in managing the processes more effectively in the management of risk? What they do need is the framework to help them ensure that they do not forget to apply the tests and checks which make design as trouble free as possible – in other words, good management of the process. I hope that readers will find some help in these pages.

The structure of this book

Figure I.1 is a programme flow chart analagous to the typical flow chart for planning a design project. The figure shows how the chapters relate to the stages in the planning of a risk management strategy for the practice.

The book is divided into two parts. In Part 1 I show the nature of risk, then guide the reader through various forms of practice according to his own background, to determine the likely sources of risk within the walls of his own office, and the wider risks resulting from working with other professionals in the team. I have done this by exploring as many types of risk as practicable in different types of practice and in the different professions. I have invited the reader to ask himself where he stands, and thus the likely sources of the risks, to him personally and to his practice, of being claimed against. Along the way, I distinguish between quality assurance and risk management, to avoid the possible confusions which seem to arise when the subjects are discussed. The reader is then in a position to consider the right framework for managing risk in his practice.

Part 1**Part 2****Part 2 (continued)****Fig. I.1** Programme flow chart.

Part 2 is devoted wholly to the tools of risk management – the processes I have seen work well without becoming a bureaucratic burden. They are grouped roughly in the order of the RIBA Plan of Work, a structure familiar to all design teams.

Part One

Principles and Practice of Risk Management

1

Defining and Identifying Risk

Definitions

Before we can start to understand the purpose of this book, some important ground rules have to be laid down. What is risk, and what is risk in the context of claims, what is risk management?

Risk

Risk is defined in one dictionary as:

‘Hazard: chance of loss or injury ...’

That seems a good start in developing definitions. Hazard is inherent in any commercial activity which intends to offer services in exchange for payment. Hazard is one of the inescapable constituents of practice. It is a product of the way we practise, our culture, the attitudes of society and our legal system. There are all kinds of hazards in practice, many unconnected with our subject. So the definition needs to be refined. All we have to add for the purposes of this book is:

‘... resulting from the threat of, or an actual claim against the practice, arising from alleged breach of contract or negligence’.

I have added ‘threat of’ to include the occasions when the risk of being claimed against is possible or probable, even if a claim has not and may not materialise. More later on this aspect.

Risk management

Having identified the risk, the management of it involves weighing up its importance and then taking appropriate action (if any). Properly managed risk acknowledges the chances of being claimed against and may reduce them, but will never entirely eliminate them. Risk and its management must not stifle enterprise. The acceptance of risk should be seen as a healthy component of

commercial activity; it is part of its dynamic and is positive. It is an essential component of competition. Risk management – the care in practising as safely as possible – is to be viewed as a positive, not a negative, part of the total management of the enterprise. Good risk management embraces claims management. Risk management should not necessarily be seen as having failed if a particular risk has not been reduced or eliminated. It might be seen as having failed if the lessons which should have been learned, were not learned, resulting in further claims. To identify this fundamental part of practice and to manage it, is to control risk. So completion of the above definitions to define risk management might now become:

- Identifying hazard, chance of loss or injury as a result of the threat of, or an actual claim against the practice, arising from alleged negligence
- Weighing the importance of its components against all the activities of the total enterprise
- Ranking them
- Identifying those which should not or cannot be reduced
- Developing a strategy for controlling and reducing the remainder
- Managing that strategy.

This expansion of the definition lies at the heart of this book.

Identifying risk

The nature of all risks related to claims can be compartmentalised up to a point (Fig. 1.1). The first and probably most important division is between the risks we are aware of and those we are not aware of. The latter might be subdivided into those we are reasonably unaware of and those we are not aware of but should be; and a further subdivision of risks we ignore even though we are aware of them.

We do not have to be too pedantic about these ‘compartments’, but such a structure does help in focusing on the importance of the various risks we face and how we deal with them. In normal domestic life, few of us would recognise these divisions but they nevertheless exist in our subconscious. When a risk becomes ‘loss or injury’, it unexpectedly acquires a new importance and we are possibly reminded that it occupies one or the other of these ‘boxes’. The consequences of having ignored the warning signs become evident, too late. (We continue to forget to review the value of house contents and find with dismay on being burgled that the insurance

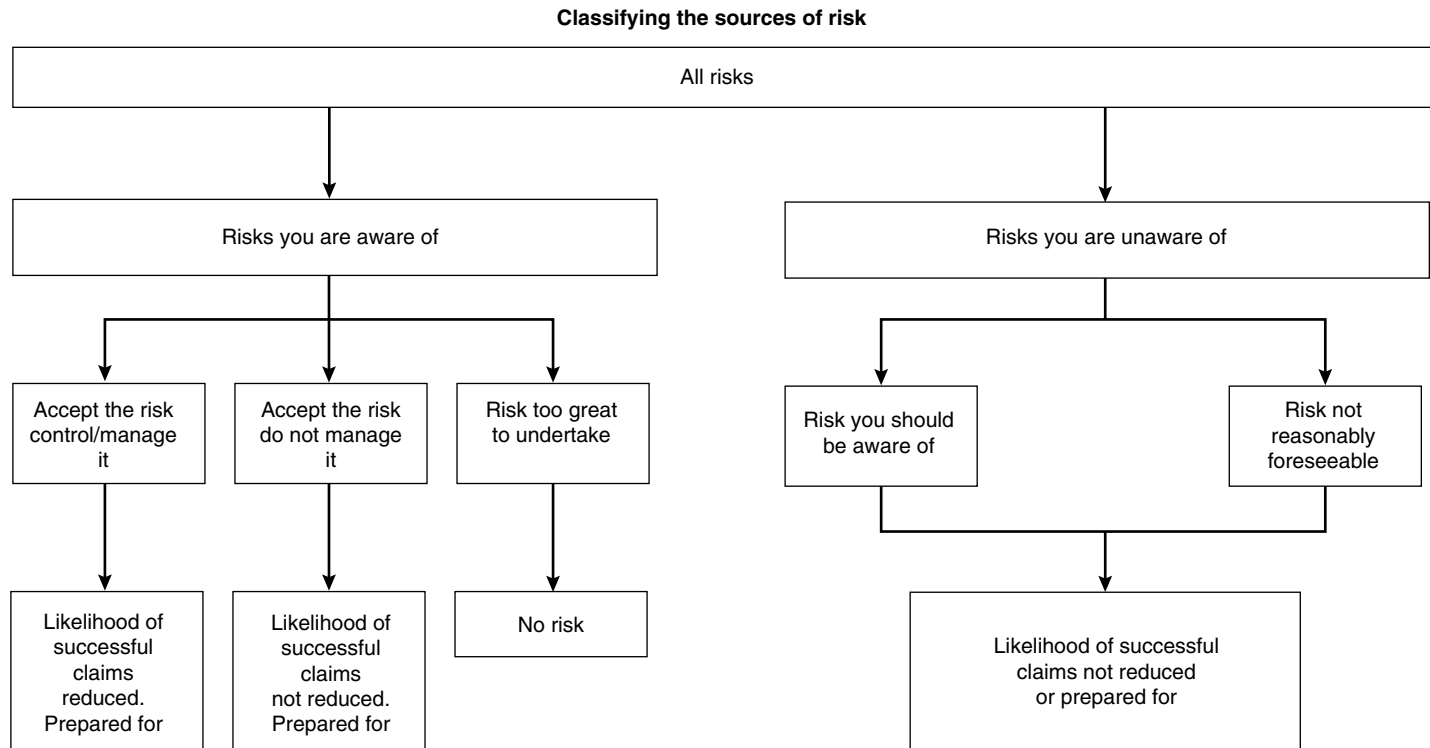


Fig. 1.1 Classifying the sources of risk.

company will not pay out 'full value'. Have we learned the lesson and diaried the future need to upgrade valuations before insurance renewal?) However, unless these events are life threatening or affect our pockets, the 'boxes' they occupy return to our subconscious.

Let me give two further examples, both concerning travel. According to police statistics, most drivers exceed speed limits at some time in their lives; thus they take risks. There is a 70 mph speed limit on motorways and dual carriageways and lower limits on all other roads. It is a criminal offence to ignore them. The motorist is deemed to be aware of the law and the likely penalties for exceeding these limits, so one 'risk level' operates if he is in fact ignorant of the law. If he does not know the limit on the road he is using, he cannot manage his risk. A second 'risk level' comes into play when, although knowing the law, he breaks it and takes a chance that he will not be caught for exceeding the limit. However, the astute motorist mitigates the chance of risk becoming claim by carefully watching his mirror. This is a form of risk management, however wrong its motivation. A third 'risk level' is experienced by the reckless motorist who decides that the statistical chances of being caught are so small that he will probably escape whether he watches his mirror or not. Reckless though he may be, and wrong though he may be, this is another example of risk management. Even if we have not ourselves experienced these three 'levels', we have surely been entertained by examples shown on television.

The other example is provided by the choice of airline when we have to fly. Many travellers are unaware that statistics of the probabilities of accidents are published for most airlines. Should the traveller be aware of them? Will they influence his decision to fly or his choice of airline? Should he be aware that, even if he took the accident statistics into consideration, there is no guarantee that the airline chosen will actually be the one carrying him? Here are more examples of the various 'risk levels', but in a slightly different context. Unlike exceeding the speed limit, there is no law involved in the choice of air carrier. The risks of air accident may be perceived as so small that most travellers will properly be happy with the reputations of the major carriers. In other words, risk in this field of disaster likelihood is not a priority; it is unavoidable so might reasonably be ignored. The essential differences between the two kinds of risk in these examples is that in driving, the risks and their consequences are straightforward and the means of risk assessment clear and probably worth taking. In air travel, risk analysis and management are far less clear, but the consequences of ignoring risk completely probably more severe.

The above three examples illustrate that domestic risk, even where not explicitly recognised, nevertheless exists, is an integral

part of everyday life and can be placed in one or more of the boxes in Fig. 1.1. Sometimes the risks are easy to recognise and at other times much less so, even where the consequences of not recognising and managing them may be serious. So it is with practice. The 'risk boxes' illustrated are just as real even if not to be taken too literally. Not notifying a claim to your insurance company is reckless. Not being aware that you must notify your insurance company is unforgivable. You deserve to risk losing cover if you ignore either requirement. On the other hand, how can you know at the time that the telephone conversation you consider trivial and therefore do not record, will become crucial and would have been vital to your defence? Would it be prudent management of this risk to record all conversations? Or is the overall risk so small as not to merit this extra burden on practice? I hope you will agree that practising in the risk strewn forest of building design deserves a little more care than just adopting the fatalistic 'if it's going to happen it will' philosophy.

Conscious risk strategy

If intuitive risk management is good enough for our private lives, what is so special about risk management in professional practice? For a start, it is not always prudent to treat everyday life risk so casually. Most of us keep diaries and lists of the more important events or note them on a pin board in the kitchen. If we take a look at the way we organise our lives, there will be some sort of written reminder somewhere; and these reminders are often in respect of events which, if overlooked, can produce unpleasant surprises. For a birthday reminder, the consequences of ignoring it may not be too serious. But if the list is to remind one that tax or insurance renewal is due, it is written with the intention of avoiding a much more serious consequence. Whatever the purpose of such lists, they are all examples of risk management.

There are many reasons for a conscious risk management strategy in professional practice:

- The intention of practice is to provide services in exchange for payment. This places on the provider of these services the obligation to provide them to the quality demanded, probably within a given time. Sanctions will result if they are not provided.
- The sanctions which might result if the services are not satisfactory will often cause embarrassment at least, and probably loss of reputation, reduction in fees and payment of money. Any of these could jeopardise the practice's ability to continue to practise.

- Diversion of the practice's (normally senior) resources in fighting a claim can be painful and expensive, irrespective of the outcome, with the cost of the time of the major fee earners of the practice.
- A practice normally comprises more than one person. Whether the members are partners, or the principal and the office boy, the practice has some duty to all of them to practise prudently; the outcome of a claim could affect all of their livelihoods.
- Most practices, unless they are tiny, now have some formalised management procedures either in the form of guidance or mandatory instructions. Such procedures are in themselves potential or actual parts of risk management. Part of the purpose of this book is to enable practices to check their risk management needs against these procedures. It will probably be found that a great deal of the job has already been done. The best management systems embody risk management.

Identifying and ranking the risks in your own practice

Where should we start in identifying and ranking the risks within our own practices? I suggest that the first step, if not already taken, is to dissect the practice's 'risk anatomy', i.e. the areas in which it is most vulnerable to claims.

The components of practice are many and diverse. Each profession has its own unique culture whose risk mysteries could not be penetrated by an outsider without intimate knowledge of the practice. A further risk dimension is created when the professions come together to contribute to a single design. However, from my own experience of practice, I have considered what I hope are some of the more typical kinds of practice (Chapter 2), the principal professions (Chapter 3), and the sources of risk likely to arise when the professions work together (Chapter 4). I am aware that the list cannot hope to be exhaustive and applicable to all practices and professions, or even that the kinds of practice I have isolated are totally representative. As I have said, every practice is different, especially because professional design services derive from judgement; it would be so much easier if the product was manufactured by the thousand from a production line. Readers may not find all of their own risk profile under their own profession or under the type of practice nearest their own. The areas set down are a framework to provoke discussion within the practice; they are not intended as a standard checklist. Readers who are formulating or reviewing their risk management processes for the first time may like to read the whole of Part 1 first.

Part of the process is to marshal the risk factors into some order of claims sensitivity to achieve the consensus necessary at this stage. A version of Murphy's Law will doubtless say that some types of claims will fall between the cracks. Only periodic review of the system will reduce such possibilities, but some form of ranking has to be the only way to start the process. It need be no more than a feeling: 'These are our most critical risks; failure to acknowledge them could compromise our future'. Chapters 2, 3 and 4 are intended to help the practice reach this stage.

2

The Risk Anatomy of Practice

Introduction

This is the first of three linked chapters categorising some of the main areas of risk arising from:

- The type of practice
- The individual profession
- Risks which can arise when the professions work together.

This chapter looks at the various types of practice. Fig. 2.1, in summarising the principal types of practice reviewed in this chapter, encourages the reader to consider where he stands, as a start to assessing where his risk lies.

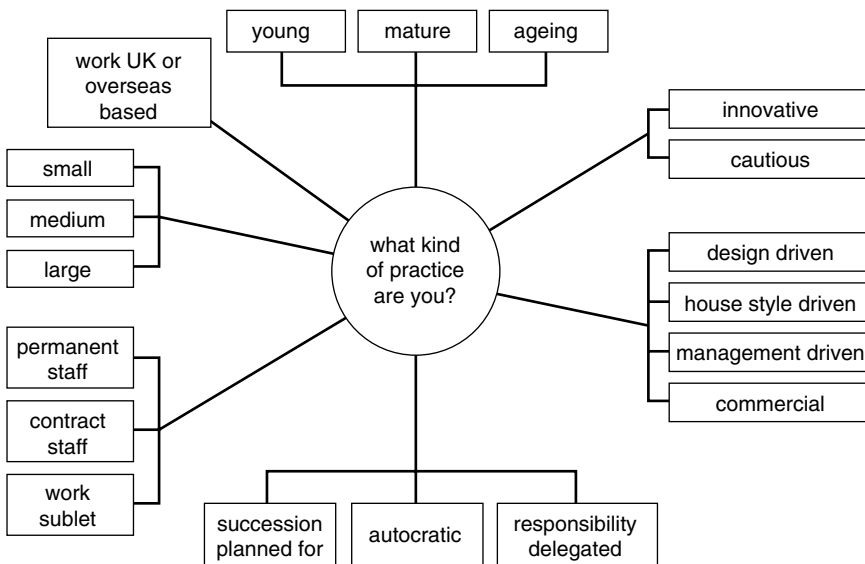


Fig. 2.1 Factors of risk in the practice.

Innovatory or cautious design?

A major risk component of practice will have been established when the design practice decided on the kind of design it wanted to produce. Some practices lead in state-of-the-art design, either in what others in the design world would describe as 'high fashion' or in pushing forward the boundaries of building technology. Other practices feel more comfortable in providing prudent, tried and tested solutions. Between these extremes is an enormous variety of design character; in some practices almost the whole range will be found. Architectural design is the more obvious ground for perceiving design character, but a range can exist in engineering also. Some structural engineers are household names in their own right for their brilliant design solutions. Equally, there are services engineers who constantly look for new ways of providing artificial climate creation. A free and market-led society needs such a healthy mix of innovation and caution; risk in this area is inevitable.

Risks undertaken by innovators can be perfectly proper, but any practice which builds its clientele on its reputation for innovation should be aware that it cannot survive indefinitely without recognising and managing the risks special to innovation:

- Is remuneration sufficient to cover the (albeit infrequent) risk of dramatic failure?
- Is the client aware that by appointing such a designer he has himself become part of a distinctive risk chain?
- Does he understand such risk and is he prepared to bear any of it himself?
- Does he realise that, although all buildings are prototypes, his building is going to be a special kind of prototype?
- Are new materials and processes fully tested before they are adopted?
- Have the risks been assessed of using new materials whose life-span is unknown?
- Will the client pay for sufficient research and mock-ups?
- Will the innovative elements in the scheme be accessible for maintenance and cleaning?
- Is there a reasonable likelihood that skills can be found from the industry to build the innovative elements and manage a possibly complex construction process?

Among the worst risks are:

- A design which starts cautiously then has to adopt an innovative feature to overcome a lately discovered design problem. Design by crisis?

- A design with innovative features which the designer has not warned the client about.

Innovation and the young practice

A practice is often launched on success in a competition. The founding principals are young; there is a strong wish to try out new ideas and lead design thinking. These philosophies are wholly commendable, but they do establish certain risk patterns. I do not need to spell out the dangers arising from a combination of untried design and an inexperienced designer. Unfortunately, however, competition conditions and judging criteria may not always recognise these dangers, thus transferring a risk, which should properly have been borne by the client, to an inexperienced practice which may not be able to handle it. The advice and techniques given in this book are particularly apt for the young design practice; much of the content will be novel to this sector of the readership. Many of the old hands will have learned the lessons through experience.

Even if the practice can meet the design challenges, can it manage the scheme? Again, some competition conditions do not recognise that this may be a problem. One answer is for the practice to form an alliance with a more mature firm which can vet technical details and provide management. Such alliances bring with them particular risk factors, which will be developed in Chapter 4.

Young, mature and older practices

I hesitated before writing this section. Is the 'age' of a practice related to its risks? And should I be writing about what many would see as one of the psychological mysteries of consultancy practice? Is my division of practices into 'young, mature and older' correct? However, in the end I decided that it was worth attempting because I do believe that 'age' plays an important part in risk. Even if readers disagree with my conclusions, it might just provoke some risk relevant thoughts.

One of the reasons for starting discussion on the 'age' of a practice is that the relative importance of the headings which follow, and indeed the remaining chapters, may be perceived differently depending on the category the reader sees himself as occupying. While my categories may seem over simplified, I do think that many commercial enterprises can be recognised as being in their early, middle or later years, and that each has its own risk stamp.

The fact that a practice sees itself in one or other of the 'age'

categories does not necessarily mean that all the principals are young, middle aged or elderly. It is more a question of attitudes than physical age. I suspect that I once insulted a senior partner by incautiously suggesting that his firm was 'middle aged'. He had an image of his firm as being still young, forward looking and vibrant. 'Middle aged' no doubt conjured up for him an image of self-satisfied zombies sitting at roll-top desks. I had meant simply that by being in its middle years, it was mature enough to understand the principal risk factors of practice.

The young practice

A young practice is a practice which is still being driven by the infinite enthusiasms of its founders. Ideals are very much alive and new ideas are constantly emerging and are encouraged, sometimes without regard for risk. A young practice is still being fed by both the income and the inspiration of the first commissions (probably the winning competition entry). Those involved are enjoying the confidence, the freedoms, the authority, and the status of being principals compared with still recent roles as employees. They are innocent of the later hurts of commercial reality. The practice works from basic and cramped offices, is under capitalised, and everyone (including staff if any) undertakes every activity from signing client agreements to cleaning the toilets. The need for steady income is seen as less important than the excitement of running the practice. There is enthusiasm for the latest technology even if it might be unaffordable.

Many of the risks of young practice will be self-evident. However, it is unlikely, unless the principals are very unlucky, that they will have experienced a claim, or even the hint of one. Danger is not a word found in the vocabulary of the young practitioner. Such practices can be difficult to convince about the need to start to practise prudent risk management. Paradoxically, the younger members of a middle aged practice can seem more responsible than their elders in seeking the means for practising safely. Whether or not this is some form of backlash against the older generation in a middle aged practice might be an interesting debate.

Apart from the commission from a winning competition entry, which may well comprise a large scheme with a correspondingly high risk, the workload for the younger practice will typically comprise some small schemes. The principals of the practice may judge that the risks will be equally small but this does not necessarily follow. Some quite large claims can arise from quite small jobs.

The mature practice

In many ways the mature practice represents the 'Middle England' of the professions. Here is to be found the weight which determines their standing in society. They have arrived. They are quietly confident. They have the experience to judge their fellows as well as their clients. They are connected to the grapevine. They have time to theorise, to utter wise judgements, to serve on important committees and to serve their institutes. From this seam of practice will be drawn the expert witnesses who effectively set the standards to be expected of the 'ordinarily competent' professional (to borrow the language of the courts). Many principals spend more of their time on these activities than at the drawing board or the CAD screen. It is the mature practices, rather than the young practices, which make the running in establishing nationally respected design standards. Except in times of recession, many are quietly – and some not so quietly – well off. It should be remembered that the so-called mature practice can include some young principals who have chosen advancement through waiting for promotion in a mature practice rather than braving the uncertainties of starting young practices. If their presence is strong, they can introduce some of the character of the young into the mature practice.

It might seem reasonable to conclude from the above that the mature practice is the safest risk category, but this is not always so. Some of the largest claims arise from this category and are not always from the large, hurried, complicated schemes involving many parties. Principals may have reached a plateau of experience where they practise management by intuition (less kindly, management by crisis). Lip service is paid to the growing need for more formality in practice – perhaps a reluctance to relinquish the seat of the pants necessities of young practice? The newer management processes and procedures are acceptable if suffered by the lower ranks, but are avoided by the principals. This is acceptable up to a point, but expansion of the practice and the resulting complications of lengthening communication routes are not matched by corresponding management developments. Poor communication in a practice is a breeding ground for claims.

Maturity also indicates the probability that expansion has levelled off. This should mean that the practice has come to terms with its likely shape and politics into the foreseeable future. Although the market is fickle, and nowhere more so than in the building industry, these practices are comfortable with themselves. If they have also given thought to the right balance of skills (e.g. specialisations) to match the workload, they have a good risk potential.

It is this category I have largely in my sights in the development of

this book because there lies the weight of current practice in the UK; and possibly because of that, as mentioned above, it is implicated in the majority of claims.

The older practice

The twilight years of a practice can be the saddest unless, unusually, they are planned for. The undetected seeds of older practice are often present in mature practices and, again sadly, the signs are there to all but the principals. The factors of ageing, as with the human life-span, are complex. Is there also a gene which determines the life-span of a practice? This may be over fanciful, but there seems some truth in the theory that firms of architects tend to span no more than two generations. In the other professions the span is somewhat longer. Firms of lawyers and accountants tend to go on forever, judging by the fact that the names of their principals bear no relation to the firm's title. A practice which lives by design might expect to have a shorter shelf life than, say, an accountant; design is an individual ability compared with a balance sheet which one might suppose can be produced by anyone with the right accountancy skills. However, the reasons for ageing must be more complex than this and the problems of succession, introduced below, continue the story.

One of the obvious characteristics of the older practice is that, unless the causes of demise are one incident – e.g. a bad claim destroying the firm's reputation or a bad investment causing financial collapse – decay is so slow as to be unnoticeable until the late stages.

With regard to risk, the kinds of incidents which can cause concern are slow response to a claim, lack of investment in the right people, deteriorating working conditions, deteriorating designs and reluctance to transfer power, causing frustration further down the line. In other words a lack of dynamic. These examples show how difficult it is to detect the end, because they can all be found in a flourishing mature practice.

The commercial elements of practice

It is not unknown for designers of buildings to give less priority to the commercial needs of practice than to the design related activities. Many designers would like the commercial aspects, which include managing the practice, to go away. They see management as an irritating intrusion to the creative processes of design, but the

commercial side is there because it is necessary for survival. Designers have to come to terms with this dichotomy in their professional lives. Quantity surveyors and project managers of course do not suffer these problems. Engineers seem to get the balance about right.

In the designer world, there are practices where the bottom line is all-important and they tend to be among the more successful at managing risk. Practices which have gone public have to answer to their shareholders. While these needs are finance driven, such practices also tend to be run safely; they are good at managing risk. However, there can be dangers from pursuing a too parsimonious ethic. Attempts to run a practice on a minimum of staff or too little investment in areas of risk management can produce the obvious strains.

There are also practices which, while remaining committed to good design, look after their commercial needs by employing accountants (sometimes quantity surveyors) or appointing them to their boards or partnerships. The principals may not always accept the commercial advice given, but at least the advice is there and the risks exposed. Readers might ask why financial success or failure should affect the risk of being claimed against. One example would be where resource expenditure has not been planned well enough to enable the project to be finished properly.

Do you produce house style design?

This is a question largely for architects, although it may apply to aspects of engineering also. There are often strong connections to what has been called rather dismissively (and often unfairly) 'prima donna' design. House style design usually arises from the principals' insistence that each building should bear the firm's stamp. The alternative is to leave the design to emerge from the individual team's response to the brief. House style is often generated from the convictions of one man, usually the founding principal (whose removal by death or retirement can hasten the firm's transfer from mature to older practice – to echo a point made earlier). Risk includes the possibility of strains felt by other designers in the practice, who can feel frustrated that they always have to comply with an imposed solution. In a busy practice, house style can also place enormous demands on one person. There is also the risk that a rigidly imposed house design can force some briefs into an inappropriate design straightjacket.

Separation of design from production documentation

This again largely affects architects. There are practices which, whether producing house style architecture or not, feel strongly that production of concept design is better separated from detailed design. Each, it is argued, requires different skills. Effectively they become separate operations, separately managed. There is, or should be, a formal handover from the one team to the other. In risk terms, there are dangers which demand careful management if they are to be overcome:

- There may be no single responsibility for ensuring that the whole design satisfies the brief. Simply putting a principal in overall charge will not achieve this if he is too remote from the whole design process.
- Concept design and technical performance interact; how can the practice be sure that a concept decision will translate into the right technical solution and vice versa? The thinking behind either may not be fully known to both of the originators.
- The programme for the project may fall effectively under two non-communicating parts of the firm's management, resulting in no single responsibility for delivery of the completed services on time.
- Resentment can arise from the shared 'ownership' of the design. Concept designers are deprived of the satisfaction of sharing in the finished product, and of the knowledge of faults in the concept, which may then be repeated later. The technology developers feel that they are just being handed someone else's work to complete.

None of the above need directly affect the chance of a claim, but a divided responsibility can produce the seeds of one.

Balancing of resources and skills

Some practices employ all permanent staff, while others top up permanent staff with independent operators or agency staff or short term contracts when the need arises. Economic recessions have made the latter kind of staffing popular, but there are dangers which can lead to risk:

- Such staff may not owe the same loyalties to the practice as do permanent staff. They know that they will leave with less chance of suffering the sanctions which permanent staff can experience.

- While permanent staff can and do leave a practice at short notice, notice given by contract staff can be even shorter. The agency may undertake to replace staff immediately but the continuity and stability that the team needs become uncertain.
- There is a better chance of principals getting to know the qualities of permanent staff for the job than with contract staff.
- There can be resentment between permanent and contract staff because of the different loyalties mentioned above, and the perception that agency staff are paid more.
- The status of contract staff must be cleared with PI (professional indemnity) insurers. While they may carry their own insurance, it is better that they be covered within the practice's insurance. There can be a fine line between the commonly used expression 'contract staff' (agency or independent contractors), who may be covered by the practice's insurance, and subconsultants, who almost certainly will not be covered. There must be clear understandings with insurers on these points.
- There is a risk of breach of trust between designer and client if contract staff, or particularly subconsultants, are over used without consulting the client. Clients form perceptions of their designers which might be false.
- A disaffected ex-contract person can be more dangerous to the practice than the arguably more loyal permanent staff member. He will have no constraints on passing embarrassing information to claimants.

Qualification and experience

Staff can be qualified as professionals by a professional institute or they may be technicians who, while having a qualification, may owe more to experience than to examinations. Balance between the two varies widely between practices. There are risk aspects in not getting the balance right for the individual practice. Relationships between what practice calls 'qualified staff' (normally university degree followed by examinations set or approved by a professional institute) and technicians have never been easy. Undoubtedly, the British class system I discussed in the Introduction to this book has something to do with the problem. Even today, the professional institutes actively or passively create difficulties for many able people to cross the barrier from technician to 'professional'. There are very few technicians' names in the list of partners or directors on practices' notepaper.

Practice comes to terms with these problems in different ways. One of the rationales of practices which separate concept design

from production drawings is that qualified staff tend to be found at the front end, and technicians in the background. Such separation will not necessarily resolve the risk problem. Many staff, particularly those newly qualified, need the leavening influence of experienced and mature technicians (the design may look pretty but will the building leak?). If a practice rigidly separates qualified from technician staff, there is less chance of the necessary sharing of skills.

At one extreme, one practice will employ nothing but qualified staff in the sometimes mistaken belief that nothing but the 'best' will do. At the other end of the spectrum, a practice will employ a majority of technicians in the belief that technical performance is everything. Here technicians will be found in some senior positions, but there is a danger that such practices may have denied themselves the benefits of the intellectual input and lateral thinking that an academically qualified person can bring to a problem. Tactical skills wider than a technician's are sometimes necessary when a practice gets into (and hopes to get out of) trouble.

It is most important for risk management that the practice gets the balance right between permanent and temporary staff and between graduates and technicians.

How dispersed is your practice?

Many practices have more than one office, no doubt for good reasons. While maintaining a 'head office' policy, they may have to establish quite large 'site' or temporary offices from time to time, to administer large projects some distance from base; or permanent offices may be opened to get work in the locality.

Dispersal inevitably leads to some changes in culture between the offices. When dispersal first occurs, many practices do not think it necessary to consider the problems of culture shift that this might bring; as the remote office is only temporary, it is assumed that there is no problem. This is probably true if indeed the office is that temporary. But temporary offices have a habit of becoming permanent: the project gets extended or the office which was to be temporary gets more local work.

In these situations, practices need to ask themselves whether policy changes should be made. Is the temporary office now sufficiently permanent to justify its own management structure; can some decisions be delegated to it? If that option is chosen, the need for other decisions may follow. Is it to operate as a separate profit base? This would be a fundamental change. Is it to be allowed or encouraged to develop its own management, design and technical procedures? If not, how will it participate in the maintenance of

centralised procedures? Does it enjoy adequate IT facilities? Unless controlled, the different offices will soon develop different methods of risk management. There may be some compromise, where core procedures must prevail, with some flexibility to meet local needs for other procedures. Without a clear strategy, the local office will assume an uncertain autonomy with no one quite sure of the respective authorities of the two (or more) offices. The original partnership deed or the articles of agreement may also have to be changed to reflect the new situation.

Delegation

The extent to which authority to act is delegated is probably one of the factors nearest to the philosophical core of a practice. As design is, up to a point, an individual, personal matter, there is a natural tendency for design-based practices to seem much more relaxed about who makes the decisions than is the case in much of wider commercial life. In management-speak this is called passing responsibility down the line. On the other hand, we have all experienced the frustrations of having to work with organisations in which the immediate contact has no authority to act, any questions having to be passed up the line and back down again before the decision is communicated. Such organisations tend to be undynamic, bureaucratic and dull. Fortunately, few members of the design professions (I include quantity surveyors and project managers) are to be found in this category. However, this does not mean that the considerable differences in practices' attitudes to delegation should not be examined for their risk implications.

There are still some older established firms which practise in a more autocratic way than the newer organisations; the principals are not comfortable with any degree of delegation. Even today, with the less formal relationships evident in current society, successor principals can inherit the autocratic element. In the risk context, this can have advantages compared with the substantial delegation which is found in some firms. Autocracy can produce safe practice if it is well controlled, for example, if the principal retains authority to make all the major decisions but:

- Makes clear the matters he reserves for his decision
- Applies these rules consistently
- Keeps himself up to date with all the information he needs to make these decisions.

This is a basis for good risk management. It can work particularly well in smaller practices.

However, this begs several questions. Is the principal always as fully briefed as he should be? Is his relationship with the team so comfortable that they will always keep him informed? If they do not, the autocracy element is replaced by something approaching anarchy. These are particularly crucial questions when claims are developing. Do the team resent not being permitted to make some of the decisions? Is the retention of power really a symbol of 'I am the boss', rather than 'this is the best management style'? As a firm grows larger, these questions also grow and it is almost inevitable that some authority will have to be relinquished by the senior principals.

At the other extreme is the practice which believes in an almost total delegation of power and authority. One hesitates to suggest that sometimes this results from a principal's indifference; more likely, the reason is to be found in the ethic of the firm which believes that delegation produces fulfilled staff who take full responsibility and produce inspired designs. These are substantial benefits; staff who take responsibility for their actions and feel that they have a direct responsibility to clients are well motivated and are conscious of the need for care and prudence in areas of risk. However, here again, for different reasons, lie the seeds of anarchy. Substantial delegation needs careful control. It is not good risk management if staff find themselves faced with problems outside their experience or capacity to manage. In the end, it is not (usually) the member of staff concerned who will take ultimate responsibility for a failure, but the principals. There have to be routes for the principal to step in at the right time.

Possibly the worst situation is where the extent of delegation is not clearly defined or is inconsistent. If the principal is busy, or finds one aspect of practice unattractive, he lets (or hopes) the team leader (will) deal with it. Not a good recipe for sound risk management. The key is to have well thought out control, to define the boundaries of delegation and to apply them consistently.

Delegation has close links with the firm's internal communications policy and is normally related to size: the smaller the firm, the less the formality, and vice versa. However, in the risk context there are often surprises. Small practices will hold regular meetings between staff, and between principals and staff, for the exchange of view on the wide range of issues which come up, from the firm's financial situation to failure of the latest wonder roof covering. Some small firms commit every communication to paper even if everyone works in the same room. On the other hand, there are comparatively large firms which hold no internal meetings and never write anything down. Comment on risk hardly seems necessary; once again some balance must be struck.

Financial controls

Are financial controls a subject for risk management? Up to a point, yes. If the firm collapses through lack of prudent bookkeeping, only its principals, staff and perhaps its creditors will suffer. It has nothing to do with claims. However, if financial straits are such that the firm passes the date for paying the PI premium (or even forgets to pay it) and a claim arises at that crucial point, then the subject does enter risk territory.

However, those are not the most important aspects. A sound financial basis for practice will include the means of setting, monitoring and controlling team spending, which is the largest single expenditure component any practice faces. It is built into his genes that whatever activity man indulges in, he will over spend. In design practice, it is not the over spending which matters in the risk context; it is the recognition of it and the steps taken which matter. In other words, it may matter little if the firm does not achieve the targeted profits, but it matters very much if pressure arises because the job income has been exhausted and the job is not finished properly. The worst thing to happen is that the firm has to reduce resources in order to retrieve or maintain financial comfort. Even if resources are not reduced, no team likes to work under such a cloud.

Markets and marketing

To some extent, markets and marketing are linked to innovation, but I am extending discussion to the kinds of markets the firm seeks for its services. There is first the decision of whether to rely on the UK or look overseas. This is a large, specialised subject which I can only touch on briefly here. The firm may have planned carefully before opening an overseas base, or it may already have good contacts. It will have a principal who speaks the language. Such firms enter these markets realistically, with a good idea of the risks they may encounter. On the other hand, there is the practice which suddenly realises that its UK base is drying up and a site on the World Wide Web invites it to tender for work in an almost unknown Ruritanian puppet state.

The problems of practising overseas arise from cultural differences, which have produced different legal systems from ours. Unless a firm has a reliable local agent, is commissioned by a UK client, or enters into some form of joint venture, many unforeseeable problems can arise. While this book will recommend good practice in, for example, the need for formality and robust contracts, it may simply not be possible or diplomatic to follow UK practice. Some

foreign cultures avoid confrontation; the processes of the 'claim' have to conform to local etiquette very different from ours. Sometimes it is not possible to obtain an agreement as watertight as its UK equivalent; a handshake is all you will get. You may have to wait a long time for instructions; you may have to carry out some work at financial risk. These are just a few examples to underline the point that in the UK we are conditioned to adversarial relationships, and to the consequent need to protect ourselves with the appropriate armour of formality and the rituals of defending positions. It is quite likely that in many overseas markets, claims as we know them simply do not arise. The dire messages of warning here may not always apply, but equally there may be situations which demand other solutions.

To some extent, whatever care the firm takes in its risk management, the client's part in the chances of a claim may be crucial (he will usually be the person claiming against you). There are no rules about which particular kinds of client are to be avoided; it is simply prudent to bear in mind the possible results of getting into bed with the wrong client. There may be some truth in the suggestion that some contractors, whether acting as traditional contractor or as client, can be more 'commercial' than others. It seems equally possible that there are also 'awkward' lay clients, or those where the chemistry just is not going to work. As with innovation, if the risk of trouble seems possible, in an ideal world such risks need to be underwritten by commensurate remuneration.

Marketing the firm's products can take several forms, from glossy pamphlets to simple reliance on the firm's reputation, from extensive networking to introverted silence. Whatever form marketing takes, the firm should never claim any skills it does not possess or a court may take these claims as an indication of the firm's expertise and may judge it accordingly.

Hierarchy and succession

Hierarchy

It might be useful, before concluding the risk anatomy of practice, to draw together some of the strands of management which I have introduced. As part of best risk management practice, all but the smallest practitioners should have a policy on the balance of senior to junior management, their roles and responsibilities, strengths and specialisations, and on succession. We have already seen the importance of balancing commercial and design needs. It is important to risk management that hierarchy and succession be

reviewed from time to time. This is not always easily achievable. Office politics being what they are, few busy principals will willingly give up precious time to waken sleeping dogs. But if the practice postpones the awkward decisions, life will have moved on, sometimes to the extent that the practice and its workload have changed substantially since the previous review. It seems a pity sometimes to observe a practice which knows it has to make some changes, but feels the need to call in an expensive management consultant as the only means of facing up to its problems.

One of the benefits of growth is that it enables the principals to appoint specialists in the different aspects of practice. The most obvious action is to separate design from matters commercial, or design from production. There are other, perhaps equally important, areas, e.g. marketing, technological soundness, the monitoring of construction quality, finance, and sometimes even claims handling. The larger the practice the greater the need and opportunity for the specialisms it should be employing (and the greater the opportunities to create specialisms).

Succession

Consideration must be made early enough of who will take over the mantle of ownership when the present principals retire. It is often a painful and sensitive process but it is crucial if the practice is to continue to flourish. Such decisions tend not to be made in time as shown by the comparatively short life of design practices observed earlier. The senior partner suddenly dies, or is worn out but still in post. He has held on to much of the power he had when he started the practice, and has been the sole design inspiration for all projects. His personality and charisma have deflected many problems which might otherwise have resulted in claims. There is no obvious successor.

Summary

This rather breathless review of some of the risk areas in practice has focussed on how the type of practice might affect risk. The reader should by now have started to consider his own position and his own likely risk areas. He need not yet have started to consider likely risk management strategies or procedures; help with that will be found later in the book.

Risk also arises when members of the team work together, so in the next chapter I continue this search for the ideal practice profile with a look at the risk profiles of the more prominent and influential professions who form the team.

3

A View of the Professions: their Individual Risk Patterns

Introduction

The chances of a claim against you can originate not only within your own practice, but also from your relationships with the other professions who form a part of the design team. You should know something of their risk backgrounds so as to judge whether any steps need to be taken to safeguard your own position.

Sometimes you are implicated in a claim which involves you and another member of the team. Architects and project managers are particularly vulnerable; the architect (through his coordinating or lead consultant role) and the project manager both become closely involved in the processes of the other professions. There may be a claim which places or is likely to place you in direct confrontation with that member (e.g. he is claiming against you, or the client is claiming against you both and, depending on the outcome, you may then look to secure some contribution from the member – or vice versa). Or you and the other member(s) of the team may wish to join to present a united front to resist a claim from another party.

You may have sublet a part of your services to a practice, where either of you may be pursuing a claim against the other.

Where a practice is multidisciplinary and provides more than one of the professional services for a project, it faces unique risks.

In any of the above situations, you are better prepared to collaborate with other members, claim against or be claimed against by them if you know something of their backgrounds and risk profiles. Chapter 2 enabled you to look into your own practice profile. In this chapter you can see where and how it might interact with the profiles of your fellow professionals.

While the risk of 'loss, injury' probably arises broadly from the same causes for any profession, the background of the individual profession influences the detail considerably. Knowing the profession and the way it thinks and works enables you to start to understand why it manages risk in the way it does and how it could on occasion do it better where it affects your own interests.

Before considering what steps you might take to protect your own position, you may find it useful to glance at Chapters 4 and 8. Risk

arises where professions interact and the culture of a profession reveals itself in the terms of its institute-written conditions of engagement.

The architect as lead consultant and designer

Attitudes

In the majority of construction schemes the architect is the dominant designer and, in his coordinational role, the most influential member of the team. The name of the architect will be remembered, possibly by differing opinion, long after the names of the other professionals have been forgotten.

The key word to understanding the background to architecture is the word 'learned'. It will crop up persistently. Architects have sought to uphold their craft as a learned activity and are taught to regard what they design as one of the branches of fine art. There is a strong social conscience in architecture which produces the desire to reflect the built environmental needs and attitudes of society. The resulting attitudes of some architects can occasionally be perceived as patronising. This should not always be seen as implying a dilettante or even dismissive label when comparing architects (as we do) with the more harder edged, commercially motivated professions. There must be a place in a mature society for buildings founded in such a culture. Architects remain well respected for the role they play in the social and professional spectrum despite the poor press they sometimes attract.

History of the profession

My object here is to emphasise the more risk significant aspects of the architect's origins, and not to give a full account of the part played by the architect throughout history. 'Architect' is derived from the Greek – 'master builder'. The architects of the Parthenon and other buildings of the classical period were recorded. The architect's origins may be even earlier than this period, e.g. Egyptian Assyrian, but for our purposes his historical origins lie somewhere in medieval society, when the massive defensive, religious and then secular buildings called for inspiration in stone construction. The earliest of such buildings relied on the itinerant stonemason. There was no distinction between design and construction; he decided how to cut the stone, he cut it and constructed the building. However, even then he coordinated junctions between, say, masonry and roof, as master mason and master 'consultant'. While many build-

ings were massive and inspirational, by modern standards their technology was simple.

The first recognition of the architect as an independent professional designer came with the gradual separation of design from craft. The master masons seemed to find life far more agreeable if they could become socially identified with the aristocratic clients they were to seek to emulate in their lifestyle, rather than with the artisan classes they were to leave behind. And who, except for the much later Arts and Crafts movement and its like, with their socialist ethic, could blame them? In any event, the early Renaissance grand tours of Europe were producing demand for the more elaborate architecture that the designs for the simpler works in stone could not match intellectually. Probably around that time emerged the architect we recognise today. It was always important, even to the earliest architects in maintaining their position in society, that they were seen as learned – to have graduated at the oldest universities, even if academia had not yet devised a dedicated, vocational curriculum. Christopher Wren had been a distinguished astronomer and mathematician before he became a distinguished architect.

At the time architecture was emerging as a profession, engineering as a science (let alone a profession) was non-existent. When York Minster's crossing foundations had to be underpinned urgently, it was found that the medieval architect had had to rely on the ability of the ground and the remains of the Roman headquarters building to support the enormous loads of the crossing columns. The collapse of the stone lantern above the crossing to Ely cathedral is another example of the misplaced faith of early architects that substantial reliance on a poorly understood science would succeed (and professional indemnity insurance (PII) had not even been invented). Equally, there was no need for the services engineer as the early buildings did not require more than rudimentary plumbing and drainage. The medieval garderobe was still in use until comparatively modern times.

The industrial revolution hastened the need for new engineering skills for the structures then demanded. Development in the technology of design was partly to eclipse the image of architect as prime designer, even though many fine buildings were designed by still respected names during this period. However, some of the most currently revered and protected structures were designed by engineers, not by architects. Brunel designed the impressive roof of Paddington station. One can speculate on whether the architect's desire to preserve the 'learned profession' image diminished his standing in society. If that seems unfair, we may assume simply that there was less demand for 'architecture'. Interestingly, while the

industrial revolution was the making of the civil and structural engineering professions, its influence was less on the development of the separate building services engineering professions, whose standing as learned professions had to wait until relatively recent times. Any services design the building required was carried out by the trade, a practice which persists today.

The modern architect

By the start of the 20th century the die was cast for the architect we see today and his relationship with the other construction professionals. Services provided by those who design buildings are today much as they were then. Architects would design the building fabric and finishes and others would design the rest, but the architect was, even then, the leader and coordinator. That he has remained leader may have been partly because architectural design embraces so many elements of the building, which have to be coordinated, or it may be partly as a remnant of the class system I mentioned in the Introduction to this book. Remnants of a cultural affinity whose roots lie in the middle ages still survive between powerful patron client and learned architect, and have transcended the sometimes more sensible logic of appointing the engineer as leader – an interesting social puzzle into which one could easily be tempted to stray.

But the unique social isolation that our island culture in the UK has maintained over the last thousand years may help to explain why, despite the growth of a single design and build responsibility, the great majority of building in the UK today calls for architects still to design in detail and to coordinate the contributions of the other designers, leaving contractors only to build. Architects remain the lead profession. Architects still see their profession as more learned than technology led. Other countries have gone in different directions for their own cultural reasons. When comparing them we find that their practices are not always superior to ours.

Strengths and weaknesses

The important questions to ask in the risk context are:

- Has the architect updated his training and priorities to be able to cope in contemporary society?
- Is he equipped to lead and coordinate the team?
- Is he trained to understand sufficiently the technology of buildings?

The answers must generally be: probably not all of these. Indeed, it would be strange to find all these qualities in one person. That introduces one of the chronic risk problems of the profession: since the great majority of the profession comprises fewer than ten persons per practice, it is very difficult for the typical architect to contain within his practice the specialisations needed for the range of expertise many projects demand.

Most of the schools of architecture and indeed the architects' own professional institute (the Royal Institute of British Architects (RIBA)) have clung to the overriding importance of the architect's social contribution in producing a work primarily for visual admiration, as keeper of the nation's built conscience (a slight exaggeration, perhaps). Such attitudes explain why many architects regard the need for practice management, and the skills necessary to coordinate, as intrusions into their real work. They would prefer to get on with the design. They can emerge from schools without sufficient respect for, or with a misunderstanding of, the substantial contributions the other design professionals make to the whole design process. The architect should not be surprised, but frequently is, when a client appoints a separate project manager. This analysis may seem unduly harsh, but I feel that it needs to be said because it underlines many of the important risk themes which run through this book.

To continue this theme and to soften this rather brutal analysis, the range of skills needed by a practising architect, compared with his fellow professionals, is rarely acknowledged. Uniquely, he has to:

- Develop a concept design which will accommodate the needs of the other disciplines
- Coordinate the contributions of the other professions into the whole design
- Coordinate a far more diverse range of building elements within his own design processes than do most of the other professions within theirs
- Build into his design a sometimes substantial technology
- Administer a complex building contract on behalf of all the disciplines.

Thus, irrespective of the care and competence with which an architect practises, his potential for exposure to risk must be far greater than the exposure the other players face. This potential is recognised by the attention this book gives to architectural practice.

The architect and the economics of construction

Architects can be totally innocent of the economics of construction. This seems to be unique to Britain and its former colonial territories. There is argument that the elitism of a learned profession entitles the architect to remain detached from this major design component. However, its absence from his professional toolkit does not explain the vestigial references to cost control in RIBA's written terms of engagement.

A complementary explanation for his detachment from cost might lie in the emergence of the quantity surveyor as a powerful member of the design team. Happily for the architect, at the time the building process started to need substantial cost advice, the QS appeared and filled the vacuum. The architect is nowadays less comfortable with a well organised QS who has the ear of the client, and enjoys a knowledge which the architect cannot challenge. Such a QS can be a considerable embarrassment to the architect.

The architect as pivotal risk taker of the team

The arguable risk centre of the team, touching the risks of all the players, the architect belongs to a profession which is still being appointed by clients to a position of great power, but sometimes ill equipped to exercise it. The architect has to operate in a complex and divisive world inhabited by often unsympathetic fellow players with whom he must work closely in designing a prototype every time. And that is only the design phase. He then has to enter the fragmented world of construction by (sometimes) choosing the players, and then administering the building contract. This exposes him to uncomfortable building sites and pitting his wits against contractors who possess some of the most commercially developed senses in society. In a world of considerable litigation activity, it is surprising that there is not more of it.

It is inescapable that the architect's activities have to straddle the meeting point between fine art and the brutalism of commerce. It would be an unusually gifted architect who could manage equally well all the risks in this frontier land in which he has to practise. While the larger practices have the resources to develop specialisms over the spectrum of design and management, many quite small practices handle some very large projects yet cannot afford such luxuries.

By being appointed coordinator and design team leader, the architect has been given the key to a substantial part of the risk that the whole team will have to carry. Often, the architect will be the only intermediary between client and team, or client and contractor.

The architect will make decisions which will have enormous influence on the contributions of the other players. These are privileges and gifts which most architects cherish and honour. How they exercise this mix of power and influence will be different for every architect and every project. The other players (including client and contractor) have to be realistic, and must be aware of the architect's ethical, political, managerial, leadership, design and technological responsibilities and qualities. It is not cynical to suggest that trouble often occurs through the other players placing too much faith in the architect's ability always to discharge these onerous duties perfectly. Each profession should appraise the architect in particular (as well as appraising each other, of course) for the risks his actions may draw them into.

Whether such appraisal leads to mutual confidence and support within the team, or simply to measures of self protection and divisiveness, are not for this book to comment on. While everyone would subscribe to the wish for harmony, it may be a luxury that for many good reasons will not be achievable. If the parties to a contract enter an adversarial relationship with their eyes open, that is the bed they have made. This book is about the risk of claims, not a moral lecture on the ideals of the dream project. Thus the perception of risk, as the architect draws his fellow professionals deeper into the design processes, will have to respond to a reality which lies somewhere between total harmony and total distrust. All must shape their own risk awareness, strategies and procedures to reflect the unique project.

The interior designer

Design territory for architects and interior designers overlaps. In fact, many architects consider interior design to be part of the architecture and would claim that they have the necessary expertise. Some architectural practices specialise in interior design. There are also separate practices of interior designers, which owe little to the background of architecture. Interior designers have their own professional qualifications – a confusing distinction of role?

Interior designers (whether architects or interior designers) tend to be appointed as separate consultants where large parts of a building need a specialist hand in the choice of fittings, furniture, curtains, carpets and the like. Large city office blocks for speculative letting, and supermarkets, are examples. The architect is appointed to design the shell only, and the interior designer designs the rest, often including the partitions. While the skills of the architect and the interior designer may coincide in their ability to design

partitions, very different skills are required for some specialist furnishings which are often procured from non-building industry sources. Interior designers have also developed their own methods of specifying components and of tendering processes.

Despite the divergence of the two professions, their risk exposure areas are similar. However, it has been known for interior designers to receive part of their income from commission paid by furniture suppliers. This results more from trade practice than doubtful ethics. Nevertheless it is a practice foreign to the other design professions and should be disclosed to the client. Because of the sometimes coincident skills of architect and interior designer, particular care must be exercised to define their boundaries of responsibility when setting up appointments. In fact the architect appointed to design the shell only should take a close interest in how the boundaries are defined. In the event of a claim, he may need to demonstrate where the lines were drawn. While it is equally difficult sometimes to define the boundaries of responsibility between any of the professions, custom and practice may not be much help between architecture and interior design.

The landscape architect

There are many similarities in the overlaps in services between architects and landscape architects as between architecture and interior design. Where schemes have relatively little landscaping, it will be part of the architect's services. However, the architectural profession accepts that it does not have the skills to handle the large planting aspects, woodland and ornamental lakes intended to humanise the modern business park. Landscape architects have their own professional qualifications and, as with interior design, some of the elements they design have non-building industry sources. Again this has created a different professional culture from architecture.

Like the interior designer, the architect and the landscape architect need to pay special attention to how the boundaries of responsibility are defined in their appointments. Where the landscaping is extensive, there is a need also for the civil engineering design boundaries to be considered, e.g. roads and drainage.

The planner

(Sometimes known as the town and country planner)

The planner's more specialised role is peripheral to risk issues explored by this book, when he is not a member of the design team. He is mentioned here because, like the two professions above, his

and the architect's paths sometimes cross. Building schemes of the scale contemplated by this book will require planning permission. It will be well within the architect's competence to guide most of them through the planning process. However, there are schemes, particularly in city centres where planning problems are so complex, for which the client will need to engage the skills of a planner; or there are schemes which are environmentally so sensitive that a refused consent must go to appeal. Often the architect is the only professional able to advise the client when the problem is beyond his competency. Once such problems are in the hands of the planner, both professions need to secure their boundaries.

One risk circumstance can arise when an architectural practice employs a qualified planner primarily to handle all the planning applications which go through the office. There is no undue risk here because such applications can be handled by the ordinarily competent architect. The practice is doing no more than discharging the architectural commission for which it was appointed. However, risk arises where the kinds of problems mentioned above develop and matters have gone past the architect's competency. The practice must not assume that because the qualified planner can handle the matter, all is well. Advise the client that if he wishes the practice to handle these planning complexities, the appointment is deemed now to comprise separate architectural and planning services. If this step is not taken, the architect will have held himself out as being competent to provide skilled planning duties. This problem is explored further in Chapter 4.

Civil and structural engineers

Civil and structural engineers tend to be grouped under the same professional umbrella; many engineering practices provide both services and many engineers are qualified in both disciplines. But they are really separate professions. Civil engineers operate 'below the ground' – foundations and drainage; structural engineers 'above the ground' – steel and reinforced concrete frames. While it is usually easy to recognise and separate engineering aspects from architectural elements (although no one, including the architect's own standard agreements, seems able to define what parts of the building an architect designs), such elements as foundations and load bearing masonry can pose boundary difficulties between the professions.

Engineers have a reputation for careful design and management. While their academic base and training rigour are high, they are practical people – in other words, professionals with a good risk

profile. However, when things go wrong for an engineer they go wrong spectacularly.

Architects generally have a high regard for the professions and they work well together. The structural engineer can sometimes collaborate very closely with the architect to produce creative design. But should he actively seek to influence the design decisions of the architect in a manner that the engineer's peers may believe goes beyond the reasonable expectations of what an engineer should do? As with the mention in Chapter 2 of the Qs and project managers who stray into the services territory of others, a court may hold that an important risk boundary has been crossed. I suppose the most famous example of boundary crossing for engineers must be the Sydney Opera House, where the structural engineer was called in to help resolve the architectural design for the now famous roof shells. It would be interesting to speculate how the respective appointments would have allocated liability between architect and engineer had there been any dispute involving the design of the shells.

The services engineers

Whenever building services engineers are mentioned to architects, the chances are that discussion will become acrimonious. Architects do not understand building services, which obey laws of physics not easily susceptible to design by 6B pencils. Gases, liquids and electricity flow unseen; they need strange routes and inexplicably large spaces which the architect has to provide for in his design. Engineers for their part may not understand the architectural aspects of design, either because they believe they do not need to or because they feel that the architect is reluctant to share his philosophy with them. The wonder is that so many buildings do get completed with some reasonable harmony between these often uncomfortable bedfellows. But the fact that friction and misunderstanding are often present is a worrying risk aspect.

Even more than with civil and structural engineering, 'building services' is a collective expression which comprises several quite different professions. Heating engineers design the heating installation and air conditioning. Public health engineers provide the cold and hot water to the taps and its disposal (sometimes including drainage aspects, which confuses the architecture and the civil engineering boundaries). The electrical engineer's role is self-explanatory. There may be more than just these three professions for the complex services modern buildings now require.

Architects still struggle with a profession which has tended to

design the services concept only, while the trade (the engineering construction industry) completes the design. This becomes an understandable frustration when the architect cannot complete his coordination duties at the right time.

More confusingly still, architects and building services engineers currently seem to be going in opposite directions in the balance of design by consultant or by the trade. It was mentioned earlier that services engineering was the last of the professional family to gain academic respectability. Until recent times, it was usual for the trade to carry out a substantial part of the design and sometimes all of it. This practice is not extinct; it is common for at least part of the building's services to be contractor designed, whatever the complexity and whatever the engineer's appointment says. However, when the fee paid is sufficient, engineers increasingly design the services elements in detail. Architects increasingly find their services reduced to concept design only, with the trade taking over at production drawing stage. Whether this role reversal between architect and services engineer is a permanent shift remains to be seen, but the need to adjust can be difficult for both professions, and there are risk implications for both.

Whatever the shifting sands of the above will bring, it is even now only slowly being recognised that if the architect is properly to coordinate all design at the right stage, more up-front engineering design is required of the engineering consultant. These changing complex balances in the roles of which party designs and when, can add to the risk factors of the whole team.

The quantity surveyor

(Sometimes known these days as the construction cost consultant or cost economist)

The quantity surveyor's origins, a little like those of the services engineer, lie in the construction industry. During the industrial revolution, a single building contractor became solely responsible for building the project, rather than several trades (plasterer, painter etc.). The contractor was held to a quoted price unless there were changes. As buildings became more complex, competition became keener and contractors needed better means of calculating their tenders. While the prices they quoted would still be market driven, knowing the quantities of the various materials, accurately calculated from the tender drawings, constituted a major development. This process was carried out by the rapidly developing specialist, aptly titled 'quantity surveyor'. The first Qs were employed by each contractor. Then it was realised that the same operation was

being wastefully duplicated, so the independent QS emerged. However, for a long time QSs were employed by the contractor. They started to work directly for the client when clients realised the advantages of 'owning' the bill of quantities themselves for the purposes of negotiating contract amounts and variations to the contract.

The quantity surveyor's long exposure to building cost and price has turned him into an expert in the economics of construction, able to predict cost and cost trends and the spread of cost expected between the elements of the different building types. He has also become something of an expert in dealing with all matters contractual, including construction disputes. From his relatively detached position in the team he has been able to observe team management patterns (more on this when we look at project managers later in this chapter). He can now advise client and team on a range of matters unconnected with the origins of his profession.

The QS has come to be an influential member of the team and his part in the risk pattern of all of the professions can be pivotal:

- He has the ear of the client
- He knows much about the economic strengths and weaknesses in the design
- He knows where the strengths and weaknesses lie in the design team
- He knows where conflict in construction is likely to arise and often has a shrewd idea how it will be resolved – the losers and the winners
- He has a virtual monopoly in knowing where the money is in the project – a very powerful element in the design
- Above all, he is detached from the strains of design, so is better able than any of the other players, including the client, to predict the outcome of a dispute.

The QS is formidable professional to have, either on the 'right' or the 'wrong' side, in any dispute.

You may have noted that the cost advisory function of the QS seems to be provided primarily to one profession. It is a strange anomaly, the reasons for which I cannot fully explain, that the QS normally provides full cost duties only for the architectural elements. This may extend to the structure, to the interior design and often to the landscaping. But hardly ever does it cover the services engineering in comparable detail. The services engineers generally prefer to provide their own cost advice. Moreover, most QSs do not meet services design or economics in their training in the detail that they would expect of the architect designed elements. Thus they

may not be qualified to give advice; are clients always made aware of this strange restriction in an otherwise wide ranging expertise? Further discussion of this appears in Chapter 10.

It has been said (possibly by envious designers) that QSs exercise power and authority yet take little responsibility; that they know the cost of everything and the value of nothing. Like all aphorisms there are some grains of truth here. It does seem true that QSs are claimed against less than their fellow team members, and that they make sometimes painful cost pronouncements secure in the knowledge that they had no part in the problem. Commercial clients have been known to put cost before the quality of the design in their priorities (or so they say). A profession which has its hands on the cost must therefore occupy a powerful position. It can be aware of such risk problems for the other professions while remaining risk free itself.

Architects used to rely on the QS to 'cover them' for the bits of design they forgot or had not yet designed fully. The experienced QS visualises everything he measures and has a shrewd idea whether it is fully thought out and whether it is buildable or not. So the QS is in a position to see the parts of the building which require further design attention. Sympathetic QSs may still provide this almost subliminal, covert service. This was useful to the architect when the QS was his best friend – in the days when the QS relied on the architect's patronage for his work. Those days are long departed. Nowadays the QS is invariably appointed directly by the client and often ahead of the architect. The client expects the QS to report directly to him. Thus the architect can no longer rely on his friendly QS to 'cover' for him, and certainly not unless the client is also made aware of the position. So here too, the architect must sometimes feel that he is practising in a hostile environment. The QS's role as financial adviser and non-designer sets him, rather like the project manager, slightly apart from his colleagues in the team.

Involvement by the QS in matters architectural does not stop at the economic aspects of the design. One more casualty of the learned nature of the architect's background has been his relative innocence when it comes to understanding the small print of building contracts. Here, too, the QS has grasped his chance to fill the vacuum. It is not unknown for the QS completely to take over the writing of the tender requirements and a substantial part of administering the contract. Certainly the architect relies heavily on the QS's advice in the parts of the contract which have cost implications, whether they are a formal part of the architect's duties or not.

As a quantity surveyor, do you stop at advising your client on cost aspects of the job, or do you seek actively to make decisions, both on quality of the specification against cost, and balancing the cost of one element against another? If the latter, you may be entering the

design risk chain. Is it part of your commissioned job, and are you being paid to act beyond the role of cost adviser? Does your insurer know?

This is an example of where you seem to get drawn into what should, perhaps, be the problems of other professions. In order to do your job, you have to ask many questions. In the process, you may find yourself having to provide the answers also. Have the other professions come to over-rely on your flexible skills? You advise on and indeed write building contract clauses; you sometimes appear to be running the contracts. And all this against the sometimes sketchy description of your services in standard appointments. I return to this in Chapter 10.

The project manager

Readers will have inferred from the Introduction to this book that I am not too sure about the extent of the project manager's duties compared with the other professions whose roles in the design process have been long understood. The project manager (PM) is a relative newcomer as a member of the team.

The design team seem often to be unsure of the PM's role, a feeling I guess is often shared by the client. It does seem that at least part of the reason for the rise of the PM has been the increasing frustration of the client with the leadership and management qualities of the architect. This theory is supported by the fact that RIBA have started belatedly to encourage PM skills for architects. They appear at last to have recognised that there may be a vacuum. If the client considers that he needs to supplement or replace the architect's role as lead consultant, that is for the client, project manager and architect to argue; and it is the client's privilege alone to say whether he believes he needs such extra help. Knowing the architect's background as discussed above, it would be surprising if some clients did not seek the additional help that a good project manager can provide. The difficulty lies in how to define what the PM actually does.

Institute and most client drafted appointments still bestow on the architect, lead consultant and coordinational roles. That, together with all the other design services to be performed by the other consultants, would seem on the surface to comprise all the professional services the client needs. What, then, is left for the project manager to do? Some duties which project managers appear to have taken over should be a risk worry to architects; not because another party is doing the job, but because the architect may become implicated in a badly performed duty that his appointment stated he would perform but which the PM has had a hand in. The problem is

more one of definition than anything else. While most of the duties of architects, engineers and quantity surveyors are common knowledge, by tradition if not through explicit words in their appointments, frequently the team are told nothing at all about the PM's duties. It is even more surprising that few members of the team (and particularly the architect) ever seem to ask for definition of the often powerful and authoritative part that PMs play.

So what does the PM do? I believe that what the client typically requires of his PM is a reporting back role on the state of the organisation of the team and the likelihood that the design will be completed on time (in other words, that everyone is performing). To exercise this role, obviously the PM has the right to be present at any team meeting and within reason to visit team members' offices to satisfy himself that resources appear to be adequate. If that comprised the extent of his duties, I think there would be no need for a section on the PM in this book.

The difficulty lies with other duties many PMs have appeared to assume, whether explicitly or tacitly. For example, they have been known to involve themselves in the design process itself, in the choice of building components, in aspects of building contract drafting and administration and in claims (duties usually awarded to the design professions in their appointments). Some PMs affect to stand in the shoes of the client and instruct the team. That their title includes 'manager', implying some executive role, may or may not be semantics; RICS (Royal Institution of Chartered Surveyors) Insurance Services, in preferring 'coordinator', do not consider it semantics. The difficulty does not lie with any unpopularity caused by the apparent insertion of another body between design professional and client, but rather the possibility that the PM's action may prejudice a profession's actions, causing a claim to result. Against a background where the duties of all of the players, except the PM's are known, this has the potential to become a substantial risk area for the whole team, not excluding risk to the project manager himself.

It is appropriate that in this chapter the project manager's part in the design process should follow the QS's; project managers tend to be QSs who have specialised in this field. Indeed it has been known for the QS also to be project manager, which could result in conflict of interest. It was perhaps inevitable that the QS profession, with its reputation for flexibility and a nose for opportunity, should have entered this field.

As project management is a relatively new discipline, it seems as yet not to be regarded as a discrete profession. While there are associations of project managers and examinations to be taken, the service does not seem to have focused on the construction industry

so as to produce generally adopted terms of appointment which dovetail into the appointments of the other consultants. One possible exception is the National Health Service which has a rather special client base. It is extremely difficult to attempt to forecast the direction in which project management might be heading.

4

The Boundaries of Risk Between the Professions

Introduction

This is the third of three chapters which have examined the nature of organisations in the design world and where risk of a claim might arise. Chapter 2 looked at the different kinds of practice, whatever the profession. Chapter 3 continued the theme, looking at risk patterns within each of the professions. This chapter concludes this process by discussing some of the areas of risk which can occur at the boundaries of responsibility between one profession and another, where the separate duties owed by the respective professions to the client can interact to produce risk to either or both.

This chapter is also a bridge between Chapters 3 and 8, where the interaction of the appointments between the separate professions and the client is analysed in some detail. Readers may find it useful to read these chapters together before returning to the remainder of Part 1.

Boundaries of responsibility

What are 'boundaries of responsibility'? The professions have always had a working understanding of where the services of one should terminate and another's commence. In the event of a claim, it is often important to be able to establish the services you will not perform as an effective way of emphasising those you will perform, and preferably so conclusively that the other parties have to recognise them. This is an important 'boundary' and a possibly crucial step in defending a claim. Then there are the remaining 'core' duties which many practitioners would argue are so obviously for the particular profession to provide that further debate is unnecessary. However, the nature of the individual project, and the tendency of professionals to encroach on each other's territory, conspire to prevent a neat and consistent way of determining who does what. Duties which might be performed by one profession in one scheme might be performed by another profession in the next scheme. The purpose of this chapter is to enquire into why and how such duties

can pose particular risk problems for the professions which might become involved. Here lie the boundaries of responsibility.

Fig. 4.1, the boundaries of risk, shows that out of the total risk borne by a practice, part is shared risk (e.g. interconnecting duties) and part is connected risk (e.g. the effect of the duties of one profession on another's). Fig. 4.2 outlines the composition of a typical design team which might create these boundaries.

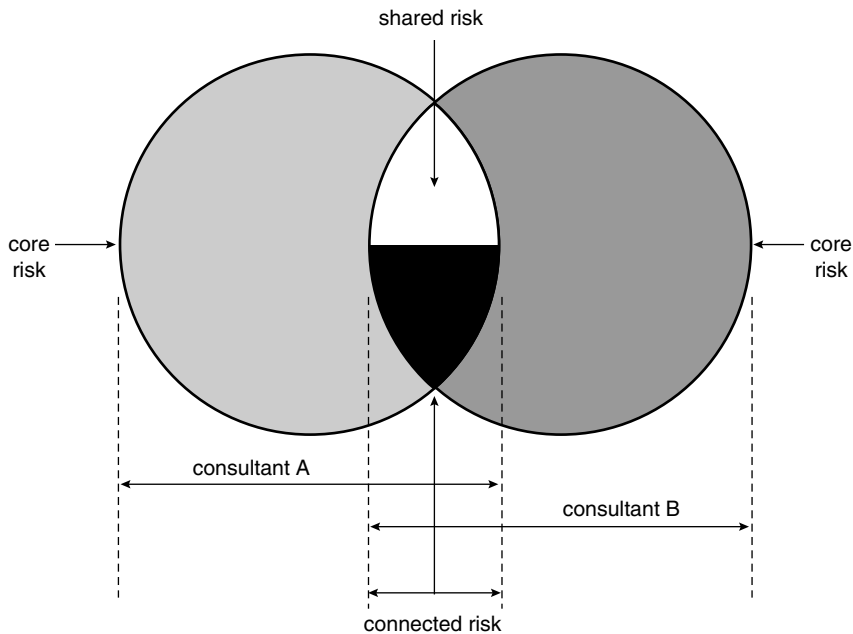


Fig. 4.1 The boundaries of risk between the professions

These boundaries can be elusive as shown by the difficulty the institutes' standard terms of engagement have in defining the parts of the building each profession designs. Some have attempted definitions – menus – in some detail, while others are completely silent, as will be seen in Chapter 8. The actual appointment should (but often does not) identify any boundaries that the standard terms have left unclear. The need for clarity is not helped by the professions' instincts to cooperate rather than create barriers or the tendency of client drafted appointments to concentrate on small print minutiae rather than establishing boundaries. Further grounds for uncertainty can be created when unrecorded changes to services occur during design. Often the professions can be confronted by some aspect of the services long into detailed design, where neither knows which should perform a particular service. This is usually a

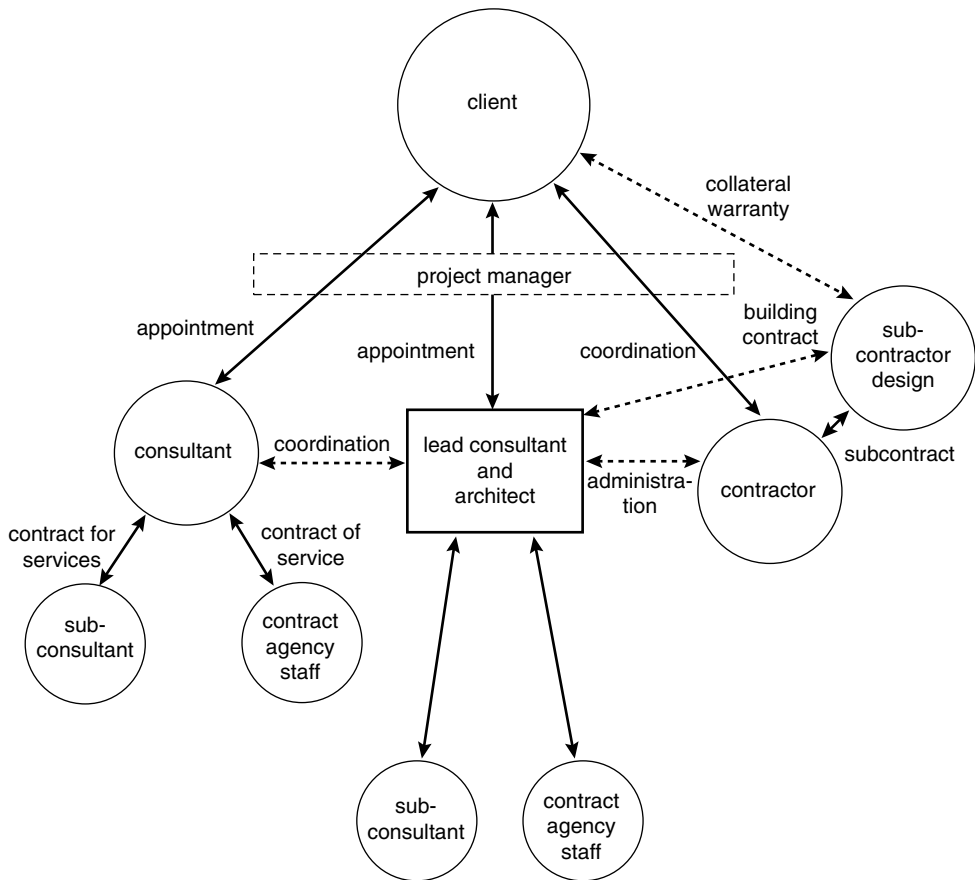


Fig. 4.2 The web of design team interdependency

commercial problem, but it has a risk component. I shall be expanding on all of these difficulties in Chapter 8.

Why are boundaries of responsibility important to risk?

Potential for claims arises from four sources:

- (1) Dispute between two or more of the professions about which profession should perform the disputed service. This may be confined to argument between the two professions.
- (2) However, it may also implicate the lead consultant, the project manager, whom the client and the professions in dispute may allege should have advised on anomalies between appointments.
- (3) Where a claim is made by a third party, normally the client,

alleging a breach of duty and it is not clear which of the professions was made contractually responsible for performing the duty. A practice is in a stronger position to refute a claim against it if it can demonstrate by reference to its appointment that it owed no duty to provide the services in question; better still if it has a copy of the other profession's appointment which might provide evidence that that profession owes the duty.

- (4) Where, in the face of what the appointment says, one profession has carried out another's duties.

Of course, matters are rarely capable of such clear analysis or the claim would find its proper target first time. Most of the difficulty will lie in attempts to define which profession should have responsibility. This can be complicated by the professions attempting to solve a design problem collectively and too informally – i.e. no one can remember the circumstances or even who (if anyone) actually made the critical decision, let alone who should take responsibility. A particularly damaging source of a client's discontent is an aspect of design which simply has not been carried out.

Even if the appointment is clear on responsibilities, the practice may still not be able to avoid becoming implicated. A lay client may successfully argue that the professions, being 'expert', should have realised that a certain service was not defined clearly enough and should have drawn the omission or ambiguity to his attention. He may look to the profession he believes should have taken responsibility, either for the service in question or for failing to have advised him at the time appointments were being negotiated.

Thus one, any, or all of the professions may become drawn into a 'boundary' dispute which will be drawn out, expensive and contentious. The innocent party will suffer as much as the guilty party when, as often happens, the matter is settled by all the parties contributing to a financial settlement.

The messages are clear:

- All parties, but particularly the lead consultant and possibly the project manager, have an interest in ensuring that all appointments are as clear as they can be in defining boundary duties. This means sharing openly the developing conditions between each other, and continuing to exchange during the scheme to ensure that changes to services are properly and clearly allocated. If openness is not possible, the profession should protect itself by written assumptions to the client and perhaps to the other boundary professions. Where further clarity is needed, it helps to define which duties a profession will not undertake (a

common example arises where the building contractor or even the client himself is to undertake part of the total design).

- Having exercised care in defining the boundaries, the profession must take care not to cross them. Change the boundaries, in writing, with agreement from client and the other professions, before you change your services.

Two salutary cases

Sainsbury v. Broadway Malyan (1998) 61 Con LR 31

Sainsbury alleged that a fire in a superstore would have spread much less quickly if a fire-break wall been taken up to the roof. The architect, Broadway Malyan, accepted liability and settled with Sainsbury. Ordinarily that would have been the end of the matter. For our purposes the design in question (i.e. the design of a fire-break wall) would have been a 'core' rather than a 'boundary' service and would have no relevance to this chapter. However, what happened next brings the matter very much into 'boundary' territory. The architect sought contribution from the structural engineer. The fire-break wall met a lattice girder which prevented it from continuing to the ceiling. The architect had produced a sketch purporting to fire-protect the girder and had submitted it to the engineer and to Sainsbury's in-house architect 'for comment' – not 'approval', you will note, indicating perhaps that the architect was not entirely sure what, if any, responsibility the client or engineer was intended to take. In the event, there was no comment. Anyway, the architect attempted to transfer some of the liability to the engineer. The engineer successfully counter-claimed that the design was clearly architectural and the judge had a few words to say on what 'for comment' might mean.

Although this was a specific case fought on particular circumstances, there are some interesting general 'boundary' questions which might apply in principle to many schemes which involve the appointment of two or more professions:

- Were the respective appointments for architect and engineer sufficiently explicit to identify responsibilities for the design of the girder fire-stopping cladding?
- Was there anything in the architect's appointment about the client's in-house architect's intended role in examining the architect's drawings? What responsibility, if any, should technically informed clients take when they ask to see drawings?
- Was the coincidence of truss line and wall unexpected and therefore respective design responsibilities were not in the

appointments? In that event, should the parties have paused to consider design responsibility implications before one of them did a drawing?

- If the client's in-house architect or the consultant engineer had 'commented', would they have risked becoming implicated in the claim?

Study of the full transcript may reveal the answers to some or all these questions, but that is not the point of my quoting the case. The point is to focus attention on the need for clarity in *any* such boundary matters which may arise in the future. Although the destruction by fire of a superstore may be considered an unusual event, the kind of boundary situations it illustrates are not.

Gable House Estates Ltd v. The Halpern Partnership and Bovis Construction Ltd (1995) 48 CLR 1

Gable (client) appointed Halpern (architect) to advise on the financial viability of either refurbishing an existing office block or replacing it by a new building. Viability depended on the amount of lettable space which could be obtained from either option. The architect knew that the client would rely on his advice. Early area figures by the architect showed that a new building would be viable, so design, demolition and new build proceeded. In the event, the new building produced an actual lettable area so short of what the architect had promised that the building was no longer commercially viable.

The court held that the architect was liable on the grounds that the client had been entitled to rely on the architect's advice, which had proved unreliable. In passing it is interesting to note that, although assessment of damages was not part of the judgment, a figure of £32.5m was mentioned. This is an astonishingly large amount when compared with a construction cost of around £6m. It illustrates graphically that liability can bear no relationship to construction cost and that many practices' PII cover will be far short of such a figure.

The reasons for the differences in areas reported and achieved were many and complex. No doubt, following this case, all architects are now extra careful when they report areas. As with the *Sainsbury* case, there are some important echoes on the boundaries of risk between the professions:

- If you fail in any part of your services to your client, you are at risk. However, where you know at the outset that the client will place particular reliance on advice and he will suffer substantially if the

advice is wrong, earmark it as such and ensure that the whole team is aware of its importance in their briefing material. Ensure that its importance is recognised at design reviews.

- It seems clear that although the duty to advise the client on areas was not explicitly part of any of the consultants' duties, the architect became liable simply because he had undertaken such duties. He was held liable tortiously as well as under a breach of implied terms in his contract. Consider whether you are the most appropriate member of the design team to give advice before executing your appointment, and, if you are the lead consultant, ensure that all duties are explicitly allocated to the appointments of one or other of the professions. Remember that you can be held liable for any advice you give, whether it is explicitly part of your services or not, if the client relies on it. Build up a library of services which, although not likely to be found in the menus of the institutes' agreements, are common core or boundary duties.
- Although the architect undertook to provide area advice, he left the actual calculations largely to the QS, who after a time reported directly to the client. If you undertake a duty, do not delegate it to others without adequate supervision, or without the client's consent.
- In this case, the QS was not implicated in the action. It would not be unreasonable to guess that, unless his caveats in presenting his area calculations were watertight, he would feel himself vulnerable in the early stages of the action, knowing that the duty to provide information was in no one's appointment. Even if you feel safe from attack, the best way to achieve peace of mind is the knowledge that the duty is explicitly someone else's. Thus, always enquire into the other professions' boundary duties.

Joint ventures

I referred earlier to the possibilities of joint ventures (JVs) as one of the means of teaming a competition winner to a management support provider. Other examples are:

- The teaming of a local and a foreign firm where the local firm has won a scheme to be built in another country; it needs to 'buy-in' the language, legal and technological skills of that country.
- Where the client wishes to maintain a single point of responsibility for all design, yet appoints only one of the disciplines. That discipline must then seek 'partners'.
- Continuing popularity of the government Private Finance Initiative (PFI) (which used to be known as a 'turnkey' deal) will force the alliances of some unusual bedfellows in their attempts

to capture new markets. An architect, engineer, contractor and security systems firm have successfully formed a JV to design, build and operate prisons.

A joint venture is essentially a legal instrument which brings together several organisations to form a company or partnership, which although staffed from parent organisations owes single trader joint and several responsibilities to the client. It is usually formed for the purposes of undertaking a single scheme and then ceases to trade. During its life, the parent companies continue to trade normally. They may or may not bear some of the JV's liabilities, depending on how the JV is set up.

There is also a form of joint venture which is less formal. Large design schemes have been undertaken where the client appoints the professions under separate appointments, but stipulates that they all work under the same roof (usually the offices of the lead consultant). They share common services, e.g. administration, CAD system, filing. This is potentially the more dangerous form of JV. In the cause of the harmony that the client believes is achieved by putting them under one roof, such spatial proximity encourages the most intimate integration of intellectual input. At the same time separate responsibilities have been maintained, with their potential for contentiousness.

Surely there is a dichotomy here? In the sharing of resources, the parties will need to share confidences and expose weaknesses. They will share design skills and risk blurring the edges of professional responsibilities, with unsureness about which profession designed what. The use of CAD tends to encourage design integration, with the possibilities that one profession can, unnoticed, alter the design input of another profession. In fact there are many of the dangers faced by the multiprofessional practice (see later) but, unlike multiprofessional practice, without the safety of a single, corporate responsibility. In the event of a problem developing which might lead to a claim, one profession may not be confident that it can access its own files, particularly if it is the 'guest' practice in someone else's office. Equally, one profession can gain advantage over another by covertly examining the other's files for weaknesses.

It is clearly safer in the risk context that such alliances be formed as separate companies or partnerships. However, even these arrangements may not be as potentially risk-free as practices which enter into the traditionally separate contracts:

- Members of joint ventures often have to learn to live with each other at short notice. Fusing their cultures and working methods may be painful.

- Negotiating the legal instrument which creates the JV may be no problem but it cannot entirely clear the way for the mixing of cultures which is going to be necessary to produce the design. This problem might be particularly acute for management. Someone has to head the joint venture and he will have to overcome, or work with, the often powerful wills of staff who will fight to maintain their founding cultures. (If the device of appointing two equal-status chairmen/executives from the participating practices is tried, it will establish its own risk problems. Eurotunnel, that supreme example of a mix of chauvinisms, has found that it does not work.)
- Already in several places in this book, the need for the different professions to maintain their own identities has assumed some importance in the context of claims and risk. It is by no means certain that a JV would respect these boundaries. Commercial expediency would require some work sharing. This is relatively untested risk country and some of the implications have yet to become apparent.

Subconsulting

Unlike joint ventures, subconsulting arises when either:

- One discipline has been appointed to perform the services of several disciplines and is to take responsibility for them. It then has to appoint the other disciplines while remaining responsible for the whole to the client. The other disciplines become its subconsultants; *or*
- One discipline has been appointed to perform only the services of that discipline, but augments its resources by appointing subconsultants in the same discipline.

Apart from the important difference in legal relationships, the intentions of JV and subconsulting can be similar: either can give the client the comfort of a single point responsibility, yet provide him with sometimes very different professional services. However, JV is normally employed for very large schemes demanding large staff resources. Subconsulting is to be found more in circumstances where most of the scheme can be sourced by one profession, and a smaller, specialist part demands special skills. However, sometimes subconsulting is employed simply to augment single discipline staff, perhaps to overcome a temporary resource shortage.

Sometimes subconsulting is entirely at the discretion of the practice appointed; at other times it is demanded by the client. The

appointment may stipulate in detail how the appointed practice must subconsult and to whom, or the appointment may be silent, leaving the practice to decide entirely how, or even if, a subconsultant is to be appointed. The appointment may prohibit subconsulting or demand that the client be consulted if subconsultants are to be used. Where the appointment is silent this may suggest that the client assumes that the practice will carry out any specialist aspects itself or that he is content with whatever the practice intends. It would be an imprudent practice which did not consult him, for three reasons:

- Such a practice would be holding itself out as being capable of providing specialist services when it cannot
- The practice might be tempted to carry out the specialist services itself when it is not equipped to do so
- If the practice subconsults (whether for specialist skills or only to augment its own skills) without informing the client, it is in danger of being found liable for breach of trust under the contract; always assume that the client is entitled to believe he appointed the practice to carry out the whole of the services.

Subconsultant or contract staff?

Before we look at some of the risks to be found in subconsulting, perhaps I should clarify the legal separation of subconsultant from contract staff. Please bear in mind that even these indicators can produce misleading conclusions:

- Contract staff tend to be engaged as individuals, probably to work on more than one scheme. Subconsultants are organisations or consultancies practising in their own right and appointed under a written appointment for stated services on one scheme.
- Contract staff tend to be of the same profession as the practice. Subconsultants can be appointed to provide specialist services.
- Contract staff are normally reimbursed by time. Subconsultants are more usually paid an agreed fee.
- It is not normal for a practice to disclose to the client when it engages contract staff, unless their numbers comprise a large percentage of the total staff, when perhaps it should. The practice should always consult the client if it intends to use subconsultants.
- Contract staff are usually insured for PII under the firm's own insurance. Subconsultants should always carry their own insurance.

- Contract staff usually work in the practice's offices, under the practice's direction. Subconsultants usually work from their own offices and might expect to work from a brief, developing the design according to their native discipline skills and without direction from the practice. However, this distinction may not be sustainable, particularly where the subconsultant is of the same discipline. Even where the subconsultant provides skills in a discipline quite foreign to the employing profession, the latter, having total responsibility, will feel it necessary to become involved to some extent. This is often the most diffuse area, yet may be the most important if the legal separation of the two becomes necessary.

Distinguishing between subconsultant and contract staff

Why is the need to distinguish between subconsultant and contract staff important? In the murky underworld of claims, it is always useful and sometimes critical to be able to establish precise contractual relationships. Contract staff and subconsultants are singled out here because there is normally a closer relationship than with, say, other consultants. If the parties get really cosy, it may be difficult to determine the relationships. Quite apart from the risk aspects, it is surely good management that definitions are precise and agreed between the parties; the complexities of employment law alone suggest that this must be good practice. I have seen situations where employees who left a practice return to it and there is no written arrangement setting out their relationships. They might be contract staff, they might be subconsultants, or they might even still be employees.

Some of the risk reasons why definition is important:

- An employer directs employees and should direct contract staff. He takes responsibility for their actions. While it is possible that, having had to concede a claim, he may pursue an employee or contract staff, it is hardly likely.
- Subconsultants usually expect to take sufficient burden of responsibility that they can be claimed against if negligence is alleged. They have (or should have) insurance to protect them.
- The practice can normally dismiss employees and contract staff at short notice. It may not be able to dispose of a subconsultant so easily.

The risks in subconsulting

The practice is taking responsibility for a part of the design about which it may know very little. However, providing the specialisa-

tion is no different in principle from many of the other disciplines which lead designers are expected to coordinate, problems specific to consultant/subconsultant may not arise. Nevertheless, the practice is probably taking direct responsibility for briefing exchanges, compared with its traditional lead position as having only to act as 'postman' between client and the other professions. Consultants, of course, develop their own briefs directly with the client.

As the practice is answerable to the client for all the actions of its subconsultants, it needs to be particularly careful about the subconsultant appointment conditions; if the client claims against the practice, the practice must have the appropriate armoury to claim in turn against the subconsultant. Thus the terms of the subconsultancy need to be at least as comprehensive as the appointment. This is sometimes not so easy to achieve. Negotiation of appointments tends to be protracted and is often not completed until well into design. Both practice and subconsultant are used to working 'at risk' while the lawyers on both sides hum and haw their way through the small print. What could be the consequences if the subconsultant does not like what he sees at the end of the process? One answer to this, which will be developed in more detail in Chapter 8, is for the practice to define identical terms under which both practice and subconsultant deem themselves to be working, until such time as the appointment is finalised.

It is sometimes astonishing to see no more than a brief letter of acceptance comprising only the fee to be paid to the subconsultant. Yet the appointment between practice and client is lengthy and stuffed full of unusually onerous conditions. I need hardly mention the risk consequences in the event of a claim involving the subconsultant. It seems not to be recognised in such situations that a relatively minor subconsultant can do a great deal of damage.

The practice may have little idea and no control of the working methods of the subconsultant. So it will have little idea of how the subconsultant is working to the programme, or the state of his resources.

Where the consultant and subconsultant disciplines are different, the consultant has to trust the subconsultant completely in his competency and his design.

It may be difficult to oblige the subconsultant to provide a level of PII cover for the levels of risk the practice may face if the subconsultant commits errors. If the level agreed falls short of the cover demanded by the client of the practice, the practice may have breached its appointment conditions.

Sometimes the consultant permits the subconsultant to have direct access to the client, or the client demands it. Clients may even attempt to instruct subconsultants direct. These are potentially

dangerous activities. The consultant must always be in control. He must be a party to any communications, whether informal or not. If expediency dictates some direct contact, its scope must be formalised between the three parties. There must never be direct instructing because it flies in the face of all that subcontracting stands for, and is done without authority or contractual reality. It is correspondingly advisable that the practice informs the other consultants and other third parties who need to know, that the firm is a subconsultant and how communications are to be controlled.

Additional risks for multidiscipline practices

The boundary risk patterns I have introduced so far apply as much to multidiscipline practices as they do to the disciplines who practise separately. But multidiscipline practices face some additional risks. Such practices may think that as there are no boundaries there are no risks, but this is not so. The boundaries are still there; only their legal context has changed.

There are many positive risk messages from a group of often quite disparate disciplines who believe that practising together under one corporate roof is the best way of achieving a totally harmonised design. Cooperation in and understanding of each other's design are aspects that might never be achieved by practices working separately. There is a flexibility in resource sharing and the opportunity to re-distribute fee income equitably among the professions. The likely greater size of the practice can allow the creation of a range of specialist skills (e.g. coordinated whole team programming), research and technology that would be impossible if the professions practised separately. Appointments, even if on the basis of separate profession appointments, can be coordinated to harmonise with each other to an extent that would otherwise be impossible.

However, the following risk dangers apply particularly to the multidiscipline practice.

While there are advantages to both parties in having a single point of responsibility for all services, there is a disadvantage to the practice. Separate practices can ring-fence their duties to the client. This is a powerful weapon for deflecting liability to another team member and may force a client to abandon a claim. A multidisciplinary practice has no one else to blame if, say, (to return to *Sainsbury v. Broadway Malyan*) it gets the fire stopping over a truss wrong.

There is a tendency for cooperative working relationships to go too far. This chapter has concentrated on the risks which can arise if

the boundaries of the different professional skills are not well defined. There is considerable consensus, within the professions and supported by the schools, the institutes and the courts, on the core skills which mark the essential differences between one profession and another. In separate practice there is little desire or opportunity for anyone to cross these boundaries.

Ironically, it is the ethical basis of multidiscipline working which encourages the opposite – the crossing of boundaries. There is a climate which nurtures the sharing of skills, which encourages the individual, whatever his native discipline, to do the job of another discipline, or at least to attempt to influence its workings, if he can see a vacuum that needs to be filled. This can be formal or informal – informally through people simply working spatially close together, or through the pervasive influence of the corporate entity. Even if there is a formal policy of ‘separateness’, it is less easy to eliminate the informal aspects.

Multidiscipline working can be exciting; it can even produce better design or improve consultant/client relationships. It is supported by the ‘one firm ethic’, by working closely together and by sharing the same social background. However, until the ways in which some multidisciplinary firms want to practise are more generally recognised (they currently comprise a minority of total practice), society as represented by the courts will continue to judge the professionals by the standards and boundaries maintained by the professionals who practise separately.

There is some sense in this; it is not just prejudice on the part of one writer. A situation arose once where a multidiscipline practice was, unusually for those days, appointed architect only. Design for the building services was to be procured from the industry; no services engineer was appointed. The architect, unused to this situation, found that he had insufficient information at design stage to provide space in the building for some quite complicated services. As yet there was no services contractor. He called in his friendly engineer from the next workspace who willingly gave him informal advice. The architect had crossed a boundary by assuming, in the client’s eyes, the expertise to be expected of an engineer. The services contractor, when he was eventually appointed, was not satisfied with the space provided and things become messy. There was no claim, but the possibility of one arose. Had the architect been in separate practice he would not have attempted to size spaces for such services, nor would he have had a friendly engineer to give him free advice. He would have referred back to the client.

In a multidiscipline practice the team’s housekeeping attitudes towards each other tend to become over-casual. The example above shows the importance of maintaining traditional profession

boundaries. This is equally true of the coordination process, where information between team members is exchanged. To recognise risk prudently it is necessary to establish the formality which would exist between separate practices in the exchange of information. How information should safely be exchanged will be discussed later, but the importance must be emphasised here of maintaining the integrity of the profession design by supporting it with appropriate formality. Compare the formality forced on separate professions by their geographical separation with the intimacy of the whole design team in one room. In the former, drawings are registered as to content and status, and logged in and out. If meetings are necessary they have to be planned and recorded. Now observe what might happen in the multidiscipline practice. A drawing can be passed on simply by leaning over the next workspace. A design change between two professions can simply be made via a chat between the workspaces. A meeting can be informal and in the workspace. Perhaps I exaggerate a little, but it is so important if trouble should arise, to know which profession made decisions and why.

One might perhaps sum up the above by stressing that respect for one profession by another might be compromised by the cosiness of multidiscipline practice. Perhaps there is something to be said for preserving the mysteries of the separate professions.

It is perhaps more myth than reality that the unified management which multidiscipline working should yield, actually happens. The principals of such practices can still retreat into their professionally tribal corners when hard decisions have to be made.

Cooperation in times of trouble

The extent to which members of the team should share a combined strategy to defeat a claim is discussed in Chapter 18.

5

Risk Management and Quality Assurance Compared

Is quality assurance relevant to risk management?

Chapters 2, 3 and 4 were intended to stimulate thought on where risk might lie in the individual practice, to enable you to consider your priorities as a basis for preparing a risk management system. However, before you commence this task (Chapter 7), there are one or two matters still to consider. The first is the relevance of quality assurance (QA) to risk management, which is considered in this chapter.

For many practitioners, knowledge of QA may be limited. They may, however, know sufficient to see many similarities between risk management and QA and may wonder why I do not simply advocate the introduction of a QA system as being the best management umbrella for managing risk. Are not both risk management and QA supposed to be components of sound management? There are important differences between the two, however, as well as important similarities. Their paths may constantly cross or run in parallel, but they are different.

Definitions

Risk and risk management were defined in Chapter 1. We should now attempt to define QA. Although the international QA standards struggle with definition, their words essentially mean:

‘Assurance that a specified level of management criteria has been laid down and has been implemented.’

QA is *not* any assurance that a given level of quality of product or service has been achieved. This is a myth which has resulted from the rather unfortunate inclusion of ‘quality assurance’ in the titles of the standards. One may reasonably have drawn the conclusion that the expression ‘quality assurance’ is so explicit that it can only mean a guarantee that a product has reached some defined quality level. It does not, and it never has, although some product manufacturers

still use weasel words in their marketing to imply that it could. This is an important distinction to professional designers who have introduced, or are considering introducing, a QA system in their practice. They should always make clear to their clients that QA does not confer on their services any level of product conformance. If clients are led to believe otherwise, the designer may have crossed the important negligence boundary between 'reasonable skill and care' and 'fitness for purpose', so increasing his potential for being claimed against.

The rules of QA

In practice, QA invariably means having a management system which complies (the 'specified level' in the definition above) with one of the versions of BS EN ISO 9000. For designers this will be 9001 which includes design. The BS is an internationally recognised standard which grew from, and in fact is almost identical to, the now superseded BS5750 originally promoted by BSI and developed from defence industry standards for quality and performance.

While it is in theory possible to build a system around a different standard (you or your client could even write your own), to my knowledge all QA systems are based on BS EN ISO 9000. This chapter assumes that ISO 9001 is the definitive standard for the management of construction design. BS EN ISO 9000 is the national and international standard for defining standards of quality management for any commercial organisation. Its language is the language of manufacturing processes because manufacturing saw the need for a standardised means of judging management competence long before any of the service industries (e.g. professions) did. However, a wide range of other organisations, including designers, have found ways round these terminological difficulties.

The standard does not demand independent (outside) audit to confirm that a firm's management complies with its provisions. However, credibility would suffer if external audit were not carried out. Thus, those who aspire to comply with the standard normally seek also to be certificated by bodies accredited by UKAS (United Kingdom Accreditation Service – the government regulatory agency for certification bodies) in the type of activity they undertake. The firm certificated may use UKAS approved logos in its promotional material and on its letterheads. Some large client bodies employ only certificated organisations. The qualification is respected nationally and internationally and is said to add marketing value. It is significant that internal audit is mandatory under the standard. Chapter 7 will consider how a form of internal audit may be devised to maintain the momentum of risk management routines.

How does QA work?

The certification process comes in two parts: assessment and surveillance.

Assessment

The certification body (CB) will require to be satisfied that the firm:

- Has adequate resources to manage the system
- Has a written manual of procedures which comply with the relevant parts of the standard, essentially covering the management of its principal operations, written in such a way that these operations can be verified in writing as having been carried out
- Is working to the manual
- Carries out self (internal) audits to check that its operations comply with the manual, and has the necessary management resources to keep the whole machinery going.

The CB will audit all of these activities and the firm will be certificated if it passes.

Surveillance

Regular surveillance follows, usually biannually, in which the CB carries out spot checks (audits) to satisfy itself that the firm continues to comply. Some CBs make this a continuous process, while others carry out periodic complete reassessments. All CBs have adopted a similar way of summarising non-compliances exposed by their audit processes. It ranges from mild warnings for minor misdemeanours to the threat of certification withdrawal for serious and chronic fault. The CB would expect the firm's internal audit process to mirror the CB's own routine.

Limitations of BS EN ISO 9000

Possibly because of its industrial parentage, the standard concentrates on the management processes directly involved in the quality of the finished product. There are (at least for designers) several surprising omissions, including:

- The control of time so that the client can be assured that he will receive the product or service on the date it was promised (of interest also to the clients of providers of professional services).

- Control of the processes which determine the delivered price of the product. This is of interest to designers of buildings if 'finished product' means the services provided. If 'finished product' is extended to mean the building of the project, this will be of interest also to the clients of building designers.

An effective QA system for building designers is incomplete without these important elements.

These omissions also illustrate an important difference between QA and risk management, to be developed later in this chapter: in QA, matters not covered by the ISO need not be included by the firm in its quality system, however fundamental they may be to its safety, nor need it audit them, nor may the CB audit them.

Because of earlier misunderstandings in applying the standard for design organisations, it is worth pointing out that in the term 'finished product' the 'product' as intended by the standard is not the finished building but can only mean the services provided by the professional; for designers this means the completed design and (usually) administration of the building contract. However, there is nothing in the standard which explicitly covers anything other than 'design'. Theoretically, therefore, a designer could obtain certification and exclude his building contract administration duties. While most certificated designers have 'bent' the standard to include these activities, this is another fairly important example of inadequacy of an industry-based standard to meet the needs of a particular professional activity.

Audit and verification

In QA, unless the CB auditor is unusually inquisitorial (his actions can be challenged if he is thought to be over zealous), neither assessment nor audit makes any judgement on any product quality aspect of the firm's manual (save that it must comply with the standard). It would be most unusual if, say, the auditor commented on the capabilities of personnel to do the job allocated to them. This limitation in the powers of an auditor is entirely consistent with the line I drew above between management and product conformance. However, the design of a building cannot be compared directly with a manufactured product where, say, the management required to produce a car can be easily separated from the testing of a crankshaft to destruction. For professional services, it is normally far more difficult to separate management of the process from the quality of the services provided. The building designer may well wish to use his internal audit process to enter 'product quality' territory, but he should understand that to do this is to extend the process beyond

what the ISO intends; and of course, the CB auditor will not cross this boundary.

The bureaucracy of the standard demands verification only that the process either does or does not satisfy the requirements of the standard – ticks in boxes, black and white, yes or no. Cynical comment has been heard that if a firm produces rubbish, its QA system certifies that it produces rubbish.

Why do firms need QA?

Firms approaching QA normally fall into one of two categories:

- Those seeking a means of improving management, with better, more consistent, documented working practices – the disciplines of maintaining the system. They may not even publicise the existence of their system.
- Those seeking the commercial advantages that QA might bring (pre-qualifying for clients who insist on QA, marketing, displaying the national logo on their letterheads).

The latter often results in low credibility of the system within the firm and not a great deal of added management quality. But the firm cannot be criticised for this approach; its reasons for pursuing the quickest and most economical means of obtaining certification should be respected.

Using QA as a tool to improve management is a much more promising reason for the purposes of this book. Priority in choosing procedures is likely to centre on the firm's needs rather than rigid compliance with every word of the standard. This priority will also extend into the firm's audit approach which will spot check matters important to the firm (mentioned above), and not necessarily in even-handed response to the standard.

QA and risk management compared

The most obvious difference between QA and risk management is that QA is client driven through compliance with a public standard, to demonstrate that the firm has adopted standardised management principles. Risk management is practice driven with the object of controlling the risk of claims arising. It is selective in the management aspects involved and there is no public standard.

Motivation lies at the root of many of the differences. QA is driven by the need to comply with an international standard; it is a very

public and, compared with risk management, a standardised process. Because of this it tends, as described above, either to 'pass' or 'fail' a firm according to its rules. Whatever the firm's reasons for adopting QA there will be pressure to comply with the rules as they are written, rather than questioning the underlying reasons. Firms quickly learn that CBs are not in the business of indulging in semantics.

The philosophy of risk management is quite different. Its foundation is, as would be expected by an organisation which provides professional services, judgement, both in the way services are provided and its internal management. To some professionals, management as an identifiable activity is anathema; they regard judgement and management as contradictions. This is false. Risk management can be the bridge between the two. The management of risk is necessary in any organisation which expects to survive and prosper. Designers are no exception and indeed are prime targets because they tend to overlook the need to manage in their enthusiasm to design. Sound management is good risk management because it includes awareness, and thus management of, risk. It need not be documented, although having to cope with the inevitable complexities of design, it would be a brave or foolish firm which survived without having any documented system.

Judgement plays a more important part in risk management than in QA. Judgement is necessary in recognising risk and then deciding whether or not something needs to be done about it, i.e. how to manage it. At one extreme is the firm which judges that it will take whatever risk comes its way, always designs innovatively with no research, and has no documented system. At the other extreme is a firm whose management is so bureaucratic that it leaves itself little time to produce the design. These rather extreme illustrations are intended to show that risk can be seen and managed in many ways, any of which could be right for the individual practice. Each results from judgement, but only the firm in the second illustration would take readily to QA. Judgement underpins risk management, but rules underpin QA.

Judgement also affects the basis of audit. In QA the firm 'passes' if it can show that its procedures comply with the standard. In risk management, if the firm audits its system (note in Chapter 6 how the Wren Insurance Association deals with audit), the person being audited may well demonstrate good reason why he has departed from procedures. This is initiative and is good risk management. It follows that the respective qualifications of QA auditor and risk auditor must differ. A QA auditor need know very little of the processes behind the procedures and their implementation. If personnel depart from certificated procedures, that is non-compliance.

On the other hand, for the risk auditor to be able to respond to a person's judgement, he must have an intimate knowledge of how design-related activities are managed. Usually this demands that the risk auditor is a professional in the design field, e.g. architect, engineer or surveyor. Others may become qualified by experience, but under the base professionals' guidance. Suggestions on how these qualities can be harnessed to risk auditing will be developed in Chapter 7.

Relevance of QA to risk management

The paragraph above has drawn out so many apparently incompatible differences that you may be wondering where any relevance of QA to risk management remains.

In practice, most firms now have documented systems. The motivation may have come from the need to consolidate working practices against a background of growth, or from increasing awareness of the need to face the consequences of claims. Some risk management systems are applied as guidance, others with a mandatory element. Many practices have adopted full QA, either from first principles or by adapting existing procedures. It is not for me, or indeed anyone outside a practice, to presume to advise any practice on the extent of its formalised procedures. Advice in this book is limited to areas which pose risk, and only, incidentally, to wider management aspects.

However, I believe that QA should not be dismissed as having no relevance to risk management. Yes, it is bureaucratic; it depends on following rules rather than one's judgemental nose; unless it is well designed it will discourage half of the staff; its implementation will be driven more by pleasing the CB than addressing the important issues for the practice... and a great deal more if you are really looking for reasons not to adopt it. But, buried within all the manufacturing jargon of the standard is a set of perfectly logical, comprehensive management principles which can apply as much to a design practice as to a machine tool workshop. This applies also to the parts of the ISO which concern management of the system itself. As good management is the basis for good risk management, a careful look at the standard might well repay the time spent.

There is another reason for considering the standard as one of the options when introducing risk management into the practice. It is one thing to write the well phrased procedures; it might be quite another to sustain the investment by getting them used by the whole office, year in year out. Unless you adopt QA or you are a member of an organisation which provides rules (more on that in Chapter 6),

you are unlikely to have ground-rules to follow or the discipline of external audit to maintain your risk management system. A certificated system to ISO 9001 with its edges rubbed off could provide both. The standard will not cover all the aspects of risk management; it was never intended to. But studying it could be a start.

6

The Practitioner and his Insurers

Professional indemnity insurance

Professional indemnity insurance (PII) is a crucial aspect in the world of claims. This book is concerned with the avoidance of claims and it would not be complete without a few words on how to deal with claims (or their possibility), once they have arisen. Chapter 18 continues this subject at a more procedural level; here I confine comment to the more general relationships between practice and the insurance industry.

Having adequate insurance – insurance that will deliver when it is wanted – is the key. Its importance cannot be over emphasised. The misery of being claimed against is bad enough, but to turn to one's insurance policy and find that it lacks (or excludes) the essential protection . . . I can leave what results to your imagination.

The complications of insurance grow with the size and complexity of practice, the risks and the cover needed. However, even the smallest practices need to pay careful attention to the small print in their policies. Arranging insurance is not a matter to be rushed. The right insurance cover can take time to arrange and must be in place well before the event which activates it.

Until fairly recently, practices could still be found which deliberately refused to buy insurance on the grounds that to 'go bare' was to deter the claimant from pursuing his claim; there would be no assets if he was foolish enough to sue. Moreover, the argument went, the money saved would provide a claims fighting fund. Such practices were effectively forming their own insurance companies. These attitudes were justifiable if the practice was prepared to gamble, able to provide sufficient reserves and wanted to live dangerously. But such thinking defies modern insurance practice in which the majority pay a (relatively) small amount to allow for the occasional catastrophe which will befall the minority. Also, it was doubtful whether a practice would always be successful in removing its assets from the reach of the claimant. Even in the days of partnerships, it must sometimes have been difficult to transfer everything into the wives' names. The increasing popularity of limited liability companies is not a complete answer, either.

In any event, going bare is rarely an option these days. All of the larger clients, most of the smaller ones and most of the professional institutes, insist that design professions all carry adequate PII. The point seems well established that insurance is an essential, unavoidable part of modern design practice.

The basis of professional indemnity insurance

The contractual basis

The basis of cover in nearly all policy wordings is: 'neglect error and omission'. This means cover for being found liable for a breach of contract or an act of negligence. Negligence is a tortious act and exposes a professional to a wider range of claimants and incidents than would a simple breach of contract. As this book is not a legal treatise, we need not delve too far into the mysteries of these terms. As most claims (if they get that far) result in writs (now called 'claim forms') alleging both breach of contract and negligence, the distinctions are in any event academic. PII will start to operate (subject to proper notification – see below) when the professional has allegedly committed a misdemeanour in connection with his professional services. It is not for alleged failure to pay his staff or his council tax, or injury arising from a faulty socket outlet. If these are insurable, they all come under different insurances. This is where the good broker proves himself.

'Being found liable for' needs to be qualified. In practice, the parties often settle without going to court. Correspondingly, insurance money will be paid out on settlements if the insurer has conduct of the claim or is satisfied with the way it has been handled. Such payment may be made on 'without prejudice' settlements, i.e. the party being claimed against does not admit liability.

The basis of all PII is 'claims made'. The insurer covers claims or losses notified to him within the annual period of insurance. Once accepted as a 'notification' or a 'claim' (the importance of these terms is debated later), the notification or claim stays with that insurer and he must pay, even if it surfaces as a settlement years later when there may well be a new insurer in place. Hence the importance to new insurers of making sure at renewal that there is no unfinished business from the previous year that they might inadvertently pick up; and the importance to the insured of making sure he does not lodge 'circumstances' or 'claims' too late.

PII is always an annual contract (except for some exceptional requirements which are so complex and unusual that they are better left until the time comes). At renewal you and your insurer can walk away from each other. This is the time for the insurer to add some

nasty exclusions to his standard policies. (Exclusions of the consequences of computer failures at year 2000 were popular in 1998 and 1999. Exclusion of economic and consequential loss was also fashionable during the same period).

Insurance renewal

In practice, you normally renew with the same insurer, or more correctly, through the same broker. The chances are that you will stay with the same lead underwriter, but the other layers of the process may be different (these layers are discussed below). The competitive tendering you are used to in the building industry is unknown in the PII market; this is just the way the market works. Since the broker has to go to the range of underwriters that every broker has to go to, his commission may be the only competitive element. So if you wanted to 'invite tenders' you would risk having to change your broker. There is advantage in staying with the same broker and lead underwriter. You get to know each other over the years, which can help in claims handling.

Buying the right insurance

Sources

There are few insurance companies who sell PII. One of the reasons may be that PII is 'long-tail', i.e. claims in the building industry take a long time to reach settlement. Most other insurances insured through companies progress quickly from incident to claim to settlement. So invariably your PII will be placed through the Lloyd's market. You have to go to a Lloyd's broker (a broker who is registered by Lloyd's to place insurance on the floor of Lloyd's). Insurance might still be possible through your broker if he is not registered; he will place the cover through a broker who is and they will come to an arrangement about the commission.

Some of the institutes also operate insurance services for their members. They act very much in the role of broker and also have to place the insurance through the Lloyd's market. Anecdotal evidence suggests that insurance purchased through some institutes is more expensive than through brokers. On the other hand, practices might see comfort in taking guidance from their own professional body.

Unless you can buy from an insurance company, you have to buy through a broker or your institute service. You cannot buy direct from the underwriter.

The role of the broker

The broker acts as an intermediary between you and the underwriter. He will say that he is your agent and acts totally on your behalf. That, however, has to be questioned as his income comprises the commissions he receives from insurers. You will never learn what arrangements exist between insurers and brokers and there is little you can do about it if you are unhappy. Consumerist pressure has forced independent financial advisers out into the open to the extent that investors can now pay a fee and have commissions remitted. Such enlightenment has not yet reached the insurance industry.

The broker takes responsibility for receiving your instructions about the kind of insurance you believe you need, and for explaining all the options, the effects of the kinds of insurance you are likely to need, and for translating the insurance jargon. In fact, the good broker will cover all the ground I have covered below (and more) in securing the right insurance. He can be sued if he fails to advise properly, or if, say, he forgets to remind you that renewal time is approaching. For this reason brokers also carry PII. (If you are feeling mischievous, ask your broker for details of his PII, as your clients do yours!)

The broker with experience of the construction industry can be expected to answer most of your questions. However, do remember that many brokers have to deal with a wide range of clientele and cannot be expected to be aware of all the risks which might arise, or the language of building designers. Therefore always ensure that the point you are making is understood, if necessary by giving examples. Ensure that the wording of proposal forms and policies is acceptable to you, in language you can understand. Policies, their additional clauses, their exclusions and their qualifications tend to be in standardised wording. I have seen some terrible wording get into a policy simply because the parties had not communicated. Insurers can be surprisingly accommodating if you do not like the wording in a draft policy. Also remember that, certainly initially, you will not have (may never have) direct contact with the underwriter who, through the broker, has to understand your requirements.

Purchasing professional indemnity insurance

To purchase professional indemnity insurance you approach your broker. (I am assuming here that you are not buying from a company, although arrangements are similar). He will give you a deceptively simple-looking proposal form to complete. He may not offer you a specimen policy, a reluctance which seems to be part of

insurance industry culture. As many of the aspects of sound insurance cover turn on what the small print will say, I think that you are reasonably entitled to have a specimen before you complete the proposal form. However, even the policy will not refer explicitly to some fundamental legal aspects of insurance. Insurers seem to rely on either custom and practice or legal precedent as reasons for assuming that everyone knows about the basics of insurance. If you are worried, ask for clarification. If you are still worried, ask for the point to be covered in an endorsement to the policy.

Completing the proposal form

There are four aspects which underpin insurance and have to be understood before you can complete the proposal form:

- (1) The insurer needs to know your track record. Include everything you can think of. Insurers have been known not to pay out because they allege you did not declare something 'material'. If a matter appears to be marginal, get your broker to confirm that in his opinion it is, or is not, 'material'. Some proposal forms require you to start from the beginning even if you have been insured through the same broker for years; others simply ask you to report any changes since the previous proposal.
- (2) It is important to the insurer to know your previous claims record (if any), and it is also important to you. It is important to the insurer, obviously, because a long claims record says something significant about the way you practise. It could affect the premium you will be quoted; it could even be so littered with wreckage that there will be difficulty in getting insurance. The insurer will want to be sure that he is not picking up any previous wreckage when he takes you on. Your claims record is important to you because 'claims made' means that previous insurers should have accepted all circumstances and claims notified during the periods of their cover. Both you and your 'new' insurer, even if he is your existing insurer, need to be sure that there are no grey areas. I shall return to this later in this chapter under the heading 'What happens when a claim arises'.
- (3) The insurance will be based, obviously, on the range of activities likely to be undertaken during the period of cover. Less obviously, simply to state that you are, say, a structural engineer, may not be enough. You may, for example, be in the habit of designing innovative roof structures for modern architecture; if so, include this on the proposal form.

- (4) The cost of cover, except for some small standardised policies where a minimum lump sum is quoted, is normally the product of turnover and indemnity required.
- *Turnover*: Turnover is normally fee income; the premium will be based on estimated turnover and either adjusted at the end of the year on actual income, or the actual income taken into consideration for next year's cover. It might pay to discuss with the broker how income is defined as it could help to reduce premiums by reducing the amount declared. You may find for example that you can omit the expenses component. Sometimes, turnover is partly determined by amounts certified for payment to contractors. There is considerable scope here for interpretation.
 - *Indemnity*: Indemnity is the maximum amount the insurer will pay out in the event of a successful claim being made against you. Nowadays it is effectively catastrophe insurance because the high cost of including minor settlements results in them being taken out of the insurance arena (see 'excess' below).

Thus there is a 'top' and a 'bottom' end to cover. With regard to the top end, clearly what you can afford and how much peace of mind you need, come into the reckoning; the higher your turnover, the higher the indemnity and the more you will pay. However, for rough guidance most institutes which make insurance mandatory start with £100,000. I consider this to be too low for safety; around £250,000 might be a better starting point for a one man practice. Upper limits? It would be indiscreet to reveal some of the figures heard on the grapevine, but most large practices consider £5m to be a basic figure. Some practices start with this and arrange special top-up – say for a very large scheme with some special risks.

In the world of PII, it is not sufficient to have indemnity simply expressed as a maximum amount. It has to be qualified by being either 'in the aggregate', or 'each and every'. Aggregate cover means that for every claim paid out during the period of insurance, the amount left for subsequent settlements reduces by the amounts already paid out. If the cover were for £2m and four £500,000 claims have been paid out, there is no cover left for further claims. A variation on this is to have reinstatements, but the alternative and far more satisfactory arrangement is to have 'each/every' cover. Then you can have as many claims as you like, each with the maximum indemnity stated.

With regard to the bottom end, there is the self insured excess (sometimes known as the 'deductible' or the 'insured's contribu-

tion'). Insurance which covered the whole of a practice's liability (up to the indemnity limit) would be too expensive for most insureds. While higher indemnity limits can be bought for relatively small amounts, substantial savings can be made by accepting highish excesses. That means that you pay all claims up to the amount of the excess. Some practices have such high excesses that they are effectively self insured – having catastrophe insurance.

The small print of the policy

The above may be all you need to know to complete the proposal form. However, there is rather more that you should be aware of if you are to assure yourself that you will have the right cover. Take up with your broker whichever of the following are important to you before returning the completed proposal form. The following are some of the more important aspects of cover which most policies will include:

- PII is intended to cover neglect, error and omission, which were explained under the heading 'The basis of PII' earlier in this chapter.
- The acts of employees or contract staff should be covered. This should be standard for employees but may not be explicit for contract staff. Make sure that there is 'waiver of subrogation' (the insurer has agreed not to attempt to recover from them).
- Subconsultants' risks are best covered within the practice's own PII rather than being left to the subconsultant (see Chapter 4). In this way the practice, which has a real interest in such protection, has control over the terms and the indemnity.
- Dishonesty, libel and slander – It could be reassuring to know that most policies include cover for these, although I cannot recall an instance when cover has been found to be necessary.
- Loss/damage to documents – As above, occasions for recourse to this must be rare. It might be worth clarifying that coverage includes loss of computer files.
- The cost of court attendance if the practice is sued – This raises one or two interesting questions about who pays for legal services in defending a claim. Lawyers' charges can be substantial and could seriously erode the indemnity ceiling. While there can be clauses which allow for payment of such costs, it is worth asking a few questions:
 - Are legal costs in addition to, or included within, the indemnity limit for paying the claimant's and defendant's lawyers respectively?
 - Will the insurance pay for any early advice that a practice

might need when a claim might or might not materialise? (For example, an astute lawyer's letter to the claimant might persuade him not to sue).

- Non-disclosure – I stressed above the importance of informing insurers of 'material' facts. Later in the chapter I shall also be advising on the importance of keeping insurers informed of actual or possible claims. A rather comforting clause is sometimes included in the policy which in some situations permits the insured to report late and still leave the insurance intact.
- Cover for ex principals – Most policies extend cover to retired partners, as they can be claimed against personally. It is important in maintaining cover for the protection of retired principals that their names continue to be endorsed on succeeding policies. As their widows or widowers can also be liable, the names should remain on policies until well after limitation protection applies.
- Conduct of a claim – Insurance conditions will always contain clauses which entitle the insurer to handle the claim itself, and a warning that any action by the insured which might prejudice settlement might result in reduced payment to the insurer. The implications will be discussed under the heading 'What happens when a claim arrives' later in this chapter.

Some common exclusions

I mentioned year 2000 compliance (avoidance of computer failures) earlier. Its residual effects, and therefore exclusion from insurers' risk, may continue for some time. There is not much you can do about this; nearly all policies for all sorts of risk have excluded cover. The consequences may be serious for building designers.

Introduction of restriction of cover for economic and consequential loss (EcanCon) a few years ago raised blood pressures somewhat. Insurers normally go with the ebb and flow of the effects of precedent on the likelihood of a particular court verdict. This has always been the case in tort, when over the years professionals have seen a cycle of harshness and lenience. However, EcanCon excited insurers when designers started to give warranties to third parties at a time when the courts were starting to award damages to cover the cost of renting alternative accommodation as well as rebuilding. Many insurers have now agreed to withdraw this restriction.

Two matters distress insurers, although I have never seen any reference to them in policies. I said earlier that the practice must tell insurers as much as possible about the nature of its activities. Insurers do not like professional designers to take any responsibility

for construction. Bearing in mind the curious arrangements designers can get themselves into these days, it would be as well to consult insurers if such possibilities seem likely. The other matter concerns the test of skill expected by the courts. The practice should never cross the line between 'reasonable skill and care' and offering any warranty of 'fitness for purpose'.

All policies will restrict cover for overseas projects, and most exclude it altogether for the USA. If overseas work is contemplated, even if the design is carried out in the UK and the building is to be overseas, consult insurers first.

Placing the insurance

Your broker will take the completed proposal form to the 'floor' of the Lloyd's building as a 'slip' and get it 'scratched' at 'boxes' – expressions of little interest to you but included to illustrate some of the private language of the floor. What they mean to you is that he will attempt to place the insurance with underwriters willing to accept the risk. He has to perambulate the floor until he has placed the whole of the cover with possibly many underwriters, each of whom takes a percentage of the risk.

The underwriter with the largest percentage is the lead underwriter, who will arrange for a Lloyd's policy to be drawn up. Although your contract is with all the underwriters who have scratched the slip (their names and percentages will be on the policy), you are effectively the lead underwriter's client for any direct contacts that you may be allowed to establish instead of going via your broker. It is worth bearing in mind that, even though there may be many underwriters, behind them will be reinsurers. Certain parts of the risk are laid-off in reinsurance in exactly the same way that bets are laid-off. If a particularly big claim arises, the lead underwriter may not have the authority to settle it himself, so they all go into a huddle – a worrying time for the insured.

Apart from reinsurance, underwriters then pass the risk to a Lloyd's syndicate of 'names'. Those who remember the enormous payouts in the 1990s which caused great distress and even ruin to some 'names' need have little fear; Lloyd's maintains a large emergency fund.

The broker sometimes has difficulty in closing a small remaining percentage gap, without which a policy cannot be issued. It has been known for insurance not to be in place until the eleventh hour – another difficulty if you are thinking about 'competitive tendering' for your insurance.

Keeping in touch with your insurer

Before any claim is made

You should look at your policy occasionally and not wait for renewal. Examples of the questions which might arise affecting cover are:

- Has the scope of your activities changed?
- Is the level of indemnity still appropriate for the risk?
- Have relationships changed, such as retirements, new partners/directors or overseas work?

Any questions will undoubtedly fall to the broker to answer, but you may like to consider suggesting to your broker some contact with the lead underwriter, who should welcome the chance to talk to you. If you practise in or near London, he may be able to arrange a visit to the Lloyd's building – well worth the trouble.

What happens when a claim arises?

Only those matters which concern contact with insurers are discussed here; procedural aspects in the handling of claims are discussed in more detail in Chapter 18. It may be useful to read this section and Chapter 18 together.

What is a claim?

Perhaps we should start by attempting to define a claim in the context of PII. What is seen by insurers as a claim may not necessarily be what you would see as a claim. In the cut and thrust of professional life, it is likely that differences of opinion between you and one of the other parties will arise during the course of a commission. The vast majority of such exchanges will be resolved more or less amicably and will soon be forgotten. However, the simplest test of whether an incident might be the start of a claim is to ask yourself if it is likely to result in your paying out money, or remitting a part of your fee (the same thing, really).

One of the difficulties of this subject is that PII is 'long-tail' – the event triggering the claim occurs a long time after the problem started. An aspect of design which causes you concern now, and which may not become known to your client, may or may not come to light at all. Several years ago there was a scare about the thickness of galvanising on wall ties; for all I know that time-bomb may still be ticking away. Or you may become aware of something so wrong during a site inspection that the finished building will be dangerous.

Informing the client may or may not be inevitable and a claim may or may not result. Or there is a problem with the design which you are currently confident can be rectified without upsetting your client. The difficulty lies in judging the incidents which may become claims, rather than those which it is patently obvious to all are, or will be, claims. I cannot advise on any safe formula for decision; my brief can only be to caution that there must be a means of judging where the line is to be drawn.

Perhaps it is appropriate here to see what your policy says about notification. A common clause is that you must:

‘notify *circumstances* which might reasonably be expected to produce a claim.’

Few readers would have difficulty with the meaning and intention of these words. Most prudent practices would notify insurers at the first signs of trouble. Insurers will reply, if asked, that a substantial number of notifications, however trivial, will not prejudice renewal unless they reveal a pattern of chronic fault. The latter will come out at renewal anyway, so there is nothing to be lost by simply telephoning your broker to tell him about something that has just cropped up and ask him what he thinks.

But there is a problem. Unless the matter is already a claim (not necessary for writs to be flying; a simple letter from your client demanding your blood on the carpet will be enough), there is a question mark on the meaning of ‘circumstance’. If you wrote to your broker, say, to report something, the chances are that the underwriter would reply ‘Noted according to the terms and conditions of the policy’. This is another way of saying, ‘We are going to wait and see’, and is not very helpful to you. You really need to know whether he will take it on if it becomes a claim, or alternatively, is it his opinion that it is not likely to result in a claim and he does not really want to know? What happens if the claim then breaks next year and the new insurer does not want to know either?

I believe that the starting point to resolution is a clear written understanding at all times between you and the broker of the status of all incidents you have reported. They should be categorised as those which:

- Are in limbo – not yet in any category
- Have been notified but insurers have not accepted them as ‘circumstances’
- Have been accepted as ‘circumstances’
- Have been notified as circumstances which insurers will accept if they result in claims (this may appear to be splitting hairs with the last point but is not necessarily so)

- Are claims which insurers have accepted
- Have ceased to be claims (i.e. have not materialised and are unlikely to materialise, or have been settled by you with the insurers' consent) and can be removed from the list.

It is crucial that this list is updated immediately before renewal. You need to be satisfied that insurers have taken on the incidents which lie somewhere between circumstances and claims; i.e. will they pay out in several years' time when you need the insurance money? The results of a less than clear understanding when you try to obtain renewal from a different insurer may be that they decline to take on incidents which, they argue, the last insurer should have accepted. You may be left with no cover for a substantial claim. In practice, the two insurers will often come to an accommodation between them, but you still need to establish the position with clarity.

Treat the onus of (and right to) establishing a 'circumstance' as being your responsibility, not the insurers'. Do not hesitate to report even the most minor threats of claims to insurers.

You have to notify insurers of all circumstances or claims irrespective of size, even if you will have to settle the claim yourself when it falls within the excess.

Keeping insurers informed

Having started the notification process, you have to keep your broker informed of all matters which affect the progress of the incident until such time that it has ceased to be a claim. Your broker may advise you how to manage aspects of the matter and you will be well advised to concur. This may be the time to establish contact with the lead underwriter if you have not already done so. While you will always have to conduct any formal exchanges through the broker, knowing the face (and he yours) of the person who will make the important decisions, can contribute enormously to a satisfactory settlement. It is always important also (remember completing the proposal form?), that the broker (and the underwriter if you have contact with him), always understands the points you are making. You will, no doubt, have to explain some advanced technological argument. In turn they will use the terminology of their industry. There has to be common communications ground.

Conduct of the claim

There will certainly be a clause in the policy which allows the insurer to dictate how the circumstance or claim will be handled.

This should be one of the earliest matters to be cleared after notification. The insurer must advise you whether he will allow you to continue to handle the claim, or whether he intends to take it over. Normally, all insurers require is confidence that you are handling matters capably and not prejudicing a satisfactory outcome.

However, you have to be prepared for one of two outcomes, neither of which may please you:

- Insurers want to reach a settlement with the claimant and you want it to be fought; you feel that there was no fault and settlement will imply that there was fault
- Insurers resist the claim and allow it to go to court, when you would have preferred settlement to avoid the publicity.

Be careful what you say

One of the insurance industry's golden rules is that no person being claimed against should admit liability. It can strain the professional's principles not to be able to say sorry, but he must learn to hold his tongue. I knew a consultant once who felt so strongly about the need to own up that he would not stay silent. I think he was wrong. He could not be sure that he had transgressed the 'reasonable skill and care' test: he had not taken a second opinion on the matter. He had not thought of the duty he owed to his partners not to place them in jeopardy. He refused to acknowledge that he might be prejudicing the insurers' room to manoeuvre. In the event the insurers were not pleased but did not, as they were entitled to do, void the cover or down rate the insurance payment.

Insurers' lawyers

You may already have been receiving your own lawyer's advice at the time of claim notification. Insurers could appoint their own lawyers also – usually because they have used them in the past to secure settlements and their lawyers have experience in this field. There can be the temptation for the practice to take advice from the insurers' lawyers rather than from its own lawyer. Bear in mind that the insurers' lawyers are acting for insurer, not the practice. In dealing with the dispute they may not wish to identify with some of the practice's problems. In reality, the two lawyers will work together.

The handling of claims and involvement of your own lawyers is discussed further in Chapter 18.

Mutuals and the Wren Insurance Association

What is a mutual?

It is worth mentioning mutuals because they put many of the features of PII and quality assurance (Chapter 5) into perspective. It is also an opportunity to look at the whole PI insurance industry and ask where it might be going. Wren Insurance Association, as an example of a successful mutual, has demonstrated the benefit of the mutual concept to design professionals.

A mutual insurance company is simply a shelter for a group of like-minded practices who prefer to pool their insurance premiums and manage the premium income, investment and claims payments themselves, rather than traditionally placing their premiums and their risks in the insurance market. The company which manages a mutual acts as broker and underwriter. Mutuals are not easy to form. Mutuality between potential members has firstly to be rigorously tested. Although details of specific claims and payments are known only to the managers, the financial structure is known by all the members and a cuckoo in the nest in the form of a practice with a particularly bad claims record, or one whose designs attract unusual risks, would soon be identified by the other members. Friction would surely result. Board of Trade approval is required to the forming of a mutual. The right managers have to be found. From the outset reserves have to be found which are sufficient to meet claims. If a mutual suffered a series of high settlements, particularly in its early days, reserves might become exhausted, resulting in the need for the members to augment their premium payments ('additional calls').

However, mutuals can have substantial advantages. There can be premium stability because the risks are confined to a narrow group of insureds compared with the Lloyd's market where design professionals' risks are mixed with the risks of other professions. The mutual receives the benefit of dividends and interest from invested reserves (income which is not currently required to meet claims). There is the possibility of return of premium when reserves are in surplus. Members are in control of management, able to decide on the balance between premium income, reserves and settlement amounts. On the other hand, many practices would prefer to do without the distractions of being members of mutuals and simply continue paying their premiums into the Lloyd's market.

The Wren Insurance Association

The Wren Insurance Association is a mutual, set up exactly as described above, enjoying the same advantages and suffering the same disadvantages.

In 1984, 38 of the largest practices, mainly architects but including engineers, quantity surveyors, town planners, interior designers and landscape architects, came together to share a common problem. They were all insured through the Lloyd's market and were unable to budget for stable premiums from year to year. They also suspected that their risks were better than perceived by the market. If there could be another way, they were prepared initially to continue to pay out roughly the same amounts in the early years in exchange for premium stability.

In 1986, Wren was launched. It was interesting that the majority profession felt that it could share its risks with other professions and in fact there has never been any difficulty. Perhaps, therefore, the concept of mutuality is more robust than we think? In its essential principles, Wren has been no more than any insurance company in that it takes money from the fortunate majority to help an unfortunate minority. However, Wren members have always had the comfort of advice from in-house lawyers who, because of the relationships of a mutual, have been able to identify with members' needs and have perhaps sought solutions, not confrontation.

Risk management

After two years of successful operation, the members wanted more from their mutual, which is principally why I have introduced Wren. They wanted the reassurance of knowing that their fellow members practised with broadly the same degree of safety. They had chosen each other as members on an understood level of mutuality; now they wanted to be able to test or measure the actual mutuality continuously. They also hoped to establish some means of reducing risk.

It is interesting in the context of QA (discussed in Chapter 5), that they turned to QA and BS5750 (to become BS EN ISO 9001) as a model, although they did not want its inflexibility or its bureaucracy. But they were not ruling out the effectiveness and discipline of QA, since some of the members were already successfully certificated. However, they asked, could the managers become a kind of 'certification body', and write some guidelines to parallel the BS, retaining its discipline but without its bureaucracy? If both could happen, members would have some formal risk advice against which to measure their own risk management, and a version of QA audit by the managers would assure all members that mutuality was being assessed and maintained.

That is what happened. Risk management guidelines were written by the members themselves, based loosely on the BS. Members' risk management systems are visited by the managers annually and

reports issued. There is nothing mandatory, but members are advised if their management falls below the mutuality standards of the rest. The most important ultimate control is that premiums can be adjusted if mutuality is breached. Each member's report is privy to him, although the managers have been encouraged to spread 'best practice' techniques among the membership.

Many of the readers of this book will not have the opportunity to share in the risk management controls available to Wren members. There is one aspect in particular which such readers would need to consider: audit. It can be difficult to maintain the disciplines of risk management among the many priorities of practice. Many of the Wren members find it a nuisance at times. But the knowledge that an 'outside body' is coming to audit the risk safety of practice does concentrate the mind. Readers who see some merit in adopting some of the management and techniques which occupy the rest of this book, must consider how they will maintain the momentum. I suggest a form of internal audit in Chapter 7.

Before we finish looking at Wren, it is worth mentioning that although the need for written risk management procedures (unlike those demanded by ISO 9001) has never been formally demanded of the Wren membership, all the members now operate a formal system. That gives me some confidence in Chapter 7 to suggest that even the smaller practices' risk management processes will benefit from having some written procedural material.

7 Introducing Risk Management into the Office

Introduction

I have concentrated so far on the principles of risk management rather than on how to manage risk. I have discussed the sources of risk for all practitioners whatever their professions, whatever the size and structure of the practice and whatever the nature of the work undertaken. You have been invited to consider where you fit into the pattern and the risk profile appropriate to you. Part 2 describes some of the techniques which have been found helpful in the management of the more common risks to be found in practice. You may select, adapt or ignore them, according to your risk profile.

Having identified your profile, you are *almost* ready to start thinking about the techniques to manage the risks your practice faces. However, before we can start to look at risk management practice, there has to be a framework through which risk may be managed. I shall call it the 'risk management system', or simply, 'the system'. Little purpose would be served if the practice simply set up a selection of risk management techniques and said to staff: 'Here they are; now use them.' There would be no priorities, no discipline, the right technique for the situation might not be chosen, and management would not know the extent to which the techniques were being adopted or how effective their application was. Feedback and updating would be haphazard. At best, a form of anarchy would result and at worst, the system would simply fall into disuse.

So there has to be a risk management system, and, as its title suggests, it has to be managed. This chapter suggests a model framework which can be adapted for your practice's needs.

A model framework for all practices?

The model management structure I am about to suggest is about *functions*, not *size of practice*. The functions are the same whatever the size of practice (except in the genuine one person practice which, because I have included audit, may not easily be able to adopt that part of the structure). The model framework is not invalidated if one

person exercises several functions; in the simplest possible example, the principal of a one man practice carries out all the functions himself.

The same processes are recognisable in both the smallest and the largest offices. Small practices often handle large schemes. Terms of appointment are similar and in fact often quite small practices have to face the complexity of content familiar to larger practices. It is difficult to think of any operation in the large practice which does not have its counterpart in the smallest practice. All practices share essentially similar management structures, whether headed by sole principals, partners or directors. All practices pre-qualify for and receive commissions in much the same way. The same infrastructure will be found in both sizes of office because both have to provide working environments for similar operations. Differences are only of scale and the need to separate the same skills into 'compartments' or specialisations as the practice grows larger. Communications also grow more difficult as practices expand or locate on different sites. Management structures have to adapt to respond to these situations.

However, the essential point for this chapter is that whatever the size of practice, claims still arise for the same reasons. In fact there is no relationship between the size or range of claims as between large and small practices. There is essentially little difference in the origins of claims and how they are managed. I believe that the following model, although it has about a 20 person practice in mind, contains the essential constituents and relationships for either a two or 100+ person practice, whether single or multidisciplinary.

The components of a risk management system

The structure of a risk management system is very similar in principle and content to a QA system. In fact, those who already operate QA systems, or have developed a system of procedures, will find nothing novel below. A system comprises the following components.

A set of rules: the policy statement

The practice needs to consider why it needs a managed system, compared with actions which can safely be left to 'intuitive management'. It is useful at the outset to set down the reasons for the need for some formality in some areas, and informality in others. The rules can also usefully commit the practice to how it intends to set up, apply and learn from the system. Your version of Fig. 7.1 might be included. Rules of the more open practices might encour-

rage comment from staff to suggest ways in which the system might be improved. Some practices have called these rules 'policy statements'.

Some rules also include synopses, or short descriptions of procedures (procedures are derived from the techniques introduced in Part 2), which is a good way of quickly reminding the user of the scope of the whole system.

The rules can form a part of the practice's marketing literature, i.e. for disclosure to clients. One view is that disclosure could be dangerous; the practice might feel that clients should remain unaware of the techniques the practice uses because they could be useful ammunition to a claimant. This view has some substance if the risk management techniques for a practice include sensitive aspects of practice, e.g. procedures on claims handling. I would not deny the merits of such caution. It might be prudent to keep one's system fairly private. On the other hand, many clients might take comfort from a practice which can demonstrate how it intends to practise soundly, safely and with appreciation of the commercial necessities of professional life – in other words, better safety for the client also. In any event, some clients demand a sight of the practice's procedures as part of the pre-qualification process. An offer to divulge rules and procedure synopses can be an effective way of satisfying such demands without having to divulge the contents of the procedures themselves.

A system framework

Figure 7.1 indicates a model structure, which shows how the practice can set up a system. What the figure shows, as expanded in the text below, is really not much more (apart from the audit component) than the structure to be found in any practice which starts with a commission from a client, works through it and delivers the completed services. There are the principals (partners or directors), the teams and the administrative support. The only difference is the emphasis placed on risk management.

Management

All practices of any size have formalised procedures and someone has to manage them.

The most important ingredient in the success of a risk management system is the relationship between the lead principal (senior partner, managing director or chief executive) and the person appointed to manage the system (who I call the 'risk manager'). He may, of course, have a similar title already if he is managing the

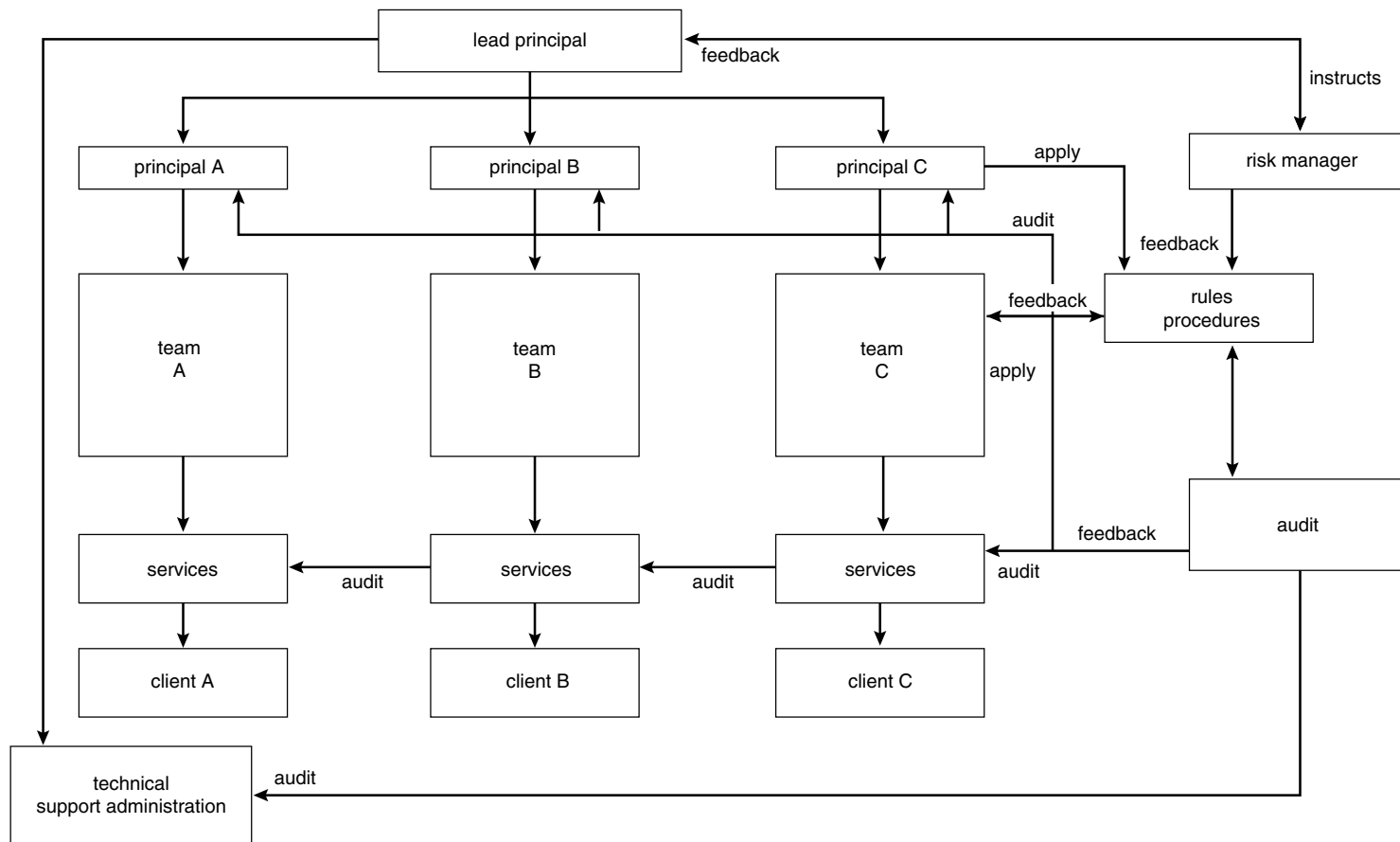


Fig. 7.1 A risk management system framework

practice's procedures. The lead principal may be too distracted with affairs of state to become embedded in the minutiae of operating the system. On the other hand the risk manager may not have the authority to ensure that the whole practice implements the system. He must have the full support of the lead principal. The two roles complement each other.

There is another good reason for getting this axis right. The principals must be seen not only to support the system but also to be as bound to its disciplines as the most junior member of staff. They must be seen to set an example. Nowhere is this more true than in risk management, where the consequences of poor management land at the feet of the most senior people in the practice. One of the broader truths of claims is that the procedures demand greater attention by seniors than by the more junior members, but they are all part of a chain.

The remit of the lead principal (or the principal appointed to lead in risk management) is to:

- Develop and agree with his colleagues strategy and principles for managing risk and, in agreement with the risk manager, prepare budgets
- Write and agree with his colleagues the rules or policy statement
- Appoint a risk manager (full or part-time) to develop the detail and manage the system
- Support the risk manager with the necessary authority in introducing, maintaining and applying the system
- Receive feedback from the risk manager and agree with him priorities in modifying the system and ensuring that it continues to be implemented, in accordance with the policy and procedures
- Normally act as the practice's focus in claims handling and contact point with PI insurers

The remit of a risk manager typically comprises:

- Taking policy instructions from the lead principal and liaising with him and the other principals
- Formulating and working within budgets
- Drafting procedures, consulting as necessary and producing the working documents
- With the lead principal, explaining the system to the practice and securing acceptance by those who will work within it
- Receiving feedback from the practice on the system and updating material
- Ensuring that the system is operating as intended, by assessment or audit

- Presenting a regular digest of operation of the system, including assessment or audit, to the lead principal and making recommendations for change.

Procedures

The procedures flow from the policy statement; they are the documents which describe, often in some detail, how given risk areas are to be managed. They derive from, or comprise, the techniques explained in Part 2. For some techniques there are a range of problems and possible solutions which relate to specific risk areas, without necessarily prescribing any one solution. It is for the practice to decide on the options appropriate to risks, so turning a technique into a procedure.

It is important when drafting procedures to make sure that the reader understands which content is advisory and which is mandatory. In other words, there will be matters near the 'intuitive' end of the spectrum which require the lightest touch, leaving to the discretion of the reader what he should do. Then there will be content which the practice strongly commends to the reader, but gives him discretion wholly or partly to adopt it; this category might be accompanied by a warning that the reader must be prepared to defend what he has substituted. Finally, there will be content which the practice considers so crucial to safety that it must be adopted. The importance of indicating where priorities lie will become more obvious when auditing techniques have been explored. I do not suggest that procedures be separated rigidly into 'informal', 'recommended' or 'mandatory'. Professional life does not take kindly to inflexibility and one procedure may contain, for very good reasons, a mix of priorities.

In devising a hierarchy of procedures, I recommend that the RIBA Plan of Work be used as a framework. As stated earlier, all practices involved in the design and administration of building projects are familiar with and work comfortably within this framework. Part 2 of this book is also structured on the RIBA Plan of Work wherever possible.

Audit: assessment of effectiveness of the system

To maintain the dynamic of any system, there must be the means to review its efficacy. This might be called 'assessment', or in the topicality of QA language, 'audit'. Audit is a term more familiar to accountants, although use of the term has widened to describe, for example, the means of measuring the effectiveness of government departments.

Audit can be either self-audit or audit by an outside body, usually a certification body. For the purposes of Fig. 7.1, we are concerned here only with self-audit (audit which, whilst independent of the operation concerned, is carried out within the practice). As will be seen, the audit function is under the wing of the risk manager. In smaller practices he may himself carry out the audits. Audits are intended to verify that:

- The system itself as described by the policy statement is functioning as intended; that, for example, the principals are allocating sufficient resources
- The risk manager is fulfilling his role
- The system documentation continues to reflect the risk profile of the practice and the principals review it for this purpose at appropriate intervals; also, new material is written and old material discarded
- Procedures appropriate to the needs of staff are properly issued
- Members of the practice are using the procedures in the way intended
- Working of the system and claims experience are reviewed together at appropriate intervals.

Costing the process

Operating a risk management system is going to cost money, however the accountancy is presented. How costs are allocated is partly a matter for practice strategy, where precedents may already exist, e.g. the costs of marketing. There are three broad options:

- To absorb the whole within overheads
- To allocate the whole cost to projects
- A mix of the two.

In practice, a mixture of both will probably be the most sensible. There are some costs which cannot easily be allocated to projects and some which projects should properly bear. Much will depend on how easily the practice's computer maintained costing systems can allocate such costs. It might be useful to look at the headings under which costs arise before deciding.

Setting up the system

The bulk of the effort of setting up the system will probably involve reviewing and modifying existing procedures and writing new

material, together with printing costs. This is largely a 'one-off' operation which if carried out by the principals in their own time, just might be considered as costing the practice nothing. On the other hand, if the practice has a fund for research or development to which even principals have to book their time, this is an obvious place on which to hang budgeting in the practice's overheads. In practice, if staff have to contribute to the process, they will need a number for their timesheets.

Alternatively, or in addition, even at this early stage the risk manager may have been recruited or a member of staff appointed either part or full time to this position. If this is the case, he will almost certainly take a major part in preparing and editing procedures. It would be difficult to allocate any part of these costs to projects, so he, his office space and administration (e.g. stationery and secretarial services) will need to be allocated as an overhead, both for setting up the system and for its future operation.

Applying the system

It should not be necessary to allocate any cost for applying procedures on projects. Staff are already expected to absorb the cost of choosing the right working methods for their work, and this is just continuing what they should be doing anyway.

Audit might be seen by practice management and teams as a little more contentious. Its cost comprises two elements: the cost of the auditor, and the cost of staff time while it is being audited. As audit will be a novel process to many teams, protest at something that places an additional burden on hard pressed job expenditure can be anticipated. However, as audit is intended to increase team efficiency (by ensuring that correct procedures are followed and fault is corrected), there is some logic in suggesting that projects should budget for and be charged with auditor cost. There is also the incentive to the team that one-only audits are cheaper than if auditors have to re-visit. Of course, such costs have to come to account anyway, whether charged as overheads or job costs, so this may be a minor, localised argument, soon forgotten.

Maintaining the system

The major part of the cost of maintaining the system is the risk manager and his administration, which it is suggested above be budgeted for as an annual part of the total overheads costs. To this may be added provision for updating procedures, where technical staff will have an input and will need to charge time.

Part Two

The Processes of Risk Management

8

Setting Up the Appointment

(RIBA Work Stages A-B)

Introduction

One can never be sure in the world of risk just where the next dispute will strike, but getting the appointment right must be high on the risk management agenda.

Even though the first rounds to be fired in a dispute may be from the proverbial scatter gun, sooner or later the parties will turn to what each sees as the basis of the contract between them; most disputes turn on allegations that one of the parties did not do, or did badly, what he promised to do, or that the contract wording was deficient. Certainly the courts, if the dispute gets that far, will want to look at the words before considering the issues.

The start of the process

Getting to know your potential client

Few commissions start with a draft written agreement that is agreeable to both parties and just lands on the doormat.

The courtship ritual starts when one of the parties, having (one hopes) done some research, approaches the other informally. It may have been initiated by the consultant, work hungry and on the prowl, networking and seeking targets for his marketing. However, it is more likely to be the client who makes the first move. He will have been doing his homework before approaching selected consultants, or he may simply advertise. Who initiates the process does not necessarily affect risk; there are many factors which could bestow advantage on either party.

One of the most likely factors is the potential advantage gained by the stronger party, who will often be the party making the first move or drafting the appointment. This strength may be more perception than fact. Image, strategy and negotiating ability can play a major part in establishing real or apparent negotiating superiority. Perception by the consultant of the client as powerful, influential, prestigious and dominant can be as influential as perception by the client of a work hungry consultant, or conversely of a consultant

designer who has a national reputation for fine design and delivery and who has a reputation for not compromising on his design standards. There will be many other factors. This is not a book about marketing; I include these examples only to demonstrate that the party holding the cards can gain valuable risk advantage by using his muscle to guide the appointment in the direction he wants. This could help him in the conduct of later dispute. In other words, even at the very start of the process, there are risk management lessons to be learned.

The usual device for the parties to display their finery is the interview. It may be disguised as a drink on the 'nineteenth' hole of a golf course or a chat in the consultant's office, or it may be a formal meeting with a slide presentation. But it is still an interview and often, unfortunately, a one-sided interview. There seems to be a convention that it is always the client who interviews the consultant, on the client's terms. The object is to elicit information from the consultant without yielding anything useful in return. Perhaps this is an example of the power exercised by the party with the advantage. If clients believe this actually to be to their advantage, they are probably wrong. When I used to organise interviews to select contractor tenderers, I tried to stress that the interview was as much a chance for them to interview the consultant as the reverse; learning as much about each other as possible at an early stage increased the chances that they could work together in harmony.

Although getting the words of the contract right is vital, the human chemistry aspects are equally important, yet are frequently overlooked. However much the consultant wants the job, he is going to have to work with his client and his fellow consultants. If he wants the job so desperately that he is prepared to tolerate a bad mismatch, so be it; but it is an early risk marker.

There is serious risk advantage in persuading the potential team to 'mix' as much as possible before 'sharing the matrimonial bed'. While it would be naive to expect each to expose his innermost motives and expectations, contact does give each the opportunity to gauge some likely risk areas. In the early stages of a dispute, attitudes are struck by the inevitable bluff and counter bluff. There is always the still, small voice within the party which says, 'I really knew (or should have known) that that risk was likely to arise when I first met the man; should I now compromise?'. This is not weakness; it is having the strength and knowledge to judge when to draw back from the abyss. Again, comparison with the preparations for marriage may not be entirely inappropriate; the deeper the confidences shared by the parties, the better the chances of a successful marriage.

At the time the ritual dance with a potential client is being enacted, another corner of the practice should be asking, 'Can we do the

job?'. In the excitement of the chase, the front line troops will be making all sorts of promises: 'Fully detailed production drawings in six months? No problem.' 'Will you get your completed state of the art headquarters building in two years? Of course'. The back room boys have to keep up with this and separate reality from the rhetoric which could return to haunt the practice.

During this period, before the contract is drafted, it is as well to test what the client really wants. Even experienced clients can, no doubt for their own good reasons, appear to want something different from what they ultimately demand. You must not take for granted that all potential clients are knowledgeable enough to ask the right questions of a construction world which is strange to them. Clients expect consultants to be as expert at interpreting the language of design into a language they can understand, as they are in demonstrating design skills. Essential aspects broadly divide into design, procurement, cost and time; not necessarily in that order in client priorities. While these are all essentially matters for later briefing, they need an airing during courtship. Some agreement of the design complexity involved has to be reached at this stage, or the consultant cannot judge resource availability or calculate his fee. If novation to a contractor is anathema to the consultant, he needs to know the client's intentions before it is too late, or to persuade him otherwise now. If the client's budget falls hopelessly short of what is necessary, everyone can go home. If, to parody the quotes above, the client must have his building yesterday, either tell him it is not possible (be brutal) or give him some ideas on appropriate procurement, the implications for cost and design and whether your resources can meet the objectives.

Along the way, you should also be filling in the client profile (you may not get all the answers at this stage):

- If you are a designer, is he enthusiastic about your initial design thoughts? Are you forcing your ideas on him?
- Will he be able to tell you what he wants at the time you need the information, or will it have to be built before he says yes, that's all right (or alternatively pull it down and start again).
- Will he expect to change his mind often?
- Is there to be a strong single client point of contact with authority to instruct, or is it to be a committee job? (Fig. 8.1 shows how, ideally, the infrastructures of client and design team should interconnect for the purposes of intercommunication. The complementary component, communications between design team and contractor, is completed in Fig. 17.1.)
- Is he a team person or a loner?
- Will he/can he pay his bills on time?

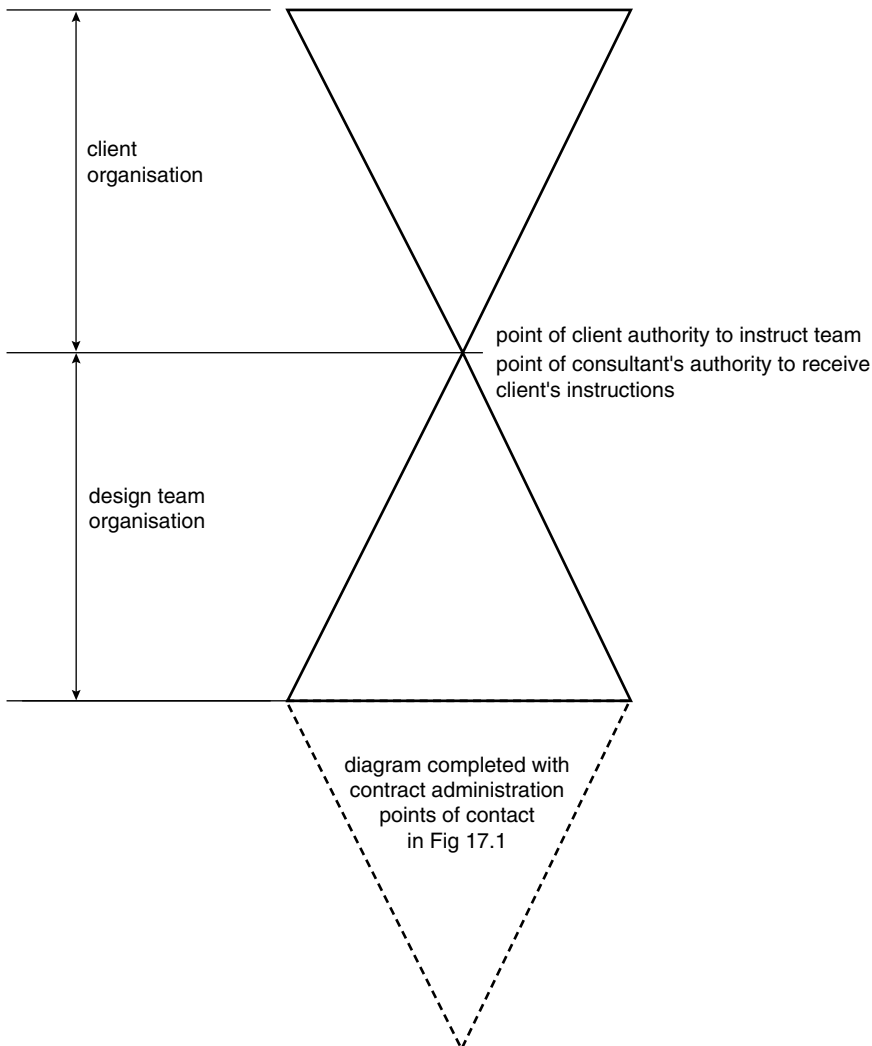


Fig. 8.1 The points of contact

- Does he have a reputation for contentionsness?
- Is he likely to want to appoint the remainder of the team without your help? Does he know enough about the industry to be able to do it?
- Has he already appointed other consultants? Will he divulge the basis of their appointments?
- Will he be a hands-on client, anxious to participate in every design review, or so laid back as to respond only when provoked?
- The final and possibly most elusive question: is the chemistry right?

These are all important factors when drawing up the formal (written) appointment. Readers who are thirsty for detail at this stage might like turn to Chapters 9–11.

Starting work before there is an appointment

A word about the risk of starting work before the appointment is executed. One would like to say don't do it, but that would not reflect real life. All consultants seem to start work before they have a contract, unaware of the many risks to which they expose themselves. A professional giving the advice reasonably expected of the expertise he presents may be held liable for any bad advice he gives, irrespective of whether he has been paid for it. So there is some possibility that if even some wild marketing assertions given to the client at an early courtship stage are relied on, they could be actionable.

It is always risky to undertake any substantial work when there is nothing in writing. If, say, the client alleged that the consultant had led him to believe that the consultant was offering architectural and engineering services and the consultant had no intention of providing one of them, having nothing in writing could expose the consultant to wider risks than he thought he was accepting. And, even if the consultant expertise offered and provided was not in dispute, absence of written proof of services could produce similar risks. Even if the consultant is prepared to take these risks until there is a written contract, he has nothing to substantiate his fee expectations or the services he is to provide for the fee.

Thus, at the minimum, there should always be something in writing which a court could interpret as a reasonable indication of what was in the minds of the parties when they contracted. Even a note in a file recording a conversation, one-sided as it may be, could establish the vital point in defending a claim.

This brings to mind the notorious 'letter of intent' which most consultants will relate to the building contract rather than the appointment. But the principles apply equally to the consultant's risk; the letter from the client should make it clear whether he is just favourably disposed to the consultant or is actually appointing him. The consultant should always secure the latter before he commences work.

Reasons for starting work with no appointment are many and understandable, even though in the wider commercial world they would not be tolerated. Here are a few:

- Complications in the services and conditions are such that negotiating the right clause will take time. In the meantime, the client is in a hurry and the consultant anxious to respond.

- Negotiation becomes protracted through sheer weight of constantly refining content. Inertia sets in. Typically, one or both of the parties gets bemused by the increasing size of the file and loses the plot.
- Other parties with a stake in the appointment have to be consulted, e.g. funding institutions or tenants demanding collateral warranties.
- Either party has his own private reasons for delaying, when there appears to be no other reason for not concluding an apparently agreed appointment.
- The services and correspondingly the fee continue to change as work proceeds. Both parties agree tacitly to leave execution until things have 'settled down'.

While I do understand that there are often powerful reasons for undue delay in executing the appointment, delay is not to be condoned. Many appointments remain under negotiation far too late in the commission; some never get executed at all. Practices which get caught in such protraction should have a strategy for regular review, to ask why execution is still outstanding and what risks are faced. If dispute occurs and the appointment is not completed, the other side will exploit the delay if it is to his advantage. The courts do not sympathise with parties who allow substantial work to continue under a non-existent appointment.

There is quite an easy way to overcome most of this problem: to conclude a binding agreement on known information and agreed terms, but for the agreement to list aspects which are still outstanding. These aspects can then be included, as they become agreed, via a waiver (or waivers) or deed(s) of variation. (These are instruments for agreeing to substitute an existing agreement by a new one, partially or wholly, the superseded agreement specifying aspects where completion or change is contemplated. An example might be where the parties agree at the outset that although the contract then intended is JCT 98, both parties are later happy if JCT 98 Management Contract Form is adopted). This device can also be useful for services which keep changing in the early stages of a commission. If there are to be complications, the agreement will state what will or will not happen in the event that certain assumptions do not materialise (e.g. that the client may terminate at sketch design stage or he may proceed to full services). Many standard agreement forms already have some provisions for such eventualities. Problems normally arise with client bespoke agreements.

Provision for waiver cannot guarantee a complete solution. If at the outset some of the possible services are so vague that they cannot

be foreseen, the parties can fall out over the terms for such services when the time comes. But at least there is a continuous solid contractual base for the services which have already been provided or committed.

And if the parties are not agreeable to any of the above and the unfinished appointment continues to drift? While the courts may imply terms in an unexecuted draft appointment, this is dangerous territory. If you are feeling brave, send a letter to the client giving a month's notice to execute; otherwise the appointment will be deemed to comprise stated terms (usually one of the institutes' standard agreements). This may be better than doing nothing.

Preparing the ground for the appointment

The balance of risk

When you start to think about content, consider both where you would like (and where you reasonably expect) the balance of risk to finish in the agreed draft. Preference and expectation may not coincide, the outcome largely depending on which party has negotiating advantage. Try to appreciate the risks of each of the parties and who should bear the risks peculiar to the project. One party's risk is often the other party's comfort. Both parties may have to compromise; which aspects could you sacrifice and which must you try to retain?

It would be nice to be able to say that the defensive content of some appointments is always seen as prudent, rather than as a confrontational intention to undermine harmony. But that does not happen. However, the proper management of risk which is necessary in a litigious world demands caution by both sides, when one of them may have a skilfully concealed agenda. In other words, protective clauses are inevitable components of sound risk management.

Ethical constraints

The professional can be in some ethical difficulty at this stage in his relationship with the client. His whole training, experience and standing in the world are intended to reveal a person who gives disinterested, always best advice to his client irrespective of personal motivation. These qualities are also strong elements in his marketing. Thus it must follow that the client expects professional detachment on which he can rely in the designing of his building. He will assume this detachment includes negotiation of the appointment. If the professional is faced with some difficult ques-

tions which would compromise his own risk safety if answered with complete honesty, or he fails to advise on fundamental areas of client risk, has he breached his ethical standards? This is a tangled world and there can be no simple answers. Even in today's commercial, litigation strewn world, the professional will strive to retain his integrity while at the same time remaining acutely aware that survival demands attention to commercial awareness. He will do himself no favours if he relies entirely on trust and honour to see him out of danger. He lives in a harsh world in which he can expect no mercy. Too many good professionals have been destroyed by what they would ruefully later accept as naivety. So the professional practising in today's society has constantly to ask, 'Where are the ethical goalposts now?'

The only advice is to judge your client's motives and experience as a building client. Place him within a scale where at one end lies the commercially mature organisation and at the other the first time client. The former may be seen as one who needs little advice on how to protect himself; he would feel insulted if it were offered. The 'new' client, on the other hand, may well rely heavily on his consultants for protection. His trust must not be betrayed. The mature client would expect his potential consultant to fight for every bit of protection he could get into the appointment; the latter might be genuinely puzzled (and hurt) if you threw at him some of the clauses seen in some 'commercial' agreements which seem to demand protection from every risk.

How comprehensive should the appointment be?

While it is sensible and to be expected that the length and complexity of appointments will be broadly proportional to the size and complexity of the scheme, be cautious. Some small commissions carry risks quite disproportionate to their size and need corresponding attention to the small print. The converse applies equally. There is theoretically no reason why a handshake, or even some scribble and a signature on the back of an envelope, might not seal agreement for even a large and complex scheme. Some societies still conduct all their business in this way – 'my word is my bond'. Both are theoretically enforceable by the courts. However, such informality is hardly appropriate to the complexities of the construction industry and its risk strewn history.

Disputes commonly occur because the appointment is alleged to be unclear or does not provide solutions to disputes, or because the parties cannot agree what the words of the contract mean. Much will hang on clarity of the drafting. If the parties disagree on what the contract means, the court will have to imply (i.e. impose) terms. Put

another way, it will try to guess what was in the minds of the parties at the outset. The perfect appointment anticipates all of these difficulties; the perfect contract will anticipate every dispute and say how it must be resolved. But there will never be such perfection. Legal precedent on the meaning of words is always changing. If the parties are really determined to disagree, however carefully worded the appointment, they will argue that the words meant something else. But you have to try to achieve clarity when the appointment is being drafted, otherwise you are simply admitting that you cannot agree between you what you want to contract, leaving the courts to imply terms over your head. But do not try too hard or you will achieve a ragbag of massive and incomprehensible clauses which just prolong negotiation. Content must be comprehensible to the parties; allowing a lawyer to write it in his profession's arcane language does not necessarily produce clarity either to the parties or even to the courts.

Standard or bespoke appointment?

The standard forms of agreement developed over the years have overcome the need to over agonise about whether you have just executed the right appointment. They have chosen a middle road between lengthy obscurity and brevity. They use plain language and do not, broadly, require legal assistance to understand them. The parties should be able to rely on the institutes to keep their forms up to date with law and practice. Above all, in considering balance of risk, they try to bestow fairness to both parties and risk on the party best able to accept it, a feature I sometimes think is overlooked by some clients who seek to reinvent the wheel. This fairness stems from the professionalism I have mentioned above – the desire by the consultant to do the best he can for his client, sometimes not always to his own advantage. This is not special pleading on behalf of consultancy; it is hard fact. Indeed, the only faults with standard appointments are firstly that they are sometimes insufficiently protective of the consultant for some risks he should not bear, and secondly that they are not always sufficiently interconnected for the team enterprise they should collectively represent. For these reasons, much of Chapters 9–11 are occupied by substantial review of the major risk areas posed by standard agreement forms.

It would be foolish to assume that the standard agreements will be appropriate for all commissions, but it is only occasionally that they are not. The institutes' forms have proved resilient over the years to many apparently 'new' situations, as indeed have the standard forms of contract.

It is unfortunate for the consultant, and sometimes for the client

also, that so many appointments are client bespoke forms. They are rarely as competently drafted or as comprehensive as the institutes' standard forms. They may not include sufficient (and reasonable) protection for the consultant. In the constant and nebulous search for ultimate clarity, new and untried content is inserted, drafted by expensively hired lawyers who may lack construction background. Novel content still has to wait to be tested through the courts before it can prove its intent. There is, of course, no law which lays down that any contract need be 'fair', and if the parties wish to enter a one-sided relationship, that is their right. However, risk tends to be sharpened where there are one-sided contracts – a not uncommon feature of client bespoke appointments. Then, typically, a war of drafting attrition starts, when the consultant, not unnaturally, seeks to restore some balance. Delay, expense and ill-will follow.

However bespoke an appointment appears, its content nearly always has an equivalent in the standard form. I would recommend that all content be checked against its counterpart in the standard form. This is a valuable part of the reassurance that the consultant should seek if he is not to sign away his birthright.

Anatomy of the appointment

Appointments for professional services should cover the services, conditions and payment. These may not always be distinguishable as such, particularly in the simpler or bespoke forms, but they should still be there. For more complex forms there will also be a Memorandum of Agreement. The standard forms are reviewed comprehensively under these headings in Chapters 9–11:

Services

The scope of services needs careful consideration and the description should be as comprehensive as possible. It can be as important to list services you will not perform as it is those you will perform. This applies particularly to 'boundary' services (services where one profession's duties may be affected by another's).

Conditions

As the term implies, this is the space for writing the small print – the conditions under which the services will be performed. This is the space for all those protective clauses for which you and the client have negotiated so hard.

Payment

Payment is your lifeblood, so this is an important section. As well as the fee to be paid, attention must be given to expenses, normally a high proportion of the practice's outgoings. How and when payments on account are to be made and what happens if you are not paid, must also be covered. The Housing Grants, Construction and Regeneration Act 1996 ('the Construction Act') gives some protection against not being paid.

Coordination of all appointments

Even if you are not lead consultant/coordinator, or if you are QS or project manager, you have an interest in some of the content of the appointments of all the other professions who are part of the team. While you may have no contractual interest in their core duties, you will be affected by 'boundary' duties (see Chapter 4, Fig. 4.1), i.e. where activities of one or more of the separate professions affect the performance of another. There is a particular need to be clear on which member is actually to perform a duty. It will be in no one's interest if such services are carelessly defined or even omitted from the appointment and the error discovered too late.

If you are to perform a lead consultant role you may have duties concerning two aspects of the other consultants' duties:

- Assurance to client and team that all appointments harmonise – broadly to ensure that nothing has been forgotten in achieving a total service
- Coordination of administration and design – ensure that your coordination duties and those in the consultant's appointment complement each other, with regard to both the elements to be coordinated and the design team programme.

As will be developed in Chapters 9–11, none of the standard forms except the NHS Agreement does a particularly good job as a basis for harmonising the separate appointments. The NHS Agreement for Professional Services was developed multiprofessionally and is structured so as to bring together all the professions' conditions. Up to a point, it gives a menu of the services to be offered by the individual professions. Thus, all the professions are made aware of each other's appointments and each other's services at every stage in the programme. It is commended for its aim in securing profession interdependence, and for its structure and clarity of expression. Although intended for specialised client/consultant relationships, these relationships are not so special that lessons cannot be learned from this agreement towards improving collaboration between the

institutes. Such collaboration would be a substantial aid to good risk management.

The desirability that professions should refer to other standard forms in seeking better risk protection is evidenced by the ACE Guidance on Completion of Agreements A(1), A(2), B(2), 2nd edition 1998. While the greater part of this guidance is intended to assist engineers in completing their own appointments, there is much good advice for all the professions concerning project description, pitfalls where the client acts for others, limits of liability, and collateral warranties.

These examples underline the importance of studying carefully your consultant colleagues' appointment documents for features which could help your own risk management.

Preparing the appointment

All but the smallest offices should develop procedures for the important task of preparing the appointment. Consistency and some discipline are required if the best is to be achieved both in getting the best deal out of an appointment and in ensuring that the utmost benefit continues to be gained during the commission.

Negotiation

No one principal has all the qualities necessary for the health of the successful practice. Some principals will be better negotiators than others. Some will have a better grasp of contractual complications; some will have better commercial instincts. Identify these qualities and use them to best effect in negotiating the appointment. Principals with their own fiefdoms often hone self-preservation to a point where negotiation of the appointment is held close to the chest. Is this always the best way?

Authority to negotiate and sign

This complements the above. Is the practice effectively a federation of autonomous groups or a homogeneous practice? If the latter, consider ensuring that more than one person is always to be involved in developing an appointment and that there are rules about who has authority to sign/execute on behalf of the practice.

Appointment review

One of the reasons given earlier for protracted negotiation was difficulty in 'freezing' services to be provided. As discussed further

in Chapter 13, control of change is an important risk component; design freeze is the starting point. It is important to maintain close links between the team carrying out the service and the developing/ concluded appointment. Frequent checks, particularly in design development stages, are necessary to ensure that the services being provided continue to be reflected in the appointment.

The institutes' standard forms of engagement

Introduction

This section gives advice on the sequence and procedures necessary to produce a sound appointment from the institutes' forms, with due regard to their interaction with each other where necessary. It prepares the way for Chapters 9–11, where the risk content in the forms themselves is described. Where standard content (or absence of content) causes undue risk, these chapters make recommendations on how better risk safety can be achieved in the drafting of the individual appointment.

It might be useful to refer to this section and Chapters 9–11 as the commission proceeds, for the following reasons:

- Given the nature of commissions to produce building designs, there will inevitably be events later in the project which could affect the basis of the appointment. This chapter has already advised on the need to review the executed appointment regularly for changes in the services which could not have been foreseen when the appointment was drafted. A significant example for designers is design by the industry which may have been impossible to anticipate at Stages A–B, but if it arises will have significant risk implications for several of the parties. Attention is given to this in Chapter 15, but the way standard forms are drafted demands that the appointment aspects need to be dealt with at Stages A–B. A further significant time for review is around Stage F, when more will be known about the form of building contract. Again, attention needs to be drawn to how the standard forms of agreement deal with risks to the practice in the administration of the contract.
- The place of The Construction (Design and Management) Regulations 1994 (CDM) in professional life is reviewed in Chapter 14. However, how standard forms deal with its risk significance in design and with regard to the separately appointed planning supervisor, have to be addressed when reviewing standard forms of engagement. Therefore, the appointment aspects are reviewed here.

- The subject of novation is not dealt with satisfactorily in any of the standard forms, but much of their content is relevant to the process. Therefore, novation also has to be considered when reviewing the standard forms.

The institutes and their forms

There has to be a limit to the number of standard forms which can reasonably be reviewed without risking over complication. I have chosen the following as exemplars: for design services and design coordination the forms published by RIBA (Royal Institute of British Architects) and ACE; (Association of Consulting Engineers) for project management RIBA, NHS and ACE; for quantity surveying RICS (The Royal Institution of Chartered Surveyors); and for the planning supervisor RIBA, ACE and APS (Association of Planning Supervisors). I have limited comment to the forms produced by these institutes because the greater number of commissions are awarded either directly on them or on appointments derived from them. They are also well written, comprehensive and clear, they recognise a reasonable balance of risk between the parties, and they are generally revised often enough to reflect changes in practice, statute and legal precedent.

However, there are many other forms produced by other agencies, including ad hoc forms drafted by the client or his advisers, not least for services outside the mainstream professions. Their structures and coverage are often similar to the forms I have reviewed, so it should be fairly easy to apply the advice I have given to them; and I would strongly recommend that such comparisons be made before the draft appointment is finalised. Many of the forms produced by other agencies do not possess the clarity or comprehensiveness of the standard forms.

All the forms do not always reflect latest practice. The institutes have to be certain that a change is justified before revising a form. Revision can be expensive to purchasers and constant revision can cause doubt about whether the most up-to-date form has been chosen. A practice should have the means to check that it is using the current versions of forms, or should have good reason not to. The institutes all publish status lists and some operate subscription update services. It is often worth having a word with the institute at the start of the drafting process to ascertain whether any important changes are in the pipeline, so that they can be incorporated in the agreed final draft.

Structure for reviewing the forms

To bring some clarity into a complicated subject, I have structured the review of forms in the following way.

Where risk impact is limited to one profession, commentary will be confined generally to the form being reviewed. Where impact is shared between different professions, or there is some other risk relationship, commentary is given on one of the institutes' forms.

I have not in general commented on commercial matters as well as matters of risk. This book sets out to advise on risk rather than on how to put an appointment together. Nevertheless, where I have thought that one form captures intention better than another, I have drawn readers' attention to the alternative.

Order of review

Forms are reviewed firstly in the order of the professions:

- Chapter 9 Architect
- Chapter 10 Engineers (civil, structural, and mechanical and electrical)
- Quantity surveyor
- National Health Service (all professions)
- Project manager
- Chapter 11 Non-traditional procurement
- Chapter 14 Planning supervisor

Within the above, reviews for each professional service are in the following order:

- Conditions and services concerning coordination of the appointments for the whole team and design coordination
- Remaining services
- Remaining conditions
- Payment
- Memoranda of Agreement

The standard forms chosen for review

The standard forms of agreement reviewed, or referred to, are listed here.

Published by RIBA Publications

- Standard Form of Agreement for the Appointment of an Architect (SFA/99), 4.99 Edition.

- Conditions of Engagement for the Appointment of an Architect (CE/99), 4.99 Edition.
- RIBA Forms for the Appointment of an Architect (SFA/99 and CE/99). Employer's Requirements. Amendment for procurement of Employer's Requirements for a Design and Build Contract. Amendment DB1/99, 4.99 Edition.
- RIBA Forms for the Appointment of an Architect (SFA/99 and CE/99). Contractor's Proposals. Amendment where the client is the Contractor under a Design and Build Contract. Amendment DB2/99.
- Form of Appointment as Project Manager (PM/99).
- Form of Appointment as Planning Supervisor (PS/99). Health and Safety. The Construction (Design and Management) Regulations 1994, 4.99 Edition.

Published by the Association of Consulting Engineers

- Conditions of Engagement 1995, 2nd edition 1998: Agreement B(1). Consulting engineer engaged directly by client, not as lead consultant. Civil/Structural Engineering (ACE/B1).
- Conditions of Engagement 1995, 2nd edition 1998: Agreement B(2). Consulting engineer engaged directly by client, not as a lead consultant. Mechanical and Electrical Services in Buildings (ACE/B2).
- Conditions of Engagement 1995: Agreement E. Consulting engineer engaged as a project manager.
- Conditions of Engagement 1995: Agreement F. Consulting engineer engaged as planning supervisor in accordance with the Construction (Design and Management) Regulations 1994.

Issued by NHS Estates, Published by The Stationery Office

- Agreement for the appointment of architects, surveyors and engineers for commissions in the National Health Service (1995 Edition). Volume 1: Scheme particulars, Conditions of appointment, Provision for fees and expenses, Specimen Certificates, Definitions, Memorandum of Agreement. Amended by Amendment 1 (1998).
- Agreement for the appointment of architects etc. under the National Health Service (1995 Edition). Volume 2: Supplementary Annexure.
- Agreement for the appointment of architects, etc under the National Health Service (1995 Edition). Volume 3. Duties under the Construction (Design and Management) Regulations 1994.
- Agreement for the appointment of project managers for com-

missions for construction projects in the National Health Service (1995 Edition).

Published by the Royal Institution of Chartered Surveyors

- Appointing a Quantity Surveyor. A Guide for Clients and Surveyors. January 1999.
- Project Management Agreement and Conditions of Engagement. Memorandum of Agreement and Conditions of Engagement. Third Edition.
- Guidance Note for use in conjunction with the Memorandum of Agreement between Client and Project Manager and Conditions of Engagement. Third Edition.

Published by the Association of Planning Supervisors

- Form of Appointment as Planning Supervisor (FOA/98)

Completing the forms

As the forms are all 'standard', they are intended for use in a variety of circumstances. Therefore they all have to be 'customised' to form each appointment, by inserting information in blank spaces and crossing out sections which will not apply to the particular commission. Some sections *have* to be crossed out, as they are alternatives. The clauses which are not alternatives are not themselves sacred and may also be altered. If you do alter clauses, however, be sure that the meaning remains clear and that alteration does not affect other clauses or the appointments of other members of the team. Both parties must sign or initial altered or omitted clauses. No standard form can simply be taken off the shelf and become the appointment without alteration.

Unless described otherwise in this chapter, the standard forms as completed above are intended to form the executed appointment. This is the safe way of securing the intention of the parties in document form. In practice this means purchasing two forms, identical copies of which are held by both parties.

It is possible to insert content from other standard forms into the form chosen. This temptation is particularly strong when one form is considered generally appropriate but a clause from another form seems to express the intention better. Extreme caution is urged: forms were not written with the intention that content is interchangeable.

9

Standard Forms of Engagement: The Architect

(RIBA Work Stage A)

RIBA, via RIBA Publications, have produced more standard forms than some of the other institutes.

Which form should be used?

The principal forms recommended by RIBA for use as a basis for architect appointments are SFA/99 and CE/99 (the Minor Works Form, SW/99, is not reviewed in this book). Advice in the opening sheets to both agreements on the scope of work intended, is identical: they are intended to be used for 'services for a fully designed building project in a wide range of sizes or complexity'. From this, RIBA's intention might appear to be that either form would be equally suitable. The only criterion for choice would appear to be whether Articles of Agreement (SFA/99) or a Letter of Appointment (CE/99) is preferable. However, further reading of the forms shows this to be deceptive.

The notes for architects in SFA/99 add nothing further. However, the notes in CE/99 add that:

'it will be suitable for the provision of services for straightforward situations where it is considered preferable to the more formal SFA/99. CE/99 is made as a simple contract under signature, by Letter of Appointment.'

Apart from 'straightforward situations', the reader might continue to infer that any differences between attestation and signature concern only the legal semantics.

Significant differences concerning risk only start to become apparent in the Model Letter of Appointment:

'We [the architect] do not expect it will be necessary to seek advice from any other consultants or specialists for the project.'

In other words, the architect is not expected to undertake any coordination duties. This crucial statement is reflected in the services section of CE/99 where virtually the only change from the SFA/99 services is the simplification (but less logically, not complete omission) of provision for third party design. It is more important than might appear from the guidance given by the two forms, to consider carefully the detail with which each deals with third party design. While some provision for third party design remains in CE/99 (discussed later in this chapter), architects would be advised to pause before choosing this form. If there is any doubt, and particularly if the usual range of consultants are to be appointed, SFA/99 should be chosen.

SFA/99 makes provision for the appointment to be executed by attestation, whereas CE/99 intends the parties to enter into a contract via a letter of appointment. However, there seems to be no reason why, if the parties agree, they should not execute SFA/99 via a letter of appointment or conversely, CE/99 via attestation. Attestation, sometimes known as a deed, is a device through which the parties execute the contract by affixing their seals. Some bodies may be permitted to enter into their more important contracts only by sealing them. A contract drawn up via a letter of appointment is just as effective, just as binding and just as enforceable by the courts, as a contract under attestation. Many clients prefer attestation because, under the rules of limitation, it allows them longer to pursue the defendant through the courts than a contract based on a letter of appointment. (Limitation is discussed in Chapter 18). In the risk context, whether or not the appointment should be executed under attestation or letter of appointment is a secondary consideration.

Choice of form between SFA/99 and CE/99 depends on further factors also. Chapter 8 emphasised the need to bear in mind complexity as well as size when choosing a form of engagement. No doubt SFA/99 will become associated with JCT98 and CE/99 with IFC 98. In risk terms, choice on such criteria only could be dangerous.

Forms DB1/99 and DB2/99 are amendments to SFA/99 and CE/99 for use where the architect is appointed either by the building owner to produce 'Employer's Requirements', or by the contractor client to produce the 'Contractor's Proposals' under JCT 98 Form with Contractor's Design. These forms are reviewed under non-traditional appointments in Chapter 11.

The forms take into consideration the effects on the architect's responsibilities under the CDM Regulations and the Construction Act, but not as planning supervisor for which separate agreements have been published and reviewed in Chapter 14.

Standard Form of Agreement for the Appointment of an Architect (SFA/99)

Coordinating the scope of services with others

Schedule 1 Project description

From the guidance given in SFA/99, the architect might not understand that the intention of Schedule 1 is to describe the elements of the building he will design. Unlike some other institutes' terms, there is no express provision elsewhere in the Agreement for such definition. If the architect chooses not to interpret 'Client's Requirements' so comprehensively, he might find himself held responsible for the whole design. His duties as lead consultant under the Services Supplement provide the opportunity for him to inform the client of the services he will not provide, when he advises on any parts of the total design to be carried out by consultants, specialists and others. However, he must still consider carefully whether the services to be undertaken by third parties are sufficiently described in Schedule 4 (discussed below), so as to make clear the elements the architect will and will not design.

Clearly, there is considerable potential risk to the architect if he allows the completion of an appointment which contains any ambiguity about these important matters. He carries considerable responsibility in the care and detail with which he advises the client and how he defines the boundaries of responsibility when completing Schedules 1 and 4. They must complement each other.

Schedule 4 Other appointments

The architect as lead consultant is given authority in the Services Supplement of SFA/99 to participate in the selection of other design agencies: 'advising on the need for and scope of services by Consultants, specialist sub-contractors or suppliers'. He must ensure that he exercises this authority even where the client has already appointed consultants. If he is unhappy with any arrangements which compromise his position as lead consultant under SFA/99, he must qualify his duties.

There are several SFA/99 titles for the other design agencies who, together with the architect, make up the design team. Unfortunately, inconsistent SFA/99 terminology may not always assist understanding. Condition 2.4 refers to 'other persons' to 'design ... or provide specialist advice' (and who, for reasons which escape me, are not to be included in schedule 4). Condition 3.11 refers to 'any person other than the architect'. I do not draw attention to these

anomalies of description as mere semantics. SFA/99 does not attempt anywhere to define the design team, so I will define it here as the parties whose services the architect, as lead consultant, will coordinate into the total design (in addition of course to the architect as designer). The architect, client and those parties need to understand clearly the composition of the team and how they will relate to each other, contractually, coordinational or both (see Fig. 4.2 in Chapter 4). Equally important is the need to exclude any parties who, while making some contribution to the design of the project, will fall outside the coordinational umbrella. I exclude also the planning supervisor from the team, even though SFA/99 tacitly includes him. (As a kind of safety auditor, his powers of independence conferred under the authority of government regulations override his services to the client).

It might be useful at this stage to review the different categories of design agencies, which no doubt SFA/99 has in mind and the risks to the architect as lead consultant which might arise.

Consultants

The role of the consultant is well understood and needs little amplification. He is a learned professional like the architect and the range of his services is also well understood. He is appointed separately by the client and owes duties directly to him. A concern which architects always express is whether they should seek actively to recommend consultants. The Services Supplement and condition 2.4 call for the architect to 'advise'. So, however neutral the architect might prefer to be, if pressed by the client for opinion, he probably cannot avoid giving it. Quite apart from the interpretation which the parties place on these words, the architect should ask himself what is the greater risk: to stay quiet and accept whatever consultant the client finds, or argue for the appointment of a consultant with whom he has worked happily on similar projects?

When advising the client, the architect must also remember to include advice on the time by which he needs the consultant to be appointed, and, for engineering consultants particularly, that the scope of their services and the times when they will produce coordinational information will satisfy his coordinational requirements as lead designer.

The architect is required to carry adequate PII for the risks to which the client is exposed. While PII might seem to be primarily for the architect's comfort, it is effectively of more benefit to the client. The size of claims representing loss to the client is such that most architects would not have the resources to meet such claims. It seems reasonable, therefore, that the architect should ensure as

far as he can, that the consultants carry, and continue to carry, corresponding PII. It is a rather bizarre aspect of English law that the party with the deepest pocket may end by paying the bill. The architect should not be placed in that position if he was not culpable.

Specialists

Within the inconsistencies of description within SFA/99, there appears to be little difference between consultants, specialists and others who contribute to the whole design. However, I believe there are substantial differences which need to be considered, as they affect the architect's risk. I use the term 'specialist' here to cover the agencies who are not consultants.

Consultants design and never construct. Specialists may or may not construct also. If a specialist is not to construct, is he to be classed as a consultant? If he is not to construct, what, if any, is his contractual relationship to the client? In other words, what redress would the client have, and against whom, in the event of the specialist's negligence? The architect has a duty to the client to clarify this, and a duty to himself in avoiding exposure to the liability of others. If the specialist is clearly to be or is already a sub-contractor, is it established that the contractor would be held liable, or does a separate warranty between specialist and client need to be set up?

Specialists who are part of construction organisations may be tied to the specific design constraints of one product. They are likely to be motivated by the commercial needs of construction. Is the architect placing himself or the client at additional risk by having the element designed by a specialist, rather than by a consultant? Has he discussed such risks with the client before deciding on specialist design?

Consultants are usually appointed to design clearly identifiable parts of the building and do not share design responsibility with the architect. Specialist design invariably has some front end architect work, which however tenuous might implicate the architect in the event of a claim. Has the architect defined to his and the client's satisfaction where the line is to be drawn?

The architect must decide where to draw the line between design which is an inherent part of an element, where prime liability would lie with the contractor, and design where the architect calls in an explicit design specialist. If the latter, the architect must make the appropriate procurement arrangements (e.g. nomination, JCT 98 clause 42, or JCT 98 Form with Contractor's Designed Portion Supplement).

It is almost certain that the architect will be responsible for making all the appointment arrangements for securing specialist services, whereas such arrangements may be out of his hands to some extent for appointing consultants. This has risk advantage and disadvantage. The architect bears much more personal responsibility for the performance of specialists than for consultants. On the other hand, he has more scope for control over the actions of specialists.

If specialist design is to be by the industry, the architect must give thought to how the client might be disadvantaged by the absence of independent site inspection.

Subletting by the architect

If the architect intends to sublet part of the services he has been appointed to design, either to subconsultants or specialists, this cannot be dealt with under any of the provisions of SFA/99. Condition 4.2 requires him to obtain the client's consent.

RIBA have published the Form of Appointment as Sub-Consultant (SC/99). I recommend that it be used wherever the architect sublets. It also contains sound guidance. It makes provision for mirroring the services in SFA/99 and CE/99 based appointments and largely repeats their conditions. There is provision for a warranty between subconsultant and client. Of course, if the terms of appointment differed substantially from SFA/99 or CE/99, its suitability would have to be reviewed carefully for its robustness as a back to back agreement.

The place of Schedule 4

Sufficient distinctions have been made above between consultants and others to persuade the architect that he must be able to separate them before Schedule 4 can be completed and must show such separation in the Schedule, even though SFA/99 does not require it. Therefore Schedule 4 needs to be divided into consultants and others.

Schedule 4 is the only place in the appointment where the architect can indicate clearly the services under his coordination, so making evident the services he will not perform himself. Thus, although Schedule 4 does not call for it, the services to be provided should be described in as much detail as necessary, under the names of the organisations listed. Such comprehensiveness should remove the need for the section 'Elements to be Designed by Others'. This is high risk 'boundary' territory and he should complete Schedule 4 with due care.

Coordinating whole team design

The architect will coordinate the whole team design by:

- Ensuring that all team appointments and specialist design and contractual arrangements harmonise with each other and with Schedules 1 and 4, *and*
- Ensuring that his own services (see also Schedule 2 and the Services Supplement discussed below) harmonise with team third party services.

Having discharged his lead consultant role under the Services Supplement in ensuring that all the team appointments/specialist contractual arrangements harmonise, the architect as design leader and contract administrator can now turn to how he intends to coordinate the design processes.

For the architect to be able to coordinate, the team must agree to their services being coordinated. The architect must ensure that the appointments of the consultants and the contractual arrangements give him sufficient authority. If there is insufficient authority, he may not be able to coordinate and must qualify his duties.

The essentials of the communications triangle between client, architect and consultant must be resolved (see Fig. 4.2 in Chapter 4). The architect should insist that he is the only point of contact on coordinational matters, while respecting that consultants will properly expect to have a direct route to the client for matters affecting their own services. The architect may find the wording of the ACE agreements for engineering services to be less than satisfactory for these purposes.

Correspondingly, the team must understand that the architect will be the only point of contact between the team and contractor in administering the contract, although the architect will not take responsibility for third party originated instructions.

If the project manager's duties compromise in any way these direct and indirect contacts, the client must resolve the anomalies in the appointments affected or, again, the architect must qualify his duties.

The architect should ensure that the client understands that the coordination process does not bestow on the architect any power to apply sanctions in the event of failure or delay by third parties to produce information. The architect may and should warn them, but only the client can act under the powers bestowed on him by the third party appointments.

The architect's design duties

General comments

The services listed in Schedule 2 and the Services Supplement are comprehensive and far ranging. They are intended as menus from which client and architect select the services the architect is to provide for the individual commission. It would seem sensible for the architect to identify the services he intends to delete, before discussing it with the client and exchanging the draft with the other consultants, who will develop their own services similarly. This process of exchange gives the architect an excellent opportunity to assure the client that all aspects of design have been considered and allocated to the right party; in other words, that total appointment coordination between all the consultancy services has been achieved.

While the menu of services is comprehensive, one important aspect is missing from SFA/99: separating the parts of the building which the architect will only partly design from those which he will fully design (in fact, there is no explicit provision in the services for indicating the extent to which he will design – a possible burning fuse for future litigation?). This omission can be divided into two parts:

- Elements of the building in which the architect will have no design involvement at all. By completing Schedule 4, he has defined by default the remaining elements which he *will* design either partly or fully, as all those remaining after consultants and others and their services have been listed. He must be sure that this definition is adequate before the appointment is executed.
- Elements of the building in which he may have part design involvement (e.g. outline or sketch design, where the consultants and others listed in Schedule 4 will complete the design). He should select and define the extent of the services he will provide, from the Schedule 2 and Services Supplement menus. The Schedule and Supplement are not structured to list partial design so Schedule 4 has to make clear where partial design is intended. What is defined should of course complement the remainder of the design as given in Schedule 4.

This underlines the importance of the need to complete Schedule 4 comprehensively. There must be no doubt about the elements the architect will not design, or the elements which he will part design. For example, if he is to produce sketch information for structural glazing and the specialist is to complete the design, the architect's

services must be limited to, say, Stage C, leaving the remaining services described in Schedule 4 to be completed by the named specialist.

Schedule 2: Other activities

Whether any of the services listed are selected or not, the list comprises a good checklist for architect and client to work through. It may remind them of any services (not necessarily confined to those in the Schedule) which have been overlooked, and importantly services which the scheme may require for coordination or not by the architect as lead consultant. For example, the building may require specially designed furniture and fittings. This is an opportunity for the architect to explain to the client that such elements will be installed after completion and the architect's involvement may not be required. On the other hand, he may warn the client that such installations may complicate the making good of defects by the contractor.

The architect should bear in mind that any services selected for inclusion in his appointment are only headings and that the services and probably further conditions will need to be written.

Services Supplement: Design and management

Section A: Appraisal

It is unfortunate that clause 2A and clause 2B are stated to be alternatives. This implies that if a QS is appointed, the architect is not to advise on 'alternative design approaches'. This cannot be right. The method of procurement affects the fundamentals of the architect's appointment and the services he will provide. It is so important that this should be discussed by architect and client even before the appointment is finalised. The architect will administer the contract and must be a prime party to the selection of the form of building contract. In any event, clauses 2A and 2B are not necessarily connective.

Assuming that the architect will perform the clause 2A services, there are some matters which require detailed discussion at this stage:

- Whichever form of contract is chosen there will be some substantial risk implications for the client and the whole of the building team. The whole team needs to be consulted by the lead consultant as well as the client.
- In particular, the status of the final certificate under the JCT

contracts continues to cause concern despite Amendment 15 to JCT 80 (changes to status of final certificate, incorporated into JCT 98). Client and team need to be realistic at this stage about the possible consequences. Chapter 15 expands on this and the next two points.

- The client must be asked if he intends to produce his own form of contract, or modify one of the standard contracts. Difference from standard forms can cause unexpected risk to all of the parties.
- The client should be informed of the implications if he expresses an interest in the so-called one-stop responsibility of design and build and its novation versions (discussed in detail in Chapter 11).
- Any 'fast track' intentions by the client need also to be explored at this stage and appropriate provision made in appointments and procurement proposals.

In the somewhat unlikely event that a QS is not appointed for the scale of project anticipated by this book, the architect must consider whether he is equipped to give the level of cost advice implied by clause 2A and the corresponding clauses in the rest of the Supplement. He must also bear in mind that where a QS is appointed, although clause 2B and corresponding clauses of the Supplement require of him only an apparently passive role, he is not excluded from involvement in cost. Moreover, as lead consultant he has the duty of ensuring that the whole team's cost responsibilities are coordinated. This cannot be left solely to the QS to organise.

This is a good stage for the architect and the team to consider the cost strategy for the whole project. The level and accuracy of cost reporting on the various elements and the distribution of cost over the whole project will affect design quality. Specialist parts of the project may not be afforded the same level of cost advice as the more traditional parts. The method of procurement will also affect the nature of reporting. These weighty matters should not be left solely for the QS to handle. There is further discussion in the sections on the ACE and RICS agreements in Chapter 10.

Section E: Final proposals

Clause 4 requires the architect to obtain the client's approval of type of construction, materials and workmanship. This begs a number of questions on the balance of risk reasonably to be expected between client and architect. The answers will depend to a large extent on the nature of the client and his brief to the architect. I have earlier reflected on whether the client who seeks an innovative approach

should be asked to take some of the risk responsibility; and on the relative risk position of a client naive of the processes, or a hands-on, technically qualified, experienced client.

The architect should consider carefully where, as a professional adviser, he thinks the balance of risk should reasonably lie, before he responds to this clause. If the client is 'naive', the choice is easier; his understanding will be limited and he will be entitled to rely on the architect more heavily for advice. The architect can hardly hand him the specification for the latest patented single layer roof covering, ask for approval and expect to escape further responsibility. Such a client is entitled to reassurance, say, that the roof will perform in line with life expectations of the other elements, or to be warned why it might not. On the other hand, there will be the client (who may well be technically qualified) who insists on imposing his will on every single clause of the specification. Should he take some of the responsibility? It would be reckless of me to express any firm opinion. I suggest only that the architect considers very carefully where any line should be drawn in the particular situation. The important point is the level of information appropriate to the client's understanding, the extent of the client's participation and the architect's risk expectations. He should keep a careful record of any client 'approvals' and protest if he feels that his professional position is being challenged. Where a client has entered the design chain in this way and a claim has resulted (e.g. for the failure of a specified component), the architect must anticipate that the client will argue that total responsibility lies with the architect.

Section F: Production information

Production information comprises principally drawings and specification. If bills of quantities are not to be prepared, the specification will become an explicit part of the contract conditions. If bills are prepared, the specification will become a part of the bills and is not explicitly a contract document. The architect must ensure that he has sufficient control over its content and any copyright. The subject is explored further in the discussion of the RICS agreement in Chapters 10 and 15.

Section H: Tender action

It is unfortunate that SFA/99 does not give the architect explicit authority to take part in the selection of tenderers. It is in his and the client's interest that he should. An important part of his risk as lead consultant and prime designer lies in getting the right contractor. It is usual also for the client to expect the architect to advise him in

finding a list of contractors who can deliver the quality specified and then advise on which contractor is to be appointed. For these reasons also, the architect as lead consultant should retain full control over the tender processes including assembling and issuing the tender documents. However, his freedom to perform these duties may be limited by what is written into the QS's (and project manager's if any) appointments.

Section K: Construction to practical completion

Clause 1: 'Make Visits to the Works in connection with the Architect's design' is hardly definitive as the only reference in SFA/99 to one of the architect's most important and risk prone duties. It is disappointing that SFA/99 has not attempted to address the extent of the architect's inspection of quality that could be reasonably expected by both parties.

The problem stems from the client's perceptions of what the architect does when he visits the site, how much time he should spend doing it, the benefits to the client and the architect's potential liability. The problem is not helped by the difference between the sweeping powers given to the architect by the JCT contracts, continuing ambiguity of the final certificate (discussed in Chapter 15), and the sparse duties laid down in the appointment. Neither the services nor the conditions are at all helpful in answering these questions. Dispute has been known to reach the courts, when terms have to be implied. This is not a satisfactory basis for an appointment. What should the architect do to protect his position?

At Stages A-B the architect should make his best possible guess at the likely complexity and quality the project needs, from which first assumptions can be made on procurement, forms of contract and similar matters and therefore the likely level of site inspection. The architect should draw up at that stage a statement of what might be expected, for agreement with the client. He should do more, however. He should explain to the client the purpose and extent of site inspections, the differences between the sweeping powers given to the architect by the JCT building contract and what is practicable (for example, a contract which permits the architect to condemn any part of the works should not entitle a client to assume that the architect will always be able to see and condemn all faulty work). Then, if appropriate, he should explain the interlinked roles of architect and clerk of works, their respective benefits and limitations, and benefits of enhanced inspection produced by placing members of the architect's own staff on site.

This should all result in a 'method statement' at Stages A-B to be agreed formally by the client. It will effectively become part of the

appointment. It is the basis on which change in likely inspection requirements can be assessed as the commission proceeds, more aspects firmed up and the statement changed accordingly. Review with the client at the ends of Stages D and E, and finalise at the beginning of Stage J. Again, it might be useful to have a look at Chapter 15 as part of this process. I will mention just one aspect of the architect's services in administering the contract because it is so important in establishing the right client expectations. By issuing the final certificate, the architect will have signed off an important quality milestone. Only by sowing the seeds as early as Stages A–B can the architect be sure that the client fully understands its significance, limitations and the architect's reasonable responsibility.

Site inspectors and their responsibilities are a part of this process of understanding the extent and effects of site inspections. The start of the process should be earlier than Stages J–L and should be a part of the method statement. Site inspectors and their roles in complementing the architect's duties are unclearly defined in SFA/99. We must presume site inspectors to mean either the clerk of works or the architect's own staff.

The clerk of works (if needed) will be appointed and employed by the client, but the architect should advise on terms, be present at interviews and advise on who should be appointed. The important matter to be established at this stage is that he will be directed only by the architect.

If the architect's own staff are to be on site, it is important that the client understands why they are there. If the client is paying for them there will be some expectation of added benefit, which should be formalised. If they are there purely to suit the architect's management, the client must understand that their presence will not enhance his inspection expectations.

If by Stage J the architect has recommended a level of site inspection (including appointment of site inspectors) which the client has declined to accept, the architect must warn him of the possible quality inspection consequences.

Services required by CDM Regulations

The only express duties of the designer under the CDM Regulations are to design safely (Regulation 13). Because these are demanded by statute, they are not a part of the appointment. However, SFA/99 commits the architect to duties which the Regulations do not require of him. Generally, in the risk context, they are innocuous, although clause 1.2 of 'All Commissions', in requiring the architect to do what the Regulations call on the planning supervisor (PS) to do, might pose possible risk for the architect. However, 'Outline Proposals 5',

'co-operate with the planning supervisor', might create more difficulty. If the PS makes any demands which unduly interrupt or influence the architect's services, the architect is entitled to protest to the client and as a last resort to the Health and Safety Executive. The risk implications for an architect who allows himself to be unduly influenced by an intrusive PS are obvious. He may not later be able to look with any confidence to the PS to share his liabilities.

As mentioned earlier, it is doubtful whether the architect should view the PS as being a member of the design team. CDM Regulations are statute driven, and the PS should perhaps be seen more as an external auditor than as a fellow consultant. However, the architect should always ask to see a copy of the PS's appointment services and conditions, which may throw some further light on the level of involvement in team activities which the client and PS anticipate. There is some further comment under the PS section of Chapter 14.

CDM, particularly as it affects the planning supervisor's duties, is discussed more broadly in Chapter 14.

Additional services required by the Construction Act

The Construction Act (the Housing Grants, Construction and Regeneration Act 1996) imposes no specific additional services on the architect, but that is misleading. Through the changes the Act has made to building contracts, it has affected contract administration. This subject is discussed in Chapter 15 under the JCT forms of building contract.

Conditions of appointment

(Clauses concerning the architect's duties as lead consultant have been discussed under the coordination sections above.)

As with services, any conditions deleted, altered, or further conditions inserted, must be initialled or signed by the parties.

It is unfortunate that the conditions do not require the client to establish a single point of client contact, with authority to issue instructions (see Fig. 8.1). Risk to the architect and the whole team can arise when the client is a body of people, not an individual.

Conditions of Engagement for the Appointment of an Architect (CE/99) for use with a Letter of Appointment

This chapter started by advising care when choosing between SFA/99 and CE/99. They are substantially similar with regard to the

coverage of risk areas. However, there are differences which relate more to scope of the project than risk aspects.

Differences in the services largely comprise simplification arising from an assumption that there will be no third party design. In CE/99 there is no Services Supplement continuation sheet identifying separate roles for the architect as design leader, lead consultant and contract administrator. Content of the services is derived from SFA/99 but is simplified and part of it transferred to the work stages. Ironically and inexplicably the form gives the architect the involvement in preparation of the building contract that I have recommended above and that he should have under SFA/99.

Inexplicably also, CE/99 does not separately require the architect to 'co-operate with the planning supervisor' under 'Outline Proposals'.

The Conditions appear to be identical to the SFA/99 conditions.

10 **Standard Forms of Engagement: Engineers, Quantity Surveyor, National Health Service and Project Manager**

(RIBA Work Stage A)

THE ENGINEERS

ACE Conditions of Engagement for Engineering Services B(1) and B(2) (ACE/B1, ACE/B2)

It is important to ensure that the appointments of all the consultants harmonise. A harmonised appointment means a harmonious team. As we have seen from Chapters 8 and 9, the major part of this burden falls on the architect as lead consultant and he needs to see the engineers' services and conditions. Correspondingly, the engineers should examine those parts of the architect's appointment which might affect their services and conditions, before it is executed.

The structure of the services section of ACE Conditions is somewhat different from the architect's under SFA/99, which tacitly accepts that the architect designs everything except the services stated in Schedule 4; it does not require him to specify the level of design detail for the elements he will design or part design. Engineers have the advantage of selecting the level of services they will provide from given menus. Apart from that exception, the conditions are structured similarly to the RIBA forms and the services in Section C follow the Work Stages of the RIBA Plan of Work.

Structure of the services indicates the still evolving intention by ACE to harmonise the services and expression of architect and engineer in matters of coordination. However, it is natural and right that the cultures of architecture and engineering should retain their individual flavours. Much of my commentary on specific clauses attempts to show either, that while the language may be different,

the intention is the same; or alternatively, points where both professions still need to reach a closer understanding if their management of shared risk is to be fully harmonised.

Fortunately for commentary, both ACE/B1 and ACE/B2 have almost identical conditions and much of the services contents are identical. Thus, unless where stated otherwise, the reader may assume that comment applies equally to ACE/B1 and ACE/B2. The commentary follows the order in which the engineer would expect to approach the drafting of his appointment:

- The parts of the services and conditions dealing with co-ordination
- Remaining services
- Remaining conditions including payment
- Memoranda of agreement.

The term 'lead consultant' (LC) has been adopted by the ACE documents and I shall also use it in this chapter, unless there is a specific reason to refer to 'architect'. Within the context of the text, LC means the architect acting as lead consultant under one of the RIBA forms. If this chapter is read in conjunction with another profession's LC duties, LC will mean that profession.

Coordination

Conditions and services recognise the architect's coordinating role as it affects programming of elements and the means of ensuring that drawings and other documents harmonise. However, SFA/99 necessarily gives the architect as lead consultant a somewhat wider role. He is 'to advise on the need for and scope of services by Consultants ...'. Engineers will understand the logic of this and appreciate the advantages to all parties of the lead consultant's involvement in the very early stages. If consultants are appointed without the lead consultant's involvement, overall coordinational advantage may be lost.

Coordination of SFA/99 and ACE conditions and services

I have mentioned under SFA/99 commentary that while the LC is given the authority to coordinate, he has no power to apply sanctions for failures in coordination (e.g. delays in providing information) by consultants. This may be considered an anomaly compared with the power the JCT forms give the architect as agent to the client in instructing the contractor. However, it is likely that architects

would not want this power any more than engineers would want to be on the receiving end. But it does put into perspective the question of whether the respective appointments are not a little too tentative on the authority the LC needs if he is to fulfil all of his coordinational duties. The converse of course also applies; where the consultant suffers lapses by the LC or any of the designers, any restitution can only be through the client.

The LC is given comprehensive authority by SFA/99 to coordinate. However, engineers may consider SFA/99 a little light on such matters as the duty of the architect to provide a programme showing when information is required for coordination, or to provide timeously the information the engineer needs from the architect. Correspondingly, the ACE forms, while frequently using the expressions 'collaborate with', 'liaise with' or 'assist' the LC, say little about the engineer's *duty* to provide information in time to allow the LC to coordinate. A programme is of limited value unless it conveys the extent of information needed for coordination and the engineer's ability to provide it. The LC needs different levels of detail, depending on the stage reached. (I say more on this aspect when I review the engineering services, below.) I would suggest that the LC and the engineer prepare a method statement showing how they propose to programme coordination, again as a practicable alternative to substantially amending two appointments.

Fellow consultants, specialists and subcontractors

All the parties who contribute to the design of the project should know who is designing what and should take a particular interest in their neighbour consultants and specialists – risk at the boundaries again. The RIBA forms respond to this fairly well by calling on the architect to complete Schedule 4 with the names of all fellow consultants and specialists. I have suggested earlier that this information needs augmenting by the description of the services they will provide. The engineer should particularly ask to see Schedule 4; for example he may not find the landscape consultancy of much interest, but seeing acoustic advice might be very relevant to his own services.

The ACE forms seem to cover fellow consultants, specialists and subcontractors rather less comprehensively than the RIBA forms, with the consequent lack of clarity and increase in exposure to risk. The only references to this subject are found in condition B2.6 (Design by Contractors or Subcontractors) augmented by condition C8.2 (ACE/B1) or C8.3 (ACE/B2).

While these conditions permit the engineer to recommend to the client that detailed design be carried out by subconsultants or the

'trade' ('design by the industry' under SFA/99 commentary), they do not commit the engineer to submit the names of the individual specialists to the client, or the services that the engineer intends them to provide.

Strangely, and unlike the RIBA forms, the ACE forms do not make provision for the engineer to recommend appointment of consultants where specialist skills beyond his competence may be required, and where appointing the trade or subconsultants may not be appropriate. It will be seen from the SFA/99 commentary in Chapter 9 that there can be considerable risk differences between specialists and consultants, which consultant and client should recognise in the appointment.

The ACE forms seem somewhat casual in defining the extent of the engineer's responsibility for design. By awarding detailed design to others, the implication must be that the engineer takes responsibility for earlier design (however that may be defined), unless he recommends otherwise to the client. There is no provision in the agreement for any such recommendations to become part of the appointment. Seeking to protect the engineer by explicitly excluding detailed industry design (condition B2.6) may not be very helpful to him in the event of a claim against him, unless the appointment specifies the boundaries of responsibility particular to the project.

All these difficulties could be avoided if the ACE forms contained the equivalent of the RIBA forms Schedule 4 which lists, and (I have recommended earlier), separates specialists and consultants, and defines the extent of their services. Its risk management advantages are commended also to the engineers.

Subconsultants

The ACE forms correctly identify subconsultants in condition B2.5 (Specialist Subconsultants), but as in condition B2.6, do not commit the engineer to submit to the client the names of the subconsultants he proposes. Any ACE equivalent of Schedule 4 must not be used for this purpose. As with the RIBA forms, the engineer should secure indemnity cover from his subconsultants.

The services

Services are in two parts: 'Normal Services', which are not normally menu driven, and 'Additional Services', which are always a menu for selection. The guidance referred to in Chapter 8 reminds the

engineer that both normal and additional services have to be reviewed for each appointment. There is provision in clause A19 of the Memorandum of Agreement to amend, remove or add to services and example wording is given. As with the RIBA forms, remember that additional services are only headings and may need to be augmented by services and conditions.

Levels of design to be inferred

It is important that all three parties (client, LC, engineer) understand where responsibility will lie for design in the individual appointment:

- The client might reasonably expect the engineer to design, where he subconsults or where the trade designs, or to take responsibility for design for the whole of the engineering works, unless he has agreed otherwise with the client. If dispute arises or the level of service falls short of his expectations, all parties should expect to find clarity in the appointment about where responsibility lies. For the architect, the RIBA forms meet this requirement if Schedule 4 has been properly completed. The RIBA forms imply that the architect will design in detail everything except the services listed in Schedule 4.
- In order to coordinate, the LC needs to know how detailed a design he can expect from the engineer, when he can expect it, and, if the engineer himself is not to provide it, who will.
- The engineer needs to be sure how to protect his own exposure to risk; where he will not design the whole, he needs to know who will take responsibility in the event of a claim and that the contractual chain of responsibilities has been set up through which the client can pursue the culpable party.

How normal services respond

Many of the clauses for Outline Proposals, Final Proposals, Production Information, Tender Documentation, Mobilisation and Completion describe the engineer's services so ambiguously as to question the engineer's risk safety. They also reveal slightly different approaches by the structural/civil and services engineer to some identical activities. Whether such differences are semantics or real risk questions is unclear.

The principal concerns, however, are whether or not design responsibilities are defined with sufficient clarity or consistency. Much seems to rely on tacit understanding between consultant and trade on which of the two take design responsibilities. While much

of the text might suggest that the engineer is responsible for the whole design (and the ACE forms do not say that he is not), there is much that suggests he will not design or take responsibility for considerable aspects. ACE/B2 clauses C8.2 and 8.3 suggest that the industry may design a substantial proportion of the services installations. Unlike ACE/B2, ACE/B1 intends civil/structural tenders to be sought on information 'necessary to enable the Contractors to carry out the Works', and it too explicitly excludes substantial industry design (C6.3). There is a corresponding duty for the engineer to examine such design in C8.2. It is clear that the services engineer will not produce installation and shop drawings and the like, unless his appointment includes them as additional services, and that the civil/structural engineer will not produce fabrication drawings. Thus, much design work may be left to specialists, or the contractor, and there is no provision for defining it or for who carries it out. The engineer leaves production of detail design drawings until after the contract is let.

This all seems to produce considerable uncertainty about which party would take responsibility in the event of a dispute. Once more we turn to the advantages of an equivalent of the RIBA forms' Schedule 4 as a means of introducing some clarity. However, even a comprehensive engineer version of Schedule 4 would not overcome the problems of how to define responsibility in some of the clauses. A radical overhaul is necessary, or a court in the future is going to cause enormous interest (except to the loser) in having to imply terms.

Before he can plan overall coordination with any confidence, the LC must try to understand the ACE services if he is properly to decide the level of design information to be available at the various work stages, and who will provide what. Once more, the method statement formula might be useful as an alternative to the need to substantially redraft some complex services clauses.

Builder's work (ACE/B2)

Builder's work is important boundary territory between services engineer, structural engineer, architect and QS. However, there is no precise definition in ACE/B2 and none at all in any of the other standard conditions of engagement. Normal services clause C5.3 requires the engineer to provide information for the structural design; strangely, no mention is made of the architect's or LC's interest. Only provision of additional service C10.15 (prepare builder's work details based on installation drawings) might produce the level of information which may be required for many common coordinational requirements. The LC would be well advised to ensure that the client includes this service in the engineer's appointment.

In the absence of any other definition, builder's work commonly comprises the means of incorporating the services installations into the fabric of the building. In a simple building, it might consist of holes through walls and floors, plant bases etc. In a more complicated building, such work might extend to secondary steelwork to support services, or perhaps provision for acoustic separation. It is sometimes difficult to decide where builder's work finishes and building fabric starts. Thus, several important questions need to be resolved. Which profession will decide what is to comprise builder's work and its boundary with the fabric? Who will design it? If the engineer is not to design it, will the contractor or subcontractor design? When will it be designed? If the industry is to design it, which contractor or subcontractor? Depending on the complexity of the services installations and structure, these are all weighty questions which should be resolved, at least in principle, at inception and even earlier if the respective appointments need clarifying.

Cost reporting (ACE/B2)

Size and complexity of a project obviously affect the level of cost advice required. Correspondingly, cost considerations will also affect the choice of contract form and in particular whether or not bills of quantities will be appropriate. I shall comment in more detail about the general significance of bills under the quantity surveyor's appointment below, but there are one or two points unique to the services engineer's appointment.

Under normal services, the engineer provides no more than broad overall cost advice at outline proposals stage (C3.7). Although he updates this advice at later stages, he provides no further information. Any remaining involvement in cost extends no further than providing information to other consultants, the inference being that they have to provide any cost information additional to his broad estimate. ACE/B2 is silent on how cost issues are to be dealt with in the tender and contract documentation. There is no indication of whether bills should be prepared, and if they are, who should prepare them.

In the construction stage, the engineer provides only 'technical advice' on certificates for payment to the contractor (clause C8.8). The question of who takes responsibility for valuation of the work is unanswered. The architect as contract administrator should be particularly aware of this when he prepares his interim certificates for payment, and the QS when he is preparing the final account statement.

Cost, as we have seen, is a very important constituent of total

design and there are several issues discussed above which need resolution, again at inception or before. Only where the engineer provides additional service C10.19 (agree cost of variations) or 10.23, 10.24 or 10.25 (information for bills, bill preparation, pricing bills), will the engineer take explicit responsibility for some of the above issues. If he does not, who will?

Cost reporting (ACE/B1)

The position under ACE/B1 is broadly similar in principle to ACE/B2 above. However, the civil/structural engineer participates in the cost processes a little more than his services colleague by 'advising the LC on certificates for payment' (C8.7). This compares with only 'technical advice' from the services engineer. Whether the difference is just semantic is hard to say.

Responsibilities for cost monitoring seem far better understood for the architect-designed elements than for the engineering services.

Additional services

Comprehensive though they may be, additional services do not address some important 'boundary' duties between the professions. Although it is part of the LC's responsibilities to ensure that all the boundaries harmonise, all the professions involved have a part to play. Examples of vagueness in typical boundary duties are:

- *Foundations*. Should the architect or the civil engineer carry out ground tests and design the foundations?
- *Load bearing masonry*. Which profession decides when the design requires some specialist help?
- *Timber roof trusses*. At what point must the architect call on the structural engineer's skills?
- Is the boundary defined between the services engineer's disposal system and the civil engineer's drainage system?

For some boundary duties there will be a shared responsibility. Are the parties sure at the outset that there is sufficient definition?

Conditions

If one of the JCT forms is to be used as the basis for the building contract, the provisions of clause B2.10 (authority) are too wide. The

engineer *must not* issue instructions to the contractor; he may only request the architect to do so.

Provisions for site staff under section 4 are comprehensive and generally define the roles of site staff better than the RIBA forms for the architect. However, the engineer should still ensure that the client understands the purpose of having site staff and whether this means some enhanced service. As with the RIBA forms, the full extent of what is required may not be evident until nearer construction time so flexibility needs to be built into the appointment to allow the parties to adjust the level of services as design proceeds.

ACE/B1 and ACE/B2 make provision for compliance with the Construction Act and its adjudication provisions.

Memorandum of Agreement

There are three points of note regarding the Memorandum of Agreement:

- (1) The method of procurement must be inserted. This underlines a point I made under the commentary to SFA/99; ACE consider it an important part of the engineer's risk to make the procurement expectations part of the appointment.
- (2) The intended date of completion of the project is to be inserted. This is not explicitly required of the architect's appointment. Stating the date might both produce and remove risk for the engineer. If his services were seriously late it might have implications for his liability, as well as some leverage if someone else's design was late.
- (3) The name of the lead consultant is to be inserted. This usefully complements Schedule 4 of the RIBA forms.

The need to give such comprehensive information on matters which could affect the risk of the engineers, again underlines the need for all the consultants to be aware of such matters of mutual interest which may be part of their appointments.

Other forms published by ACE

Where the client is contractor, form C1 should be used for civil/structural engineering and C2 for services engineering.

THE QUANTITY SURVEYOR

Appointing a Quantity Surveyor. A guide for clients and surveyors. January 1999. Published by RICS

Although the commentaries above and in Chapter 9 on architectural and engineering appointments have disclosed considerable differences between the RIBA and ACE Agreements, these agreements also have much in common because they are all for design services. Now, however, we are about to see how a non-design profession describes its services and conditions. We may expect some fundamental differences.

Chapter 3 described how the QS has come to occupy a central position in the hierarchy of disciplines necessary to produce a building. His reputation as a cost specialist alone entitles him to a position of importance in the team. However, his skills have extended to overlap some of the design professions' services. Much of the comment above has arisen from anomalies and inconsistencies in the way the RIBA and ACE agreements deal with cost related services. It therefore seems appropriate that review of these key agreements for any project should end with how the quantity surveyors' professional institution covers the subject. Review here is also an opportunity to tie up some loose ends with risk implications for all of these professions.

One particular loose end will probably fall to the QS to action. The design professions' and lead consultant's primary preoccupations in coordinating their appointments will inevitably revolve around design issues and (wrongly) not cost. We have seen sufficient anomalies and uncertainties in SFA/99 and the ACE agreements to be sure that unless particular attention is given to the cost aspects of these forms, both the team and the client face considerable uncertainty. The QS must take a leading part in asking the necessary questions.

It is interesting to note that, of all the profession agreements, the RICS document is the only one described as a 'Guide', whereas the others are intended by their professional institutes to become straightforward agreements after the necessary tailoring. Clearly, RICS have their reasons for this and we may find a clue in the front paper, where some dexterous wording suggests that use of the Guide may or may not provide a basis for defence in the event of a claim for negligence. The surveyors' professional body appears to be putting clear water between it and the surveyor who is being sued; the QS is on his own if he decides to use the document. This is interesting. It has been thought that a good defence concerning appropriateness of the form that the consultant recommends could

rely on his having chosen standard documentation published by one of the professional bodies. Why then have RICS thought it necessary to be so cautious? Or is the reason simply that Section 1 is intended as guidance for a client seeking the services of a QS? These subtleties are mentioned for what they may be worth to other disciplines who may see advantage (or indeed disadvantage) in adopting such cautionary expressions. However, Section 2, which comprises Form of Enquiry, Schedule of Services and Fee Offer, follows the usual format of standard terms of appointment and contains the essential risk content.

While it is standard practice to include coordination of QS services in project programmes, there is nothing in the documentation which obliges the QS as a member of the team to have his services coordinated, i.e. to respond to the lead consultant's authority. Correspondingly, there is no explicit protection for him where his services may be disrupted by late arrival or lack of information (*a cri de coeur* not unknown to quantity surveyors).

Section 2: Form of enquiry

The Form of Enquiry and the remainder of Section 2 may be used as the basis of the appointment either by the client when seeking QS services or by the QS in offering his services. This is no different from the intentions of the agreements reviewed earlier. However, the introduction to the Guide suggests that the client will take the initiative by completing the Form of Enquiry and the Schedule of Services. The QS is then intended to complete the Fee Offer. If this were an isolated professional service with no implications for the services of others, such procedure would be perfectly proper. However, we are reviewing here services which have substantial risk implications both for the QS's own safety and the safety of the whole team (including the client himself). I think it unfortunate that the introduction to the Guide does not draw the client's attention to the important facts that:

- The QS will be a member of a team.
- All of the team appointments (including the QS's) must be harmonised by an LC.
- Nearly all of the Form of Enquiry and the whole of the Schedule of Services cannot be completed without prior discussion with the other disciplines.

It is likely also that the QS would not be able to complete the Fee Offer until the above had been completed. The practice of some

commercial clients to encourage the QS to detach himself from the team is not within the spirit or the letter of the designers' terms of engagement. It creates special risks – to client and QS – as well as to the designers.

The Form of Enquiry demands much useful information which the other professions' agreements (particularly the architect's) would benefit from including:

- Client particulars, including his representative, and the name of the trading company if different from the above.
- Floor areas. This has a distinct risk potential (see Chapter 4, *Gable Estates v. Halpern*) as a means of establishing which profession has responsibility for assuring the client that he will get the areas he was promised. Exactly which profession is to provide this information has important risk implications. Unfortunately, the Schedule of Services does not greatly assist. It should be obvious that while the QS may undertake measurement of areas, the designers and lead consultant are responsible for providing them.
- The project programme.
- The cost budget including inclusions, exclusions and phasing.
- Method of procurement and form of contract.
- The tender documentation to be produced by the QS. (There is some anomaly between this and the Schedule of Services which I comment on under that section below). In any event, reference to tender documentation begs the question of the duties the lead consultant should be undertaking.
- A list of the other consultants.
- Details of the QS's indemnity insurance.

Section 2: Schedule of Services

1 Category one: General services

The opening box, in inviting the drafter to include environmental engineering services (services installations), does not apparently allow one to select QS services to match particular engineering services. Provision to discriminate is important; we have seen earlier that engineering practice may require a different approach to cost advice compared with architectural practice.

Clause 1.1 Inception and feasibility. The terminology used suggests the level of advice likely to be given by a QS appointed ahead of the rest of the team. It would be preferable for the Schedule to be able to isolate such advice from advice given on information supplied by

the design team. Separation would be in their risk interest also. Aspects of particular interest to the other professions are procurement, the priorities of quality, time and cost. They should not be within the sole remit of the QS for advising the client. This is a good example of where the lead consultant needs to coordinate responses to the client.

Clause 1.2 Pre-contract cost control. It is important that the QS agrees with the team (including the client) the format of reports, frequency of updating and distribution.

Clause 1.3 Tender and contractual documentation. It may not be for the QS alone (or even at all) to advise on tendering and contractual arrangements, to prepare tender and contract documentation, to advise on forms of contract, to prepare and distribute contract documentation or to contribute to the drafting of contract clauses. Particular attention must be given to harmonising with corresponding clauses of the designers' appointments. As some of these matters substantially involve the responsibilities of the other consultants, does the QS really wish to enter into their risk chain? He should also consider whether he has the necessary skill to advise on warranties, bonds or insurance.

Clauses 1.4–1.7 The construction period. RICS appear to have omitted some of the usual roles accepted by the QS in advising the designers and client on contractual/cost matters. For example, the QS is often called upon to evaluate a claim or the chances of a claim from a contractor and its consequences in time and cost, or he negotiates the cost of variations. It would seem sensible for the QS to go through the contract form and agree with client and designers the services it demands of him, before completing this section.

2 Category two: Services particular to non-traditional methods of procurement

The only point of interest, apart from the need, as above, to harmonise with the other appointments, is that RICS have included various procurement methods which the other professions may find affect their own appointments, e.g. management and construction management.

3 Category three: Services not always required in categories one and two

It is curious that bills of quantities for services installations are included here but not on the Form of Enquiry. It is also curious why

the menu for bills generally, and associated schedules of rates etc., are placed in the Form of Enquiry rather than in the Schedule of Services.

This section also includes the option of the QS measuring gross and net lettable floor areas, which continues to beg the question above: which profession is to take this onerous responsibility?

Terms of appointment

(‘Conditions’ in the designers’ appointments)

The designers must ensure that they do not lose copyright in the specification or preliminaries on their incorporation into the bills of quantities.

NATIONAL HEALTH SERVICE

Agreement for Appointments of Architects, Surveyors and Engineers in the National Health Service (The ‘Green Form’)

The NHS agreement for major works comprises three volumes and commissions are always awarded on this form. I have included this form for risk review for several reasons. A substantial part of consultants’ workload is health work. It invariably involves complex works and the need to integrate complex services installations. The form was written to respond to the existence of a complex client base. Clients are now often NHS Trusts, many of whom have created client structures different from the old tiered health authorities.

However, the principal reason for reviewing the form is that it is probably the only example of an agreement which integrates the total team effort (including the client). It strikes a chord with the strand running through this book of how shared responsibilities affect risk. It is also of some interest because it indicates what can be achieved when an agreement is produced unilaterally by a strong client-driven body, with commercial necessities but professional origins.

While it is unlikely that the Agreement could be used for other than NHS commissions, it is reviewed as demonstration that it is possible to combine and coordinate the duties of all the consultants in one document. Had the institutes agreed to collaborate to produce a similar document for general use, a great deal of the complications of reviewing the separate forms and comparing their risks would have been avoided. Indeed, had the institutes come together to review comprehensively their standard agreements, they could not

have failed to notice the inconsistencies and anomalies in and between their agreements which have made necessary so much of the commentary in these chapters.

The NHS forms respond to the CDM Regulations and design and build, but not novation.

Risk features of the Agreement

Scheme particulars gather together all the basic information of interest to all the professions: details of location, description of the works, estimated cost, target dates, client authority names with executive powers, list of design team, contract strategy (form of procurement?), site inspection staff, documentation required, building contract form, method of measurement (bills of quantities), client procedures, frequency of meetings. This is a promising start in bringing all the principal players together.

The Conditions contain few unexpected risks, but several concerns:

- Coordination is covered satisfactorily, except that the programme to be produced by the consultant is to be submitted to both the lead consultant and the client's agent, whose position is not defined (clause 2.13). Both project director and project manager become involved in its progress. Their right to accept or reject it gives them executive powers and seems to have the potential to incur the dangers of divided responsibilities and of imposing on project director or project manager some risk which in the institutes' forms would remain with the consultant or lead consultant. This starts to beg several other questions about the responsibilities and risks of project managers to which I return under the section below on project managers.
- As in the institutes' forms, there is some ambiguity in the roles of site staff. There is no indication of the extent of the client's enhanced expectations when full-time rather than part-time site staff are employed, or any distinction between staff employed for quality inspection or staff on site for administrative purposes (clauses 2.14–2.18).
- Both client and consultant are required to certify that they have completed their duties at given design stages. The consultant has to certify that he has complied with some sweeping commitments. This is not a feature of the institutes' forms. While a court might rule these to be implied terms in the institutes' forms, their express inclusion by the NHS sharpens attention and may have risk implications (clauses 2.30, 2.31).
- Specific levels of insurance indemnity are required.

The Plan of Work is a menu of the duties of the client and all consultants, laid out approximately in RIBA Plan of Work stages. In layout and all its detail it brings together well the inter-related responsibilities in a way the separate institutes' forms cannot. However, despite all the detail, several questions posed above about the institutes' forms also remain unanswered here, e.g. the extent of the QS advice and of services engineer's detail design.

Volume 2 expands on the duties of the consultants; the intention appears largely to respond to the internal workings of the client organisation.

Volume 3 covers the consultants' duties under CDM, including the planning supervisor. As with volumes 1 and 2, this is an interesting essay on the way complex multiprofessional activity can successfully be combined in one document.

Despite the comprehensive coverage of these substantial documents, there are some surprising omissions. Apart from one schedule listing a menu of services elements, there is no provision for identifying the elements each profession will design or part design, resulting in potential for ambiguity about which profession will design some boundary elements. This omission also leaves the architect vulnerable in the absence of definition of the elements he is expected to design. Like the ACE agreement, this agreement needs its equivalent of the RIBA forms' Schedule 4 provision for listing any specialist consultants or other third party designers. The unlikely conclusion must be drawn that the NHS does not permit any specialist design unless it is via a consultant subletting part of his services.

The above review of the NHS documents can only provide a glimpse of the risks to be undertaken by design professionals for health work. With such complex services for such a complex client category, it is not possible to give a comprehensive risk review.

PROJECT MANAGEMENT SERVICES

What is the function of a project manager?

This chapter and Chapter 9 have now reviewed all of the major professions' standard agreement forms for traditional services and how they deal with risk interaction between them. We have looked at the RIBA family of forms for the architect (as lead consultant and designer), the ACE family for the structural, civil and services engineers, the RICS form for the QS and the agreement for NHS services as an example of how the services of all of the professions can successfully be integrated into one document. One could reasonably draw the conclusion that the RIBA, ACE and RICS forms

cover the whole of the design based services required by the client, including leadership, management and administration. So, where is the project manager's place in the team? Part of the reason for leaving project management until last is the possibility that some hole, some omission or shortcoming in the management aspects of the standard forms already reviewed, would provide the answer to this question. However, there are no obvious omissions so the answer still remains elusive. Even volumes 1 and 2 of the NHS Agreement, which recognise project management and include project manager in their definitions, do not help a great deal.

Project managers (PMs) clearly exist and flourish. Their involvement in high profile projects is influential and sometimes very public. There is even an Association of Project Managers. There is no doubt that they perform a substantial role. Risk issues must exist which involve relationships between the project manager and client on the one hand, and the project manager and team on the other. They are issues which require investigation.

Perhaps, in trying to define the project manager's role in the wider team, we have to return to Chapter 3 which traced the origins and characters of the major players. We saw how the architect evolved into prime designer and coordinator of the team. We also saw the emergence of the QS as a profession with influence within the team well beyond that expected of a cost adviser and a counter of bricks (as some unkind commentators have described his function). Here may lie the first clues of a vacuum and a means of filling it. We see on the one hand the profession of architect which prefers to design rather than to manage. On the other hand, working alongside that profession, is a non-design profession willing, and with the skills, to undertake part of the management load. Clients have been aware of these sometimes subtle changes in the balance of power in the team. They may have felt discomfort that the architect, chosen for his design reputation, may not have the resources to meet some tough management challenges, a discomfort allayed by the knowledge that in the team was a manager-in-waiting – the quantity surveyor. The QS profession, always flexible and eager for new challenge, seized with enthusiasm this chance to enter new pastures. The logical outcome was formal recognition of this, still ill-defined, separate management function. The project manager was born.

That is a simplification and some might feel it dismisses the ability of architects to manage, and exaggerates the skills and powers of quantity surveyors to manage; and that there are professions other than quantity surveyors who have entered this new discipline. But I am using this analysis as a model for discussing the risk potential which many design teams have not yet come to terms with, and I believe it starts to capture the essence of project management.

Before looking at how terms of engagement have (or more accurately, have not) come to terms with project management, there is one further fundamental aspect to investigate. I have mentioned from time to time the 'team', as meaning the body of separate professionals who collectively and individually deliver a completed design-based service and for whom this book is largely intended. I have also mentioned the 'wider team' embracing also client and contractor. They are contractually separated by a line. On one side stands the client who requires professional services and a building, and on the other the organisations who will provide them for him. On which side of this line is the project manager to be found? I believe, although the evidence is anecdotal, that often the parties simply do not know.

The client may think he has appointed another consultant member of the team, one of the delivering parties. The team, however, do not recognise him as a fellow team member; to them he is agent to the client body. Discretion suggests to the team that it would be unwise to question his precise position too deeply. Herein lies the potential for some risk confusion and anecdotal evidence is an unsatisfactory basis for discussion. There is as yet no common understanding within consultant teams of the likely range of project management duties, compared with the long standing traditions of appointments for the other consultants. Although there are now standard forms for appointing project managers, there is little feedback about how often they are used, or the alternative arrangements which some clients will make. All we can do is look at some standard project management forms, compare them with the other consultants' forms and try to see where the risks lie.

The NHS Agreement for the Appointment of Project Managers for Commissions in the National Health Service (1995 Edition)

This is probably the most significant form for discussion, because it was designed for use with the NHS integrated agreement for appointing the design based professions, reviewed above. A project manager is always appointed for NHS projects. However, the form is to some extent unrepresentative in that it was designed for a client structure unlikely to be found outside the health sector.

It may be instructive, firstly, to see how the agreement for appointing the design team views the project manager's role. In the client's hierarchy sits the project director (clause 2.19) and he appoints the project manager (clause 2.21). This makes clear to the team who has the ultimate and who has secondary client authority, which is sound client management, although how project

director and project manager divide their day-to-day instructional duties is less well expressed and might cause communications problems for the team. Although it is not explicitly stated, there is strong inference that the project manager is intended to be an arm of the client body, i.e. the liaison point between the many NHS user 'clients' and the team. This inference is supported by the exclusion of the project manager's name from the list of consultants in the Memorandum of Agreement, and, under the schedule of team duties, by the lead consultant having to respond to the project manager's requirements.

So far it seems that, overlooking some small anomalies, the NHS have set out very clearly how the project manager's duties and team duties relate to each other. Now let us see how the project manager's agreement complements the team agreement. The project manager's agreement is less clear in determining on which side of the client/team line the project manager is to be found. While, again, there is much to support presumption that he is a part of the client body, the wide ranging duties he accepts in the Memorandum of Agreement give him substantial influence, if not authority, in the activities of the team. Perhaps clause 2.2a of the 'Objectives' sums this up when it says that the project manager should:

'...provide the management structure in which all parties can effectively perform their duties with the combined aim of completing the scheme to the time and cost target, and quality/function requirements.'

Would not the lead consultant normally consider it his role to provide the programme under which the team would operate? Otherwise what other 'management structure' is meant? Does this quote give the project manager the right to participate in the management processes of the team? In the Memorandum there is also considerable scope for the project manager to take part in the cost setting and monitoring process. Where does the QS responsibility stand?

No doubt NHS practice has come to terms with these apparently grey areas of responsibility between client and team. But they are not academic points when exploring the general position of project managers. If an unduly assertive project manager made a decision which (even indirectly) affected design integrity, would he accept any responsibility in the event of a claim? Or could he successfully claim that he was only 'advising' the team? However, the NHS have at least gone further than any other corporate client in laying down rules which broadly harmonise duties between team and project manager appointments. Let us now see how a typical standard form compares.

Association of Consulting Engineers Conditions of Engagement 1995, Agreement E. For use where a consulting engineer is engaged as a project manager

In publishing an agreement with their usual thoroughness and clarity, ACE start to answer many of the questions raised above about how project managers relate to the other professions in the course of the normal team enterprise.

The agreement states that it is to be used by professions other than engineers, although architect project managers might be bemused by ACE's ever present preoccupation with contaminated sites (condition 2.10).

The risks to project manager, lead consultant and designers

The agreement is comprehensive and seeks to leave no stone unturned in an exhaustive list of normal duties. I will not comment on the risk implications of each duty but will draw some broad conclusions. The normal duties are commended as an excellent checklist for any consultant wishing to clarify uncertainties in the scope of any project manager's authority.

Is the project manager a member of the team or the client's agent?

I sought first to find evidence of which side of the 'line' ACE places the PM. There is no clear answer. Although Appendix 1A and B are alternatives, and may be intended to provide an answer, it is difficult to determine intention. So I then turned to the authority the agreement gives the PM. If he is clearly established as agent to the client and will instruct the team as if he were the client in their eyes, that would put him firmly on 'the client' side of the fence. There is nothing to indicate his status in Appendix 1A, which although littered with hints is not sufficiently explicit. Clause 2.9 is the nearest to indicating that the agreement might intend an agency arrangement, but again is far from explicit.

I would recommend that any aspiring PM under this agreement seeks further clarity on this point before he is appointed. Team members should also press for clarity. The matter is important in relation to risk because it could substantially affect who would be claimed against in the event of a dispute and who might escape liability.

How do the risks of the PM relate to the risks of the team?

This is difficult to discuss when there is so much uncertainty about the PM's status. If his actions were confined to those matters on

which clients normally expect to instruct, the matter would be clear cut. The team, either through the lead consultant on matters of coordination, or the individually appointed consultants with regard to their services, would simply discharge client instructions. But they would still largely determine how the instruction was to be implemented according to their professional discipline. The PM, whatever his agency status, is given considerable power under Appendix 1A to involve himself deeply in the activities of the design team and the building process. It seems inevitable he will be unable to remain at arm's length and will become immersed in how the team services are provided, rather than maintaining the detachment of monitor on behalf of the client. He should consider carefully whether the indemnity in clause 2.6 is sufficient to protect him fully when he is called upon to participate so deeply in team activities. Correspondingly, the team should protest to the client when they believe that PM involvement interferes with the services they are appointed to provide.

How does the ACE Agreement complement the architect's lead consultant role?

The brutal answer to this question is that it does not. We might attempt to compare the semantics of the Services Supplement of SFA/99 having the architect 'co-ordinating the design of Consultants', 'monitoring design work' and 'advising on the scope of services by Consultants' with clause 2.6 of the ACE agreement 'the Project Manager shall co-ordinate the services of Lead Consultant, Other Consultant or Contractor'. We might agree that there are some differences. However, it should be clear from these extracts that there is sufficient coincidence in the intentions of these clauses to produce considerable danger of overlap if both architect and project manager were appointed under these agreements.

Architects should not agree to act as design leader or lead consultant if the client has appointed a project manager under the ACE agreement as it stands. Nor would it be wise for a project manager to accept appointment under this agreement if an architect has been appointed design team leader and lead consultant under SFA/99.

The RIBA Form of Appointment as a Project Manager (PM/99)

Since the Schedule 2 services seem only to amplify the spirit, not the content, of the SFA/99 design leader and lead consultant services, it is difficult to see clearly the need for this form. If the project manager is also to be the architect, many architects would accept the PM/99

services as a normal part of their lead consultant function, if the client asked them to perform them. If the project manager is not to be the architect, the client, project manager and architect would need to consult carefully on how the project manager and architect are to divide their services according to the services descriptions in the respective forms.

What is disappointingly absent from this form is any indication of the authority the client might wish to give to the project manager, e.g. to appoint and instruct the consultants on his behalf. Inclusion of such services would have placed the project manager firmly on the 'client's' side of the line, and would have justified the need for the form as providing for services a lead consultant would not provide.

The RICS Agreement for Project Management and its Guidance Note

The only matter of risk interest for interaction between client, project manager and design team in an otherwise straightforward set of conditions lies in clause 6.3: 'The project manager shall be responsible for the management of the consultants'. One might speculate on what 'management' might embrace in this context. If, as seems probable, the project manager has been given the authority to instruct, this is a firm indication (and untypical of many project manager arrangements) that the client has delegated the major part of his powers to the project manager. Such intention may or may not be reinforced by clause 4 of the Memorandum of Agreement: 'Project manager's authority to instruct'. Strangely, the consultants are not mentioned specifically, but assuming the project manager has such authority, he has been given powers that could not be given to the lead consultant. It is good separation of risk as between the consultants and the project manager.

A further matter of note regarding authority of the project manager and risk occurs in the Foreword to the Guidance Note. RICS Insurance Services draw a clear risk distinction between a project manager who merely coordinates the work of consultants (defined as project coordination, even though the agreement is for project management) and one who appoints the consultants – whether as part of his own services or simply acting as agent to the client is not made clear (defined as project management). This is probably no more than semantics, but the other professions may like to be aware of the RICS definitions and their risk connotations.

The Schedule of Services does not cover this point. However, the Guide contains a comprehensive list of services that the project manager may undertake. The consultants would not expect to

undertake many of these services. On the other hand, the architect as lead consultant would expect to undertake some of the services. Therefore, again, the client, project manager and lead consultant should compare appointments before finalising them.

Conclusions

Once again, and this point can never be over emphasised, it is good practice in the complex world of building that all the parties should understand each other's contractual relationships so as to understand the aspects which affect individual and collective risk. Even in the most harmonious of projects, the parties should know which party is responsible for which part of the service. If trouble breaks out, this can become crucial. A good set of appointments, properly coordinated, can isolate the event and the responsibility and save everyone a great deal of time, trouble and expense.

These points are particularly important for the relationships between client, project manager and the team because project managers are commonly in a position to exercise enormous influence on the outcome of the project. Moreover, the sharing of the management burden by two parties (architect as lead consultant and project manager under whatever terms he is appointed) within loosely defined, unharmonised appointments, could produce results which would require a court to disentangle. While there can be no doubt that strong and effective management by a non-design professional can be enormously beneficial to the client, that professional must not enter into risks not remotely contemplated by his appointment. He is in a position to make decisions which could have far reaching implications for quality, cost and time. Is he always professionally equipped to make them? The appointed team leader does not escape from this part of the risk chain, either. He has contractually undertaken some of these potentially high risk duties, which the project manager has assumed. We have seen that these relationships are often misunderstood, mis-stated, not harmonised or not respected by one or more of the parties. Actions to rectify this should include:

- If the project manager's duties include advising on the appointment of the team, he should clarify with the client whether he is to be a member of the team or the client's instructing agent; if the latter, he should clarify the extent of his authority to instruct the team (in the team's eyes, is he 'the client'?).
- Even if he is to be the client's agent, is it intended in his relationships with the team that he will exercise a wider role than

observing on the client's behalf, e.g. participation in programming.

- If he is to be a member of the team, is it intended that he will be lead consultant? If not, how will his duties harmonise with the duties of the expressly appointed lead consultant?
- Depending on the answers to the above questions, have the lead consultant/coordination duties of SFA/99 and CE/99 been harmonised with the project manager's services?

None of the forms reviewed entirely meets these criteria.

11 Appointments for Services Where Procurement is Non-traditional

(RIBA Work Stage A)

Introduction

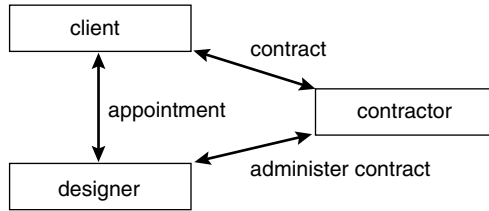
There are many contractual methods for arranging for the design and construction of a building. Sometimes claims are made that the perfect solution has been invented; some methods become fashionable for a time, then disappear; many reappear under different names. It would be impossible to describe them all and the risks they produce. I have so far covered the major standard forms for consultancy services in situations where, largely, the consultant designs and the contractor builds. The majority of large scale building work in this country is still carried out under these arrangements. Chapter 15 reviews risk arising from the forms of building contract which complement this split between who designs and who builds. There are times, as we have seen, when consultants can cause some of the project to be designed by the industry. This does not destroy the principles of traditional procurement covered in Chapters 8–10.

There are also other procurement variations which do not destroy these principles. The prime examples must be construction management and management contracting, where the contractor is seen more as a manager than having prime responsibility to build. However, the consultants still design and the standard forms of appointment reviewed so far may be used. Fig. 11.1 shows some of the variants where appointments can be made using the standard forms reviewed in Chapters 9 and 10.

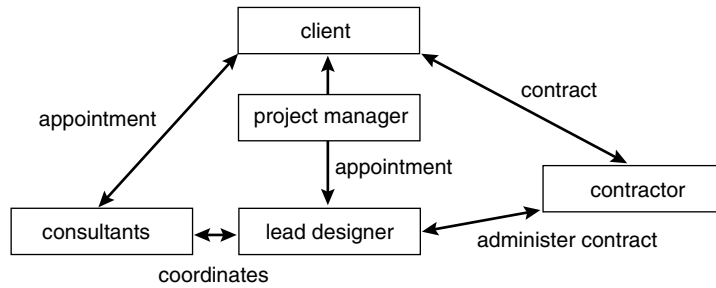
Design and build

We have to draw a clear distinction between the arrangements described above and situations where the client wishes the contractor to take responsibility for the whole of the design as well as

Small simple projects



Larger projects



Larger projects with part design by industry (Fig. 4.2 simplified)

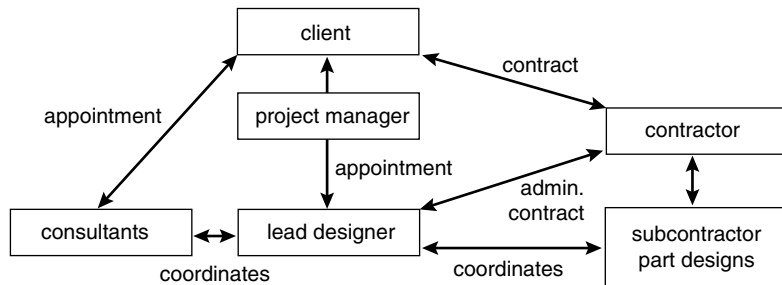
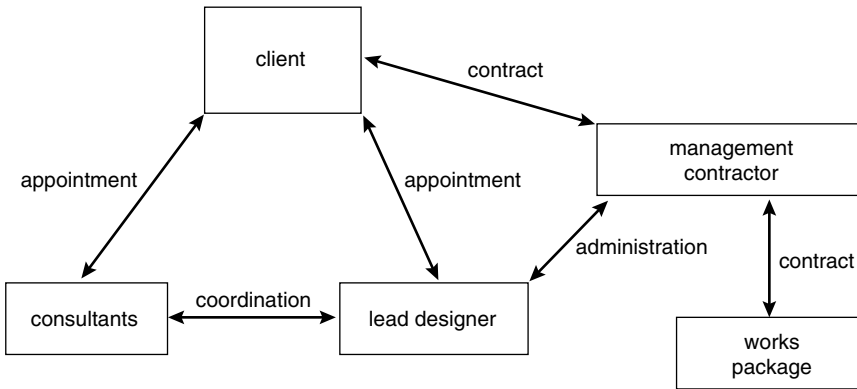


Fig. 11.1 Some of the common variants of traditional procurement where standard forms of engagement may be used

Management Contracting



Construction Management

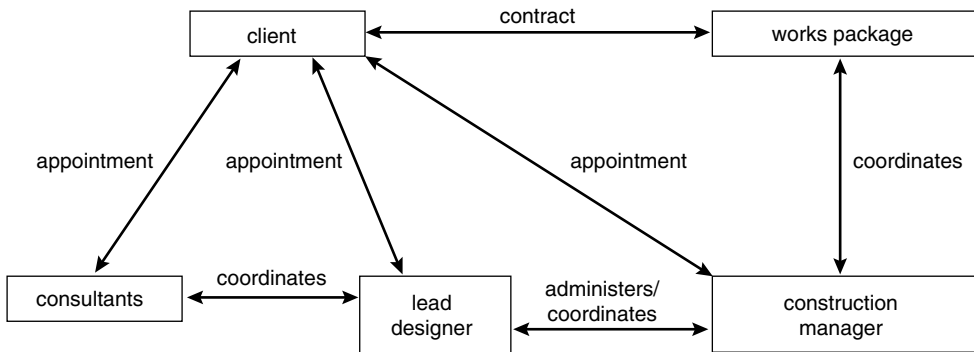


Fig. 11.1 (continued)

construction. Risk for consultants in the traditional procurement routes is well known, albeit with the complications introduced by part industry design. However, design and build introduces entirely new risks for consultant and client. Working for two clients on the project, the likelihood of fragmented services, or working for a contractor client who may be driven by different forces from traditional clients, are just a few of the possibilities. There are several variations to this procurement route, but the key to it all lies in the client's wish for a single responsibility and the forms chosen for appointment and building contract to meet this wish. It is almost certain that the forms of appointment so far reviewed are not suitable, even with substantial modification.

We will look first at the principal ways in which clients seek to

achieve a 'one-stop' responsibility, and at how the published forms respond.

Without consultant involvement: lay client (Fig. 11.2)

The lay client approaches the contractor, tells him what he wants, receives the contractor's tender with design and specification and awards a contract. This is the simplest form of design and build. The client has no independent design advisers and has to rely on his own knowledge of the industry to judge the design and quality he will get from the contractor. The contractor either has in-house designers or uses the trade to design. There is no involvement by consultants. Spec-built housing is an example, although the client will be fortunate if he can influence at all the quality of design or construction.

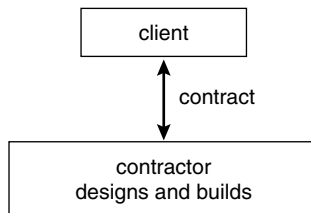


Fig. 11.2 D & B without consultant involving lay client

With consultant involvement: lay client (Fig. 11.3)

A variation on the above section is where the client employs independent design consultants to carry out preliminary work as a basis for seeking tenders from contractors. 'Preliminary' is a somewhat elastic expression – clients have been known to call for detailed design and specifications from the consultants, but still to require the appointed contractor to take full design responsibility. The

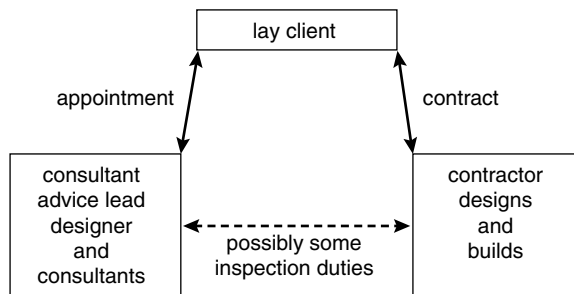


Fig. 11.3 D & B with consultant involving lay client

appointed contractor uses whatever sources he wishes to complete the design (in-house or industry design, or appointing his own consultants).

Forms published by RIBA

As with any of the other forms reviewed previously, the architect as lead consultant must have in mind the interests of the other consultants and the suitability of their standard forms for such non-traditional duties. Correspondingly, the consultants need to explore with care the novel relationships which might be created, the resultant risks they face and the suitability of their own forms. Of all the major institutes, only RIBA have attempted to devise forms which reflect the principal design and build arrangements.

Form DB1/99 has been produced as the basis for appointments where the architect carries out preliminary design and provides other information to form a part of the tender requirements. RIBA intend it for use specifically where the form of contract is to be the JCT Form with Contractor's Design, hence its title 'Employer's Requirements'. However, there seems no reason why it should not be used in any situation where the client seeks preliminary advice from an architect, provided that the Services Supplement is edited judiciously.

DB1/99 is an amending document to SFA/99 and CE/99. It comprises some small amendments to the conditions, which cause no risks of note beyond those noted in the SFA/99 commentary earlier, and a completely new Services Supplement.

Completing the Services Supplement demands careful consideration of some of the responsibilities which will result from this procurement arrangement. The principles and the risks which flow are much the same, whichever form of building contract is used:

- The overriding risk element is that although the contractor is intended to take total responsibility for the design under the JCT form, the architect and consultants will almost certainly have made substantial contributions which, if alleged to be faulty, might result in the architect or consultant being claimed against. There is no privity of contract between designers and contractor, so to protect himself the contractor must either make extensive enquiries of the earlier design process (unlikely in the time available between tender and contract award) or seek collateral warranties from the designers. If he does neither, he and the designers have the less certain processes of tort as his only source of redress through the courts. Thus, the designers and the client should consider whether they want to steer the alternatives in

any particular direction for inclusion in the tender documents, or simply let events take their course.

- A further aspect of this is the question of whether, even though the form of contract explicitly imposes total responsibility on the contractor, there is any part of the advice given by designers to the client which reasonably should be excluded from the contractor's potential liability. All these difficult questions arise from the near fiction that the 'design' in design and build means total design by the contractor. However, as JCT Practice Note CD/1A so well expresses real life: 'Employer's Requirements may be little more than a description of accommodation or may be a full design'. Again, the parties may simply say nothing at the time appointments and contracts are drawn up. I believe that in some circumstances, acceptance of the simplistic total design responsibility so explicit in the JCT form may not be so simplistic or explicit in the event of a messy claim. Whether anything is to be done to clarify and control the possible course of events before they occur is part of managing risk.
- Assuming that DB1/99 is to be used for the purposes intended, the architect and consultants will draw up the 'Employer's Requirements' and review the 'Contractor's Proposals'. The extent of the latter will depend on the comprehensiveness of the former. Both are onerous responsibilities in that they are the only controls available to the client in the setting of quality standards and the client's ability to monitor that what was promised will be delivered. The architect as lead consultant plays a key role in ensuring that the client is aware of the significance of employer's requirements and contractor's proposals. There is excellent guidance in JCT CD/1A on the preparation of these pivotal contract documents.
- Whether DB1/99 is to be used for a JCT Form with Contractor's Design or not, the architect and consultants should ensure that the extent of their design is carefully defined in the appointment. The usual Schedule 4 will identify the elements to be designed by the respective consultants and/or industry, but the words of the Services Supplement, like their counterparts in SFA/99 and CE/99, do not specify the extent of design for the 'architect' elements. Although apparently the contractor takes total design responsibility, my doubts expressed above suggest that the architect will be better protected if he defines the extent of design in his appointment with the client, and ensures that it appears in the employer's requirements.
- If the client requires the architect to visit the site, whether under the JCT Form with Contractor's Design or some other form, the appointment should specify rather more than Services Supple-

ment Clause K1. The client's or his agent's duties are different from administering a conventional contract. The client must specify which of his duties under the contract form chosen he wishes the architect to undertake, and these should be stated in the appointment.

With consultant involvement: contractor client (Fig. 11.4)

Where the contractor does not have design resources, he employs an independent architect and engineers for full or part design. He still takes full design responsibility and the design consultants contract with him, not his client.

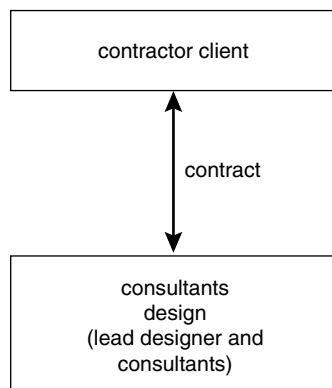


Fig. 11.4 D & B with consultant involvement contractor client

Form DB2/99, like DB1/99, has been produced for limited application. DB2/99 is intended for use where the contractor appoints the architect to develop design in the detail he needs for construction from employer's requirements produced by another architect acting for the lay client. DB2/99 assumes that the contractor has been appointed under a JCT Form with Contractor's Design, hence the title 'Contractor's Proposals'. Like DB1/99, the form is an amending document to SFA/99 or CE/99. Again, like DB1/99, amendments to the conditions contain few surprises.

The architect should approach the completely new Services Supplement with caution. He will probably expect his services to have to take the employer's requirements into consideration and it would be prudent for him to see a copy before he completes the Supplement. It is of course for the contractor client to specify the services he requires, irrespective of the employer's requirements. However, since one of the objectives of the JCT Form with Contractor's design, is that the contractor will have to present his

detailed design proposals before he is appointed, the contribution from his architect at this stage will probably be critical to both parties. RIBA can only have speculated on the likely services when they drafted the Supplement.

In reviewing risk arising from the Services Supplement, the architect and consultants should have particular regard to the following:

- To pick up the major point made under DB1/99 above, the contractor client under the JCT Form with Contractor's Design will be expected to assume total design responsibility, which will include responsibility for the design presented to him by the employer's requirements. He may look to his architect for some assurance on the integrity of such design, or worse, the architect may not be able to refrain from comment on some aspects. The architect should be very clear on whether he should comment or not and if he is to comment, the extent of any protective indemnifying clauses he requires to be written into the appointment. Although there are clauses in SFA/99 (which DB2/99 has not amended) which purport to indemnify him against the work of others, the architect would be well advised to treat these as applying only to the parties in connection with his own services. Of course, in risk terms the best indemnity would be a clause in which the client holds the architect responsible only for his own design contribution. The architect may not be successful in achieving such explicit protection.
- As with DB1/99, while Schedule 4 will look after the parts of the building to be designed by others, the extent of the architect's design for the 'architectural' parts of the design must not be overlooked in the appointment. While the Services Supplement of SFA/99 is equally unhelpful, at least there is custom and practice to guide him in the level of design which is usually required. Under DB2/99, the contractor client may need design which is less or more detailed than traditionally expected. There was a dispute where wrongly designed flashings caused massive leakage problems. The contractor client blamed his architect for negligent design, but the architect maintained that the detailed design of the flashings had never been part of his design services. Uncertainty in the wording of the appointment caused the dispute to drag on endlessly.
- Coordinational duties. The contractor client may wish to exercise these himself.
- Cost reporting duties. DB2/99 suggests duties as comprehensive as in SFA/99. This is most unlikely; contractor clients tend not to involve their consultants in any way in overt cost control.

- Site duties. While, clearly, the architect will not have any instructional role, the range of advisory duties which may be required is considerable. The appointment should list them.

I said above that DB2/99 is intended for limited application. However, architects and consultants are likely to be approached by contractors to develop design under a range of design and build arrangements, where the terms 'Employer's Requirements' and 'Contractor's Proposals' are unknown. The team may not even be informed of the procurement route and do not need to be informed. There may not even be a building contract, e.g. where the client is a developer client. It is strange, therefore, that DB2/99 was expressly written for such a narrow application. Could it be used for these wider arrangements? I believe it could. The key, as above, is the matching of the Services Supplement to the client's requirements. It seems sound as a menu, if the provisos listed above are also observed.

With consultant involvement: lay and contractor clients

This is a hybrid arrangement in which the lay client hopes to enjoy the benefits of a full consultancy design while still retaining total contractor design responsibility. He appoints consultants to carry out preliminary design work under the traditional client/consultant relationship, then replaces himself as client with the contractor who takes over employment of the consultants, and they complete the design under the contractor client. The only apparent disadvantage to the lay client is that he has deprived himself of the benefits of independent site inspection by the consultants. However, as we will see, some clients attempt to circumvent this.

This process of exchanging one party to a contract by another is commonly known as 'novation'. RIBA have described a version they called 'Consultant switch' in which, essentially, the consultants continue to be liable to the lay client for the early services they have provided. I believe that this is an unnecessary distraction to the understanding of what is already a complex and risk infected device. I shall follow contemporary usage and use the expression 'novation' throughout. The essential risk message in this section arises from the unusual situation to which consultants have to readjust, when their client disappears to be replaced by a client with quite different aspirations.

Model constituents of a novated appointment (Fig. 11.5)

The appointment must clearly express the parties' intention that the early part of the services will be carried out for the lay client, and the

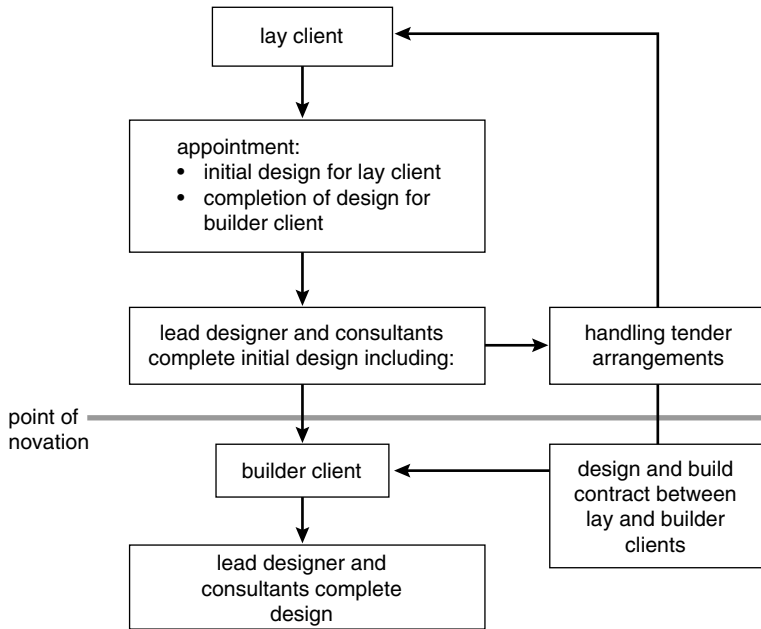


Fig. 11.5 The stages of novation

remainder for the contractor client, with responsibility for the whole of the design passing to the contractor client at a specified point, known as the point of novation. As the contractor client will almost certainly not require QS services, but the lay client will continue to require cost advice, the QS appointment is usually not novated.

At the outset, although the lay client and the consultants will be able to complete the appointment with all the usual details appropriate to a traditional consultancy (e.g. SFA/99 Schedule 4 matters and the like), it is likely that the identity of the contractor client will not be known. If this is the case, the client has the risk that he may not be able to find a suitable contractor who is willing to accept novation. This is a far lesser risk than the consultants face. The consultants are reasonably entitled to some reassurance before concluding the appointment, on the kind of contractor they will be faced with on novation. They need reasonable assurance that they can work with him, that he will provide the level of quality contemplated, and not least that they will continue to be paid. Although the appointment may be specific about the extent of design to be left until after novation, they cannot be sure about the detail the contractor client will consider necessary. The architect as lead consultant will not know whether the contractor client will continue to expect him to provide the traditional level of coordination. In the early design stages, the consultants may develop part of the design

for the lay client by involving the trade. There have to be means for continuing such involvement after novation.

Such risks for both lay client and consultants can be mitigated if the consultants take part in the process of selecting the contractor client and the form of building contract he will execute with the lay client. The novated appointment only covers the design aspects of the contract between consultants and lay and builder clients; a separate contract between the two clients is necessary to set out each other's obligations and rights for design and construction. If the consultants take part in the selection process, they have the opportunity to explore the bidders' attitudes to quality, to see how they would approach development of the design and the many other matters of detail necessary to secure a painless novation, harmonious relationship and satisfactory construction stage.

Participation by the consultants in the right form of building contract is an important part in the process. If the JCT design and build form is chosen, the consultants will have the opportunity to control the tendering process. There is provision for each bidder to state how he would develop the skeleton design (the employer's requirements) and for the consultants to comment on his proposals (the Contractor's Proposals). If this process can be completed before the point of novation, the risks to both lay client and consultant will benefit. The client will have the benefit of independent up-to-date advice on the quality he may expect; the consultants will know the level of input, on a known quality basis, that they may expect to provide to the contractor client. Appropriate provision for all of the above should be included in the appointment.

Immediately before the point of novation the consultants should confirm with the lay client that they have completed all services for him in the pre-novation stages. This is best clarified by asking him to 'sign-off' all documents, e.g. sketch drawings and outline specifications. Although the principal intention of novation is that all responsibility passes to the contractor, it is as well to check that the whole of the advice provided by the consultants to the lay client is intended to pass to the contractor client. At the same time, the architect as lead consultant should confirm with the contractor client about to be novated that he is happy that the information the lay client has just 'signed-off' complies with the pre-novation services and the building contract.

After the point of novation, the consultants must ensure that they have no further communication with the lay client (who is no longer their client) on matters concerning the project. Some clients find difficulty in coming to terms with this and expect the consultants to provide some inspection duties. There is potential for conflict of interest, which Chinese walls cannot satisfactorily overcome.

(Chinese wall – a device which theoretically prevents communication between the two parts of a practice acting for the different parties, and thus prevents any conflict of interest.) Such services may breach the consultants' professional indemnity insurance cover. The consultants are now, subject to any protection the appointment provides, entirely in the hands of their new client.

How do the RIBA published forms meet these criteria?

Although echoes of an appointment will be found in the forms reviewed above, none of them is suitable on its own as a basis for a novated appointment. The guidance notes attached to DB1/99 and DB2/99 suggest that SFA/99 with these amending documents might form its own part of separate appointments for the purposes of drafting the pre and post novation services. I believe this to be misguided. The fundamental risk control needed in novation is that there should be a single appointment embracing the whole of the services to be provided. RIBA do not suggest any model clauses for the amending conditions to SFA/99, and DB1/99 and DB2/99 which would be necessary for a novated appointment. They have left this for the separate legal advice that DB1/99 recommends should be obtained by the practitioner.

Other institutes' forms for non-traditional procurement

ACE have correspondingly issued Agreement C which does not contain the flexibility of the RIBA forms to respond to all of the principal arrangements. Considerable alteration may be necessary.

12 Setting Up the Project

(RIBA Work Stages A–B)

The team

The team is the human resource which will perform the services required by the appointment. For the small practice, it could be one man. In a larger practice, a substantial commission will call for a large team with specialised roles. Whatever the scale or size, whether the team is one or fifty, the tasks to be performed and the risks to be undertaken will be similar. Following precedent, my model will assume a multi-person team with different roles for different team members.

The purpose of a team, in its original sporting derivation, was a body of people whose aim was to win advantage over another team. Since then the term has extended to include almost any body of people assembled to perform a task. The principal forces remain: common purpose, a clear target and commitment to work in harmony to achieve the end defined. Although the team here is the human practice resource formed from within a practice to discharge a contractual duty and with the intention of making profit, there is also the wider team comprising consultants, specialists and contractor, without whom the client would not get his building. Risk lies not only within the practice team but also where duties are shared or arise from 'boundary' duties, as discussed in Chapter 4. All these aspects have to be considered when putting the team and its administrative umbrella together.

Members of any successful team must be disciplined and understand their roles. These qualities never arise accidentally; there must be leadership and management. An unhappy team without a clear sense of direction poses substantial risk.

There are strategies to be put into place before the team can be assembled. Unless clear thought is given to each of these components, risk will be increased. Attention to these matters will pay handsome risk dividends.

Preparing the ground

The team is not normally assembled until the appointment is confirmed, unless there is some preliminary exploratory work carried

out with or without expectation of payment. Before the appointment is accepted and the team formed, the prudent practice will have satisfied itself that it has the resources to do the job. Then the time has come to start the machinery.

Although this text generally assumes a design based commission, the processes of mobilising resources will be similar for any services provided by any of the professions.

The brief

The appointment, of course, has to be the starting point for defining what has to be done in discharging the commission. However, it would be wise for the practice to develop the appointment a little further before assembling and briefing the team. While the majority of appointments will describe the services to be performed (e.g. full or partial design, contract administration), they will not say much about how the services are to be performed, or anything about the design or quality. The client's brief addresses these questions. Although the client's brief is usually the property of the wider team (and, of course, particularly the client himself), the individual consultant will probably want to develop it for his own needs in briefing his team about how his practice intends to carry out the commission. The brief is the key briefing document for the team. A typical brief includes:

- The practice's statement of the design quality expected
- Any initial sketch design by the practice to show how it would approach the scheme
- The cost plan with an outline specification
- The procurement route intended
- Any client special requirements which the appointment may not have covered
- Elements to be designed by the industry, or otherwise part designed by the practice
- Coordination intentions (either as coordinating or coordinated profession)
- Outline programme.

Hierarchy: managing and structuring the team (Fig. 12.1)

However the practice hierarchy is structured, one of the most important and often overlooked features is that each member of the team must understand his role and know to whom he answers and who answers to him. Lack of attention to this is often only realised when a claim arises and no one is very sure about who

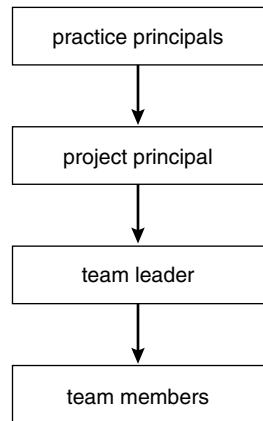


Fig. 12.1 Team hierarchy (see also Fig. 7.1)

should or should not have actioned something or been responsible for it. There is a chain of responsibilities to establish all the way through the team and in large projects, several layers of command. The pivotal relationship to get right is between the team leader and project principal. The principal will have negotiated the appointment and set quality standards. Naturally he should retain authority and responsibility to his fellow principals for seeing the project through. He will have built up a relationship with the client who may expect him personally to take responsibility for delivering. However, unless the project is very small, he cannot be privy to every detail of the developing project. He and the appointed team leader must come to a consensus about how they are to divide their roles. Whether, for example, it is good or bad management for the principal to remain the only point of contact between client and practice is not the issue; the importance is in the definition and then maintaining what was defined. Exactly the same principle applies to all the team communications, but the principal/team leader relationship above will set the example to be followed throughout the team.

In the happiest relationships between principal and project leader, both will work together in developing how the team is to be put together, maximising each other's complementary skills and putting together the administration umbrella necessary for team support – secretarial support, filing systems, team work spaces. The practice's philosophy and policy will normally influence how all projects are staffed, e.g. either the traditional pattern where the same staff design, develop details and administer contracts, or roles are specialised – design separated from production, production from site inspection. The structure of individual teams will mirror such

policies. If there is no specific practice policy, what is right for the individual project must be defined

Team relationships

In putting the team together, it is important to establish not just the hierarchy but the more subtle aspects of team bonding. There are matters which defy the written word and are better left for the subjective feel for human chemistry. However:

- Consider how the enthusiasms of the younger members of the team can be harnessed without destroying initiative.
- Harness the enthusiasm of youth to the wisdom of elders.
- Decide firmly between anarchy and the encouragement of initiative. Try to understand what each member hopes to get out of his involvement.
- Try to understand and allay what may be irrational fears by some team members.
- Some members of a new team may harbour resentment. You need to be aware of the undercurrents, even if you are powerless to remove them.
- Encourage constructive criticism.
- Keep the team informed, within the bounds of commercial discretion, about the political issues which will shape the scheme.
- The younger members of a team, straight from school, like a child to whom fear is unknown, will have little idea of where risk comes from. Inform them.

These are some of the 'team bonding' activities which will make for a coherent, responsive and responsible team. A happy, well motivated, well managed team demonstrates good risk management. These are all parts of management of human resources. They cannot all be satisfied but should be faced.

I have introduced this comment into behavioural management of team relationships only to attempt to illuminate an area, often overlooked, which is difficult to write into procedures, but is nevertheless an important aspect of risk management.

Inter-office working

Practices have many reasons for needing staff to work at locations remote from 'head office'. Satellite offices exist as branch or site offices, or are simply a number of offices of equal status – part of a federal system. There is no particular risk message here; practices

organise their topography for their own good reasons. However, the management structures do need careful thought, so that both the remotely located team and the 'parent' office enjoy a consistent and well understood procedural base and lines of authority. Wherever teams are located, they should, where possible, have the same levels of support and facilities with clear line structures. Such facilities are more difficult to arrange when the accommodation is temporary and on some uncongenial building site. Morale falls, and risk increases.

Where office accommodation is shared with others (e.g. the whole consultant team on one building site), there is the particular problem of maintaining privacy. Casual conversations which would be innocuous in the normal office environment can be extremely dangerous and compromising when staff are rubbing shoulders with consultants, specialists, the contractor, and even on occasion, the client. An even more risk dangerous example occurs when the client (or sometimes it is a team decision) decides that there is advantage in the wider team sharing both the office and communications systems. Practices should not really permit such things as common filing systems, common CAD systems for drawings production, and so on. The idea that only good can come out of one big happy team is splendid until the individual contracting parties fall out, by which time it is too late to safeguard privacy, access and security of sensitive documents. If such bonding is to be inevitable, the parties should consider forming a consortium or joint venture limited company, where any liability is corporate and falls to a single body, rather than to the separate participating practices.

Tidiness

Readers may consider this trivial and paranoiac, but I have an obsession about loose paper. Obviously, there must always be some loose paper, but the chances of losing it, mislaying it or mis-filing it are all potential risks until the document is securely in its own file, where it can be located. Team leaders should regularly lean on the worst offenders. Paper is either to be filed, sent to someone else, or binned.

Communications within the team and outside

Thought has to be given at this stage to how the team communicates within itself and to the considerable number of other parties whom even the smallest team will need to contact. During the course of a

project, communication within the team is less of a risk problem than communicating with others, and particularly where the team is small. Reference was made in Chapter 7 to the need for authority between principal and team leader to be defined. This is equally true for the whole team. Members need to understand who to turn to for decisions, and the level of decisions for which they will take responsibility themselves.

Communicating outside the team may be a little more complex. Staff are ambassadors for the practice whenever they lift a telephone, write a letter or attend a meeting. In seeking the image it wants, the practice should consider the level of communication necessary to support this image; whether it should limit classes of information which may be divulged by whom. This can be an important issue if the project is at all sensitive and the client has restricted the release of certain information. If approaches by the press are likely, a principal should establish some ground rules about what, if anything, might be safely divulged. The style of some practices can be so laid back that anyone is allowed to say anything to anyone. There are risk dangers for such practices. The practice may see this as a democracy to be encouraged. It is foolhardy. All staff need to be cautious of untoward and untypical approaches, particularly if trouble is fermenting.

Channels of communication have to be set up with client, consultants and others. On large schemes, there may be different levels of communication with different contacts. The team need to be sure who will have authority (on both sides) to communicate at these levels.

Cost and profitability

Cost will be a recurring theme all the way through the project. It will be an unusual team which can boast that it has maintained the original cost targets throughout the project. Although financial success or otherwise is often inevitable from the moment the appointment is finalised, profit expectations still have to be faced realistically and the means of attempting to attain them laid down. Here we must return to the important project principal/team leader axis (Fig. 12.1). While one of the practice principals will have negotiated a level of remuneration, which he and his fellow principals hope will be sufficient to perform the services he has promised and produce some profit, he will also have taken into consideration what the market will stand. He will not start to feel reasonably confident that expectations will be realised until the team structure and size start to emerge. The appointed project principal and team leader now have to consider carefully where they intend responsibility for budgeting to lie. Although the practice

principal may well have sealed the chances of profit in broad terms when he did the deal, someone has now to set the performance reasonably to be expected of the project team and be responsible for controlling it. Is this to be imposed, or reached by mutual agreement with the team leader? There should be no fudging. And, if the team leader is to be involved in setting performance targets, is he to have full responsibility for delivering? Resolution of such questions between project principal and team leader will substantially influence team response as well as avoiding divided responsibility. During this process there will be some toing and froing in structuring the team; what is ideal is usually not affordable and the dream team is never available.

The team programme

Having completed, or part completed, the above cyclical process, the way is clear to develop the programme. The usual first step is to take the fee, deduct the target profit and divide the remainder by the average staff hourly cost including overheads. The number of affordable hours results. These can initially be distributed along a simple bar chart showing beginning and end dates. The chart then develops by dividing the staff into their role categories – even attaching names – and allocating these resources in Work Stages.

The programming process is finalised by making provision for regular review, reporting to the principals and discussing the corrective action to be taken if it goes off course.

You may well be wondering where the risk is in what might be thought to be a matter of accountancy. Risk lies uncomfortably in a team that has to work under the cloud of poor budgetary control. Pressure, ill feeling and mistakes are all much more likely to occur. A team is much more likely to respond better if it knows at the outset that, realistically, little profit is expected, rather than having to work to some unachievable target. Unless work is budgeted carefully within Work Stages, there is the possibility that the fee will run out before the service has been performed. That will put pressure on the luckless tail-end staff to cut corners.

Documented procedures

It is not my intention to describe in great detail why practices should write down the more important aspects of practice as working procedures, or which aspects of practice should be covered. There can be few practices now which do not have documented procedures and I have tried to make clear throughout this book the areas

where good risk management needs to be supported by a written procedure. In the end, however, only the practice itself can say which aspects of working methods are to remain informal and which are to be written down.

The subject is introduced here because management should ensure that the new team is briefed on the procedures available, those which must be implemented and those which are advisory.

The project plan

For all but the smallest projects, the team can anticipate the accumulation of considerable quantities of paper. Much of this will be classified and filed within the practice's filing system, where it will be secure and traceable. However, there is another category which might be called guidance or briefing for the team. The brief, definition of team roles and programme mentioned above are examples. This category, although having a place in the filing system, really needs also to be available as desk reference. It needs to be collected together securely and updated as the project proceeds.

Certification to BS EN ISO 9001 virtually demands that a project quality plan be maintained for every project. It is the practice's statement that the project has been properly planned, logically and in the right sequence. It incorporates management's good practice policies as they relate to sound project management practice. It is structured, managed and assembled so that it is always up to date and, in its diarised section, it shows what Work Stage progress has reached. While practices that are not certificated do not need to incorporate all the bureaucracy which goes with compliance with the ISO, there is much to commend the principle of the project quality plan, usually known as the project plan. (Some firms call them job handbooks; the title chosen is not critical.) There is no doubt that setting up a project plan for every project, however small, is good risk management. A well produced and actioned project plan can be used to deflect allegations that the firm did not act with reasonable skill and care. (The reverse is, of course, equally true; a poor project plan may indicate that the firm *did* lack reasonable skill and care). Another advantage is that in a large scheme, with constantly changing staff, the project plan is a simple and sure means of briefing new staff.

Content can be as short or long as is appropriate to the size and complexity of the scheme. The following is a glimpse of the typical content:

- Summary of the appointment giving the services to be performed or part performed (e.g. where the industry or subconsultants

complete design). Any unusual conditions which affect the way the project is to be executed. The more open practices might also include the remuneration basis.

- The brief.
- The programme, developed in the detail required by the team, e.g. staff, work stages, target against progress, cost.
- A list of the practice's written procedures to be used by the team as modified by any changes authorised to implement the project.
- Team members and their roles. The wider team, e.g. client, consultants, other thirdparties, addresses, phone, fax, e-mail numbers.
- Job administration. Document control, distribution, who signs letters, filing, drawing numbering and issue.
- Communications outside the team, e.g. meetings with client, consultants.
- Design review: structure, intention, frequency.
- Diarised section: a task list of important activities grouped under Work Stages structured to allow stages to be 'signed off', or where appropriate to be carried over to another Work Stage.

A team member should be given responsibility for maintaining the project plan; aspects will always be changing. A major review point will be around RIBA Stage H where design based activities will be replaced by contract administration activities.

Audit

The background to audit

BS EN ISO 9000 requires audit for a very good reason (see also Chapter 5). The earlier adoption of quality systems had shown that although the systems themselves may have been adequate, consistency in application was less successful. Some practitioners will have found that despite the existence of comprehensive procedures, getting staff to use them is another matter. Moreover, the chances are that at any time many procedures are not up to date. Over time, the system falls into disuse – all in all, the waste of a valuable investment. Firms do not produce risk management procedures just for the fun of it; if team members are not using the procedures, there is a risk danger. The audit required by the ISO assures the certification body (and therefore clients) that the organisation has procedures which conform to the requirements of the ISO, that these procedures are up to date, and that they are being used.

The members of the Wren Insurance Association (see Chapter 6)

wanted the managers to audit them so that they could all feel assured that each member was practising as safely as possible. Unlike insuring through the market, the member has a real interest in knowing that his fellow members practise as safely as he does. Although Wren members are not required to maintain written procedures in any given level of detail, they are required to practise with due regard to risk guidelines; so although there is more flexibility and less bureaucracy, there are distinct similarities between ISO certification and the Wren risk management system. The members are audited for conformance to the guidelines.

There is another difference between ISO and Wren audit. The ISO requires internal audit, i.e. that the practice effectively self audits. There is no requirement for audit by an external body, although that is an academic point because no certification body will approve an organisation unless it audits. Wren, on the other hand, do not demand internal audit, nor is the purpose of their audit to assure a third party of conformance to any standard.

Readers who are not certificated to ISO 9000 and who are not Wren members might be wondering if any of the above is relevant to their practice. I have introduced the comparison because there are features of both ISO and Wren audit which might help in the establishment of an effective risk management programme. The ISO and the certification bodies have established a practical method of auditing, but it has to satisfy the bureaucracy the ISO demands. Wren, on the other hand, have established a less formal form of auditing which concentrates on the risk areas of practice. Given that readers will accept the principle that some form of audit would be helpful in achieving the necessary application, it seemed to me that a model somewhere between the audit regimes of the ISO and Wren might be helpful to practices generally.

Some readers may feel that their practices already have the necessary dedication to write, update and apply risk management procedures, or that audit is too expensive, is a diversion from the real work of the practice and is too intrusive. This is entirely a matter for the practice's judgement and those who do not need the support of audit will not find this section relevant to their risk needs. However, I believe that a sensible level of procedural material with the flexibility of sensible application, reinforced by sensitive audit, can help any practice's risk management armoury considerably.

A model for auditing risk

Before audit can be considered there has to be a system to audit. In its simplest form this comprises:

- A structure for managing the system. This is normally headed by a person with authority and a direct line to the principal who has overall responsibility for risk management.
- The firm's risk management procedures, defining which are advisory and which mandatory.
- The means of making the procedures available to those who will use them.
- The means of updating them; discarding old material, substituting new, and a means of ensuring that users are aware of changes.
- Using the procedures appropriate to the project.

When the above are in place there is something to audit. Audit consists essentially of spot checks on the management processes (above) and on the operations most sensitive to risk. Most of the audits in a practice concentrate on project teams because performing the services generates much of the risk a practice faces. Only experience will tell where the priorities for audit will lie. Risk may lie in the operation being performed, or in the quality of the staff involved.

Audit should not be carried out by a person closely involved in the operation, which means not normally by a member of the same team.

The qualities of an auditor

An auditor need have no particular training or qualification, but attitude helps enormously. The good auditor needs to be detached from the operation. He should not be confrontational; his function is principally to observe whether the operation conforms to the relevant procedure and to report to management. However, I have found in practice that the auditors who are respected are those able to give advice. There is sometimes a delicate line between the detachment theoretically necessary and becoming over involved in the operation being audited. There may be some similarity here between a counsellor and an auditor. A good counsellor helps by holding a mirror to his client's mind; he does not dictate solutions. Auditors need not be qualified professionals in the activity they are auditing; they need to know only sufficient to understand the procedure and the operation being audited. Sometimes too much knowledge can get in the way of objectivity; the auditor professionally qualified in the discipline he is auditing may be encouraged to intrude into the professional judgement of the interviewee.

The depth of audit

That last point introduces a line which the practice may decide the auditor should or should not cross. ISO audit demands asking only whether the operation being audited does or does not comply with a procedure. The quality of the operation itself is never questioned by the certification body auditor; correspondingly, the ISO does not demand that operational quality is to be questioned by the practice's auditor. It follows that an auditor's professional background need not be the same as the operation being audited. Wren, on the other hand, employ auditors who are professionally qualified to understand a member's risk activities and to comment on their risk implications.

Let us take an example. The processes of negotiating and finalising an appointment can, and frequently are, the subject of a written procedure. Within the procedure might be, say, the requirement that either the SFA/99 or ACE/99 menus of services have been used as a basis for the services to be provided. The ISO auditor would seek evidence only that the menus had been consulted. The Wren auditor might go further by asking whether the risks associated with a particular service had been assessed or that SFA/99 and ACE/99 adopted clauses had been harmonised. If risk exposure was substantial, the auditor would seek reassurance that management had been consulted and appropriate steps taken. Enquiry into whether insurance cover would be available might even arise. Readers do not have to be members of the Wren Insurance Association to appreciate that such detached and professional audit can yield substantial risk management returns.

Audit structure

As mentioned earlier, the basis of audit is spot checks. It is not economical for the practice, or fair to the interviewee, to suffer more than the occasional intrusion of audit. The audit management should draw up an annual or biennial master programme showing the frequency of audit and the areas of practice to be audited. Within this outline intention, actual audits on identified parts of the practice can be written in at, say, quarterly intervals. At these points the interviewees, usually project teams, will be informed, dates agreed and the areas of audit stated. Immediately before the audit, the auditor will agree with the team leader the members he wishes to interview.

Individual interviews based on given procedures will last no more than 45 minutes. At the end of an audit, the auditor will discuss his findings with the team leader and perhaps the whole of the

team. Any serious or chronic failures will result in revisits. Auditors will present regular reports to management from which any high level action to correct recurring failure can be made. Thus good audit and its routines can be a valuable means of informing a practice of its risk health.

13 Managing the project

(All Work Stages, but mainly B–J)

Introduction

The appointment is secured. The resources are programmed. The team – including the other consultants – are assembled and waiting to start. All that is left is to do the job, have a satisfied client and make a little profit. There will be no claims.

If only life were that simple...

In fact, in the risk context, the easier part of the process lies behind you. Certainly, many of the risk factors beyond your control are now established. The nature of the client and fellow team members is not, broadly, within your gift to alter. You will have done your best to secure an appointment which is just, harmonised and a model of clarity, but you will have had to compromise along the way. The phase which has just been completed has not involved much people management compared with what is about to start. Now you have to turn to the events and the processes whose risks in relative terms will be within your control. They will be substantially shaped by the nature of your practice. You must turn to producing the services and must face the risks which will arise. You are about to test the risk effectiveness of how you manage the production phases of your practice. These will involve an astonishing range of diverse, sometimes mundane, sometimes highly creative activities – which can range from changing light bulbs to environmental challenges, from navigating employment legislation to writing the specification for the structural glazing.

According to insurance research, failures in management are responsible for more claims than any other event in practice life, including design-related failures. It was not your professional skill which deserted you; you simply forgot to do something or you did it in the wrong sequence. This chapter looks at the areas of managing production typically likely to produce such risks. It does not aim to cover all aspects of running the job; there are many sound publications on managing the process.

Many of the aspects of job running can arise at any stage while undertaking the services. However, you will find that most have to be at least considered at inception, even if some of the activities will

not arise until later. I have addressed some aspects in detail in this chapter but I have left aspects of some of the more specialised Work Stages until later, in particular the changes in management required at the end of design and the start of construction.

Paperwork

Managing a project means coordinating many activities by many people, people who will not be members of your own practice. Even where you are not the team coordinator, your systems have to be coordinated. Unless you plan carefully, in the detail the project requires, you face the results of carelessness: of not being able to locate documents which may be important to your defence. I have earlier commended the project plan, backed by written procedures, as one of the means of keeping the whole thing together. It might be timely here to emphasise that only the level of detail you feel comfortable with should be attempted. It will have been clear from earlier comments that in my opinion the larger the practice or the larger the commission, the greater the need for written material. However, each practice has to come to its own decision on the extent of the written procedures the project needs.

The management of change

What is change?

Change is easy to define in isolation: it is something different from what existed before. That definition will not get us very far in a discussion about the risk effects of change in professional services. In the design world, change can be difficult to recognise. On some projects, the appointment and brief are so clear at inception that by definition anything that alters constitutes change. However, such clarity at such an early stage is rare. In any event, having recognised change, how do we recognise which change is important and which is unimportant? It is likely that, however clear the brief, the team will have to accommodate change well into the design stages and the non-designers will feel the ripples. There are two fundamental problems which hinder definition. One is the difficulty of distinguishing between design development and change; the other is that one discipline's development is another profession's change. This latter difficulty will concern particularly the lead professional; in coordinating input of the whole team, he must be vigilant to capture what might be trivial to him but crucial to the other professions. However difficult these thresholds are, attempts must be made to

recognise them. There are different types of thresholds. Obviously for this book, the threshold concerning the risk of being claimed against is pre-eminent. Another threshold may exist for commercial aspects where change affects team profitability and the financial basis of the appointment but not the integrity of the design. Often the two are linked.

Why is change important to risk management?

It is fundamental to contracting parties that they understand their rights and obligations; in other words, clarity in the appointment is essential. In the provision of design-related services, put at its simplest, the consultant's rights are to receive payment and his obligations to provide services. Within his payment is a component to cover risk (the component may not be identifiable, but it is definitely there or the practice might not survive). So the question arises: what risk? That question cannot be answered, or risk assessed, without knowing what the service is. If the service changes, so does the risk. A practice may decide that it can ride the commercial aspects of change, but in risk terms it may not be able to afford to be so sanguine.

So that, put simply, is the effect of change directly on the appointment: a change in risk. There are other effects less direct but just as important. The consultant has an explicit duty (probably implicit also) under the usual terms of engagement to report change to the client. Many appointments will not permit change to be made without the client's prior agreement. Change may occur during development of the scheme, and if not monitored it can result in the client getting something different from what he had been promised, possibly affecting quality, cost, time or all three. In Chapter 4 I mentioned the *Gable v. Halpern* case, when the client did not get the floor areas he had been promised. Claims gossip is littered with stories of consultants who had not recognised that change had occurred, or if they had, hoped that the problem would go away if they ignored it. It did not go away, of course. Could the consequences, always painful, have been avoided with the help of hindsight? Not hindsight – change management.

Can change be managed?

I have shown above that change is important to risk. All practices should have some means of managing it, but before it can be managed it has to be recognised, then placed in one or more categories.

As mentioned earlier, one cannot start to come to terms with change until one establishes what the service has changed from. It is

easy to recognise change when the appointment is based on comprehensive services and brief. It is less easy when the designers are having to make it up, and an unfriendly contractor is waiting for the drawings.

Part of the solution to this problem lies in the content of the appointment. I mentioned in Chapter 8 that if uncertainty is likely in the executed appointment, assumptions should be made. Important examples were the extent of site inspection and the method of procurement, where a base for change had been established. However, these are simple examples. The real problems will lie somewhere in the development of the design (and even into the construction period), when the team recognise that they have been toiling over the alternatives to a design solution and still cannot achieve a resolution. Has the time come to call a halt and inform the client that a reasonable number of alternatives have been submitted, the design programme is in danger, and there are consequences for him if speedy resolution is not forthcoming? A different kind of example occurs when the design team itself is responsible for change; when a solution thought possible at an earlier stage proves impossible as the disciplines develop the details. This is the situation the client hopes to flush out by insisting in the appointment that change must be reported before it is too late.

All of the above is routine to experienced teams. They have seen it all before and have coped – somehow. But coping ‘somehow’ is not good risk management. It is crisis management. There need to be thresholds: no change (which includes the design development stage) lies on the left, change lies on the right. There needs to be a means of recognising the threshold (which may be several thresholds for different members of the design team). There is one threshold for the architect who has to complete the design details by a given date, but a later threshold for the services engineer where the design subcontractor does not need the information until later. One solution which has proved effective is that all the professions (including QS) ‘freeze’ their services and the brief at a certain point, formally presenting the client with the supporting documents and getting his formal agreement. He even ‘signs off’ the drawings himself. Particularly in large, complex, fast moving schemes with uncertain procurement routes, such an arrangement allows change to be recognised early enough:

- To enable the change to be weighted. How important is it? To whom is it important? The home team? The client? Another consultant? The contractor? The specialist designer? Does it satisfy construction legislation?
- To enable the change to be categorised into responsibility: what

or who caused the change? The client? One of the consultants? A specialist designer? The contractor? Force majeure? Unexpectedly soft ground, heavy rain ... and many other ingeniously invented events to remove blame from the design team?

- To enable the likely effects of the change to be assessed under quality, cost or time.
- To enable the cause of, or reason for, the change, to be identified.
- To enable the course of the change to be logged, from its origin to its conclusion. Much change can be absorbed satisfactorily by all parties. Some change is inevitable and its effects are left until later to resolve, such as a dissatisfied client to be negotiated with or a contract variation to be costed.
- To enable the change to be reported to the parties who need to know, at the necessary intervals, and to be reviewed, with a record of actions promised and undertaken.

It may be that much of the above is built into the normal reporting and meetings network. There may be an item for change on the agendas of the monthly internal meeting or meetings with the client or with all the consultants. Certainly, the regular QS cost plan updates will reflect changes in cost, but perhaps not the reasons or the effects on quality or time.

These typical mechanisms of project running may well be the answers to the whole problem, if scrupulous attention is given to recognising and recording change. But they are also very public. In protecting its risk position, the individual practice may prudently set up its own parallel tracking procedure. It may see the seeds of change much earlier than anyone else and it may have its strategic reasons for not divulging the change at that moment, or even ever. Or it may wish to track a particular event from source to conclusion in a way that will aid its defence if it is claimed against. Cause of the event which led to the change may not even lie within the practice, so here the tracking comprises the storing of evidence against another party.

Thus, I would commend to the practice the production of guidelines or procedure to help the team recognise the seeds of change, decide its importance, sift the evidence, decide whether or not the matter really is change, and then log it. The logging aspect must include the facility to locate the vital documents. A sketch pored over by all of the professions in seeking a coordinated solution, remembered vaguely as the reason for the change and vital to one's defence, is no use if it is not a part of the change history, has not been logged and cannot be located. The worst consequence may be when the vital sketch is in the hands of the person with whom you are in dispute.

Managing the drawings

Production of a design with the subsequent administration of a building contract, are the central activities of most design practices. They coexist with the contributions by the QS and possibly the project manager. Production of a design is the end-product of most appointments, where the other two professions (QS and PM) must necessarily play supporting roles. Unless either of these two professions takes some executive role in the management of design, it seems proper to devote most of this section to the risks the designer faces in delivering this, most substantial, element of his practice. In addition, the lead designer, usually the architect, plays the coordinational role. Thus, I think it right to start with design.

If we can see the design as a production line – in which the brief is passed from concept design to detailed design, to production, to tender, then to contract administration – we can see distinct similarities to any factory process. Designers may view this analogy as unrealistic, but I think it an accurate one for the purposes of discussing the management of design risk. After all, the design professions who are certificated have adapted (more or less) their processes successfully to BS EN ISO 9000, which was written as the standard for judging the competence of management of manufacturing processes. The major part of design is expressed on drawings.

Organising the drawings

Around the time the brief is being developed and some sketch design has started, attention must be given to organising the drawings process. There are some basic steps to take, even before the building procurement method has been established. (I discuss in Chapter 15 the effects of building procurement on drawings production.)

There are several good reasons for producing a list of drawings at this stage:

- The need to produce a list concentrates attention on the whole design process.
- A drawings list tests the office's classification system.
- A drawings list is an aid to programming the scheme, a good basis for allocating resources – which team members will contribute to which drawings. Estimates of time for producing each drawing can be used to check the profitability target.
- Attaching groups of drawings to the Work Stages establishes a

framework for production, coordination and cost planning for the QS.

- The list is a basis for structuring the drawings issue sheets.

All the professions should exchange their programmes annotated with their drawings lists. The detail produced is a good indication of the thoroughness with which each profession has planned its programme.

Authority to issue drawings

The purpose of any drawing, including sketches, should be fully understood by originator and receiver.

The practice should have a policy, both generally and for the individual scheme, on who may issue drawings of different statuses (e.g. sketch, production). Where there is a relaxed policy, i.e. it is left to the discretion of the drawing originator whether he should seek advice before issuing a drawing, the policy should still be made known. Great responsibility is borne by the authors of drawings and the younger or less experienced team members should be made aware of the reliance third parties can place on the drawings. Drawings should always be signed and dated before issue, whatever the reason for issue. Some practices attempt to transfer responsibility to the receiver of the drawings to verify that the sender has due authority, but this seems somewhat unrealistic.

Changes to drawings

Since drawings are the most likely sources of indicating change, how change is indicated on a drawing is most important. Most practices have now instituted a comprehensive drawing revision list on the drawing itself, showing precisely where on the drawing change has been made. The reasons for revision may be recorded less clearly. The contractor is entitled to be informed under what clause of the contract change instructions are issued. It is advisable that drawings revisions are linked to the logging system recommended above as part of the process of managing change. Most practices also have a system for adding a revision letter to the drawing number – for example prefixing with ‘A’ for design development to distinguish the drawing status from tender, contract or construction issue. A second letter shows the revision status. Thus the drawing’s development during design may be ‘AA’, ‘AB’, etc. We will return to this status pattern in Chapter 16, when tender, contract, and contract and construction issues are discussed.

The status of drawings

It is important that the status of a drawing at any given time be known to those who need to know. For large schemes, members of the practice team need to know whether or not a drawing is still being developed or has been finalised. It is imperative that all consultants are also aware of status. It is quite likely, for example, that at sketch plan stage or early in detailed design, the architect will agree zones with the services engineer for the services, and with the structural engineer for the structure. These may have to be provisional, or there may be good reason for them being fixed. There should be no doubt at any stage in the design of the intention of the drawing. While the intention of a sketch drawing, to indicate outline design, may be obvious, intention can be much less clear later, when apparently fully detailed and final drawings are being exchanged.

Formality in exchange

Some informality within the team is inevitable during the development stages of the drawings. It is entirely natural that members will put their heads together in deciding details. However, the larger the team, the greater the need for formality, i.e. it might be safer for a drawing to be accompanied by a memo when handed from one member of the team to another. Another memo will accompany the drawing on its return stating the action taken. This may seem over bureaucratic, but can be sound drawings management in some circumstances. Where the practice is multiprofessional, such formality is almost essential to ensure that as far as possible members do not undertake responsibilities beyond their profession discipline.

Where drawings are issued outside the office, formality is also essential. Each practice should have the means of logging drawings both issued and received. This brings us to the subject of drawings issue sheets.

Drawings issue sheets

The purpose of drawings issue sheets is to record drawing number, status, destination, number issued and date of issue. The format of such sheets, first developed through the RIBA Architect's Job Book, is now almost universally adopted. Clearly, every drawing issue (including sketches) should be accompanied by a drawing issue sheet. Copies of sheets should be filed and archived carefully. They can be valuable evidence of the history of a drawing and its distribution – vital information in making or defending a claim. Designers have been known to exchange drawn information (particularly by fax or e-mail) which is not under the cover of a sheet.

Such informality is to be discouraged. Some practices request confirmation of receipt from the receiver. Chasing up receipts can be tiresome, but worth the trouble in some circumstances.

It is equally important that the practice insists that drawings issue sheets accompany drawings received. Any organisation which designs should have such a system, including specialist industry designers.

The drawings and the specification

The drawings alone are invariably insufficient to express the designer's intentions. There is a practical limit to the amount of information which a drawing can accommodate. In any event it would be tedious to have to repeat common written information on several drawings. The separate document known as the specification has resulted. Some designers still add specification information to the drawing in addition to or instead of a separate specification. Except on the smallest projects, such practice is to be discouraged. While an organisation may be assiduous in following the guidance recommended above for the issue of its drawings and schedules, it should be equally assiduous in its issue of the developing specification material.

As one of the aids to avoid the need for writing specification notes on drawings, the adoption of Common Arrangement (CA) and National Building Specification (NBS) (architects and structural/civil engineers), and National Engineering Specification (NES) (for services engineers) should be considered. CA is a common classification system developed jointly by RICS, the design institutes and the contractors. It enables drawings, specification and bill of quantities to be structured in a common format with linked coded cross-references. Adoption of CA is good risk management.

Incorporation of industry design into design management

If designers intend any of the design under their discipline to be carried out by specialists, they will appreciate that incorporation of such design could have a profound effect on planning the design programme. It is recommended that the section 'Industry design' in Chapter 15 be studied before completing the planning.

Can the design process be managed?

The design process is probably the most difficult area of all on which to give any guidance. Design is subjective, individual, sometimes

defies logic and is a creative process. Does it defy risk management? Is professional judgement in the end the only risk criterion? Does the designer escape to the drawing board (or the CAD screen) as the last hiding place from the stifling effects of controls, paper, 'big brother'? Does he defy attempts by management to persuade him that risk management is not irrational, inhibiting, bureaucratic or even boring? These are all questions which have been raised from time to time to attempt to show that risk management of the design process is not feasible. So why should a book on risk enter this territory? I believe that there are several good reasons:

- Those who are sceptical that commentary on risk can say anything useful about design should always remember that emphasis is on the *recognition* of risk, rather than its *elimination*. A practice which recognises the risks that might arise from its particular design philosophy and then tries to evaluate those risks, has made an important step in managing its risks.
- A successful claimant has to prove that the defendant failed to exercise reasonable skill and care. There is no absolute test. The defendant will be judged on the standards of his profession. No professional can be successfully sued merely on the evidence that he designed innovatively, or that his design failed. But the designer in trouble will expect to have to demonstrate that he had taken reasonable steps to design prudently, however extreme the design which failed. Risk management can provide him with some of the tools.
- However extreme a design solution, no designer should knowingly place his client in peril without consulting him first. The problem then becomes a shared problem. Good design management prompts him to consult the client.
- Any practice which intends to stay in business must make provision for the risks of innovative design. These may include special training, special facilities (e.g. sources of expertise, research, processes and materials), the necessity to build and test prototypes, and clients who can understand and are willing to pay for these facilities.
- However extreme a design solution, it is still part of the production process which this chapter underlines. One design stage develops from an earlier stage, then moves on to the next. This is a process which lends itself to being managed, as does any manufacturing process. There are always the means of verifying the completion of one part of the process before moving on to the next. As we shall see below, there are checks which can be applied to the most state-of-the-art solutions.
- Knowing who to blame may seem a somewhat cynical reason for

successfully deflecting accusations of design deficiency, but unfortunately it is valid. We shall see in Chapter 15 the importance of planning and executing excursions into industry design. The prudent designer may have nothing to fear if he can demonstrate that he has properly and reasonably transferred responsibility to others.

- While the concept stages of design may be less amenable to risk management techniques, their technical resolution can be verified using objective methods, e.g. their submission to technical review.

Getting risk management into the design process

Design review

Design review tests the validity of the developing design by submitting it to your peers. Unfortunately, this seems to be unpopular in many practices. Opponents will say that it is an unwarranted interruption to the team, that there is never a right time (too early and the design is insufficiently developed, too late and changes cannot be made), that it requires preparation and that comment is always destructive.

What such critics probably mean is that they find it painful to have to subject their work to possible criticism by their colleagues. This is not a good reason for resisting design review. Much good feedback can result from a well planned review. The following points should be considered in order to get the best out of a design review:

- What is the purpose of the design review? To test design concept? To test house style? To confirm that it satisfies the brief? To test an aspect of innovation? To test the technical competence of the design? There are probably other reasons also.
- Who is to attend? The team? Selected members of the practice, respected for their opinions? Other consultant designers? The client?
- Prepare for the review. Put the drawings on the conference room notice board ahead of the review. Circulate any relevant papers ahead of the review. Inform reviewers of the purpose of the review and what is expected of them. Give them sufficient notice.
- Conduct the review formally, ensuring that you get the range of feedback you wanted. Take and circulate proper notes with actions.

A properly planned and conducted review will always repay the trouble. Feedback from others who are detached and may have had no previous knowledge of the project, will always turn up something of risk significance.

Verifying the drawings

We have already looked at the importance of establishing status (the intention of the drawing) and how its issue is authorised. We have not yet looked at the ways in which the integrity of a drawing can be assured. Clearly, the ultimate assurance must be that the drawing has met the requirements of the brief. Some practices have developed checklists of the aspects they have found to be important. This does seem to be a commendable discipline. The following aspects might be included:

- Coordination of the set of drawings, e.g. different scales, plans, elevations, sections
- Coordination with fellow consultants' drawings
- Dimensional coordination
- Harmonisation with the specification
- Verification that the drawings comply with the more explicit aspects of the brief: for the architect, net and gross floor areas, particular finishings or fittings; for the services engineer, that particular climate controls have been provided; for the structural engineer, that specified floor loadings have been met.

The above are procedures which can be built into any team routine. However, we are still left with the drawing producer's personal responsibility for the integrity of what he draws, and his own methods for verifying. This is more difficult for architects than for engineers whose design criteria are more objective. Whatever the drawing producer's philosophy, it should be discussed with the design team leader, who can judge the extent of independent checks to drawings which may be necessary.

The practice may well have standard procedures for checking drawings, perhaps based on the kind of checklists I mentioned earlier. Perhaps the practice goes further and separates checking into design and technical performance. These are all sound procedures, are good risk management and are not to be discouraged. However, independent drawing checking is known to be controversial. Many practices find it difficult and some do not believe that it adds value. I would respect such opinions; to me, the most important aspect of verification is the approach of the drawing producer.

Importance of the specification

The specification must be developed alongside the design. Its preparation often lags too far behind the drawn information and

can hold up the QS who cannot complete his measurement without specification detail. Adoption of CA, NBS and NES for the services installations, mentioned earlier in this chapter, assists greatly in the methodical development of drawings and specification.

Specifying by performance

This might be a good point at which to consider the implications for elements specified prescriptively or by performance. Prescriptive specification tells the contractor exactly what is required in materials and workmanship. He cannot exercise discretion. Specification by performance allows the contractor a stated discretion. The device is common for industry designed work, where clearly, if the specialist is to design, he will normally expect to be given some freedom in the choice of materials and workmanship. The consultant designer must be clear about his reasons for deciding on performance specification. The client has a reasonable expectation that the designer will design and specify fully, unless he has agreed otherwise. The designer must then decide on the discretion he wishes to give the contractor, e.g. will the contractor be given a free hand, or is the designer to 'approve' what is proposed before it is built. These are subtleties, and often for minor elements which may escape the heavy hand of the right form of contract where design and construction responsibilities have been pigeon-holed.

Next, the designer has to find appropriate specification material. This is not always easy, particularly for more complex applications. The bulk of NBS is based on prescription, with relatively little content on performance. This may act as a warning to the designer that he is entering specialist territory beyond his competence to design, or the contractor's to build. If the designer intends to rely on 'trade' sourced specification material, he must consider carefully what reliance he can safely place on it, and its reliability as ammunition for his defence if he is claimed against. He must assess the value to the client of any warranty. He must archive carefully such material. There is also a message for the QS if he has undertaken to prepare full bills of quantities. Some performance specifications are so basic that a traditional bill of quantities cannot be prepared; other methods of getting the work tendered for and provision for valuing change have to be considered. And, of course, if a substantial part of the work is specified this way, the client must be informed that he will not have the benefit of full bills.

Computers

The use of computers in the management of any office is now so widespread that it has altered the nature of office life irrevocably. It is such a fast changing scene, with its own language and conventions, that comment in a risk context is very difficult. However, there is undoubtedly new risk which must be discussed, at least in principle.

Normal document applications

Substantial risk concern arises from the impermanence of computer generated communications compared with the relative permanence of paper. Too little is yet known about how to control security aspects. Whenever some apprehension about a security aspect arises, a solution is found, but the technology then moves on, producing another problem. Information once on a network is often not protected by passwords, or otherwise made secure. Like the fax in its early days, the computer makes it easy to bypass the well tried and trusted procedures for controlling the issuing and receiving of communications. With the introduction of e-mail, we are at the time of writing in a phase where the dross of the Web chat is in danger of being confused with more serious material. There are no obvious solutions, except vigilance and to attempt to impose order and security where they are necessary.

While the courts now cautiously accept some computer held material as evidence, it would seem prudent to continue to file and archive by paper all the material traditionally to be found in filing cabinets and plan chests. Practices which have decided to have all archive material scanned onto discs must be reasonably sure that it will not degrade and that the technology to read the material will be available over the archive period. However, the means of being able to find material is useful territory for computers. Properly chosen and used software for locating material badly needed to defend a claim, can be near miraculous in its ability to deliver.

Backing up daily, or more frequently, on disk or CD is now well established. Where to store the back-ups securely seems less certain for some practices. The boot of the principal's car may not be the ideal place!

The ephemeral nature of electronically generated communications

Exchange by paper has the advantage that the sender has the potential peace of mind that he will receive in return another piece of paper confirming agreement, over a signature. Exchange of the

same information electronically may not, and often cannot, give such assurance. There may always be the need to exchange some kinds of information by paper. Practices would be well advised to establish such categories as part of their risk management strategy.

Computer aided design (CAD)

The computer has also revolutionised the way in which design is carried out. There can be few designers now who lack the skills to produce the whole of the design on a CAD system. Are the days of the drawing board numbered? Practices must be confident that their staff training always keeps up with the march of technology. It does seem that the approach to assuring design integrity of the computer drawing is different from when using the set square.

There are potential risk dangers. Ensuring that the integrity of a drawing is not corrupted by other users is crucial to safety. Networking is common, where multiple authors can input to a common drawing from distant locations. Procedures for verifying drawings may have to be different.

Reference was made earlier to the dangers when the wider team shares office accommodation. It may be even more dangerous where the team shares a single computer-held model of the design. It still seems to be old fashioned best practice for all coordinational material exchanged by disk to be verified by parallel issue on paper, supported by the traditional drawing issue system. Some practices prudently issue disclaimers with electronically exchanged material, stipulating that only the parallel paper issue is to be relied on. There may be problems of 'ownership' where more than one practice shares computer held material.

Communicating generally

There are all sorts of ways of communicating within the team, and to parties outside the practice. Many have already been discussed. Here are a few others which come to mind, which might have some risk significance.

Telephone conversations

Some practices consider the telephone so important that staff are instructed to record conversations on special pads. In principle this is good risk management, but in practice difficult to sustain. It is often difficult to summarise the risk important parts of a long conversation, possibly ranging over several projects. Recall from file is correspondingly difficult.

Daybooks

Daybooks may be a better medium for producing the self discipline necessary to record the important day-to-day events. You carry the book with you everywhere and it becomes second nature to record such events. These will, of course, include telephone conversations. On the whole, I believe that the use of daybooks should be encouraged, even though they become filled with a whole range of ephemera, again difficult to categorise, file and recall. The practice needs also to consider who owns the daybook. It may need to be retrieved from a possibly disaffected former member of the practice.

Memoranda

Memoranda are another important source of feedback. The practice needs to consider the purposes served by memoranda, which almost demand a policy of their own. It seems part of the lifestyle of some practices that memos are written about anything and everything, and in other practices there are none at all. The broad intentions of memos seem to be informative, as reminders for action, or protective. All can be risk significant.

Meetings

Much could be written about meetings (see also the section on site meetings in Chapter 17). Like memos they can be frequent, covering many activities, or there may be very few. I comment here only on the risk relevant aspects. To divert a team member from his work to attend a meeting demands good reason. Therefore the reason for the meeting must be clear to the persons attending. Give plenty of notice. Either request items for discussion, or risk 'Any other business' becoming interminable and unstructured. Decide as chairman if you intend to be authoritative or merely the coordinator. Always take notes even when someone else produces the report. Compare your notes with the report and challenge it if necessary. If you are the writer of the report, you have the chance to record matters which could help your defence. Meetings can be political, where achieving a certain and not always obvious result is the reason for the meeting. Reports can be distorted to satisfy this end. Distribute copies judiciously.

Controlling paper distribution

Unless you have a sophisticated means of distributing information electronically, it is certain that the tide of paper on even a small project can cause despair. And even the latest software for a

paperless system cannot be used indiscriminately on every project. There is no real alternative to sitting down at the outset and deciding who is to see which communications. The democratic 'share all' philosophies adopted by some practices are an easy and not entirely successful option, with the danger that some members of the team will be overwhelmed by so much paper that they will bin the lot, unread. There may be no alternative other than the team leader having to read every incoming communication and deciding its distribution, and each outgoing communication before it is sent. Whether a communication is addressed to an individual or not, it should not bypass the senior who is to decide on distribution. I have found the practice that is adopted by some firms of having a principal see all communications in and out, to be an excellent piece of risk management. With experience one can usefully scan a considerable quantity of paper very quickly for the early risk warnings.

There are many excellent filing systems to choose from and when using them bear the following points in mind in the risk context:

- Ensure that material is filed as soon as possible. While it is loose on someone's already crowded desk there is risk danger, and of course, until it is filed it is not available for others to refer to.
- Having set up a filing system, review it regularly for topicality. The need for new titles and disposal of obsolescent titles will emerge over the history of the project. I discuss the need to segregate claims sensitive material in Chapter 18, but there are many other reasons to review topicality. For example, in the early stages of industry design, one file for the whole subject may be sufficient. Very soon, however, separate files for various elements will become necessary. It is better to have too many files than too few. Ensure always that material entering the system is marked with its file reference, and do not leave it to the project secretary to decide, unless its destination is very obvious.
- Do not allow files to bulge (see 'Archiving' below).
- The project plan is not a waste bin for material for which there is no obvious home in the system, or a place for duplication of material which is already filed.
- Pay particular attention to the need to be able to track change when setting up the system, and review regularly that it is working.

Archiving

Archiving tends to be the Cinderella of practice. It tends to happen as a last and desperate resort to clear the workspace, when the

occupant can no longer occupy it. Archiving is unpopular because it appears to take over ever increasing amounts of non-productive, costly space and a spell in the archive store is seen as the ultimate custodial sentence by those unfortunate enough to have to attempt to retrieve material.

Designers like to reinvent wheels, so reluctance to add to an archive where already used wheels are to be found is understandable. However, over recent years designers have found the advantages of a well organised archive to be of great benefit. The need for more economic design has forced the re-use of details, or the need by the practice to demonstrate expertise over a range of building types. But the principal reason for emphasising here the need for good archiving is of course risk: the need to be able to retrieve the vital document to defend yourself.

A good archiving system complements the needs of the project, by enabling the team to transfer paper and electronic communications to a place from which they can easily retrieve such information if they need to. To summarise the features of a good archive system:

- It is managed through dedicated personnel.
- It establishes key stages for review of archivable material, e.g. at the end of stages H and K, and the discipline to do it.
- It establishes guidelines for the archiving, and team staff to assemble material and pass responsibility for security from the team to the archiving management. Guidelines should include the responsibility for discarding material not to be archived.
- It establishes lists that have assimilated new material into material already archived, so that retrieval is painless.
- It organises storage for painless retrieval.
- It does not allow unauthorised personnel access to the archive. Authorised personnel only should book out retrieved material and book it in on return. Like library material, it should be released for stated periods and borrowers chased if it is not returned.
- It requires trade literature and the like which has been relied on for design purposes, to be available later in supporting a 'state-of-the-art' defence.
- It establishes guidelines to mark material to indicate likely archiving periods and shows which team members have discretion for marking review periods and discarding terminal material. Some material is ephemeral, has no risk significance and is archived 'just in case'. Other material has a high risk context, e.g. boundary design, where the practice might need the evidence that someone else made the vital decision. Such material must be stored for the maximum period judged sufficient under the limitation laws and precedents.

- It ensures that the medium of storage does not degrade over the period of archiving and that the means of retrieval, e.g. disk, film or microfiche readers, will continue to be available.

Information technology

Teams need the support of a sufficiently comprehensive information technology base for the size of practice and design range. It needs to be up to date. Technology, acceptable standards of practice, fashion, regulations, the law and precedent change constantly. However widely professionals read, they cannot be expected always to be au fait with the latest state of the art when they approach their latest commission.

Offices used to have libraries staffed by qualified and dedicated librarians who would become members of the team to the extent necessary to research likely information needs. They knew where to search among the vast range of sources, could sift and present it, and store it for future enquirers. They kept their shelves up to date and protected teams from the attentions of persistent and predatory industry salesmen.

It seems likely that such old fashioned habits will be replaced by increasingly powerful computerised systems. However, I hope that there will always be a place for the professionally qualified librarian, to provide the level of support the team needs in an increasing complexity of information and its sources.

14 Health and Safety: The Construction Design and Management Regulations

(Work Stage C)

Introduction

Building sites are exceptionally dangerous places. They have one of the worst reputations in industry for injury and death. The European Community therefore developed legally enforceable means of improving site safety. In the UK the result was the Statutory Instrument Health and Safety: The Construction (Design and Management) Regulations 1994 (CDM). These were published under provisions of the Health and Safety at Work etc. Act 1974. CDM came into force in 1995.

CDM affects every organisation involved in building activities. It places onerous responsibilities on all these parties and creates a new monitoring role to be exercised by a planning supervisor. CDM exempts some construction work, but this is untypical of the activities on which this book is based and so is not included here. Readers are referred to CDM and ACOP (see below) for further information on exempted work.

Failure to comply with CDM provisions is a criminal offence. While the sources and consequences of committing any criminal offence are beyond the scope of this book (and indeed would not be covered by a practice's indemnity insurance), the civil liabilities (claims alleging negligence) which might follow breaches of CDM are extensive and have probably widened exposure to risk.

It is not my intention to undertake a comprehensive review of the regulations. However, any attempt to understand the risk implications of CDM must start by studying the regulations themselves and the Approved Code of Practice: Managing construction for health and safety: Construction (Design And Management) Regulations 1994: Approved Code of Practice (ACOP), published by the Health and Safety Commission. Its importance may be emphasised by quoting its frontispiece:

‘This Code has been approved by the Health and Safety Commission and gives advice on how to comply with the law. This Code has a special legal status. If you are prosecuted for breach of health and safety law, and it is proved that you have not followed the relevant provisions of the Code, a court will find you at fault, unless you have complied with the law in some other way.’

In other words, for most practical purposes and certainly in looking at risk, the content of ACOP is as important as the regulations themselves. Indeed, as it repeats each regulation, it can serve as a single reference document.

Risks to design team of CDM

CDM affects the design team: designers (architect, engineers, specialist industry designers), the quantity surveyor, the project manager and the lead consultant. Their risks are discussed in the format used in previous chapters, in the context of individual practice risk and interacting risk between team members. Risk caused by the planning supervisor’s presence is included. His own risk is discussed separately because, under the way risk is dealt with by this book, he is not a member of the design team.

CDM implications for designer and lead consultant

General risks arising from the design processes

Design is a major contributor to the safety of persons working on building sites and/or carrying out building maintenance. Therefore, it is not surprising that CDM places great onus on the designer to consider the safety of construction site and building maintenance personnel. Whether there was some duty on the designer before CDM was never entirely understood. The convention was that although a designer would not knowingly set unsafe ‘traps’, he would not have safety in mind as an overt part of the design process. Neither would he concern himself in the safety aspects of contractors’ working methods. The convention in UK construction was (and still is) that consultant designers played no part in how the contractor produced what was drawn and specified, except for the civil engineer’s occasional involvement in the design of some temporary works. This detachment of consultants from construction activity is enshrined in their institutes’ standard agreements and in standard forms of building contract. The designer, as quality inspector, intervened only if he felt that the method of construction might adversely affect the quality of the finished product.

CDM may have changed all that. The designer is now expected to:

'have adequate regard to the need to avoid foreseeable risks to safety, to combat at source risks to safety, to ensure that the design contains adequate information ... To ensure that design includes adequate information about any aspect of the project or structure which might affect the health or safety of any person ...'

While CDM does not actually prohibit designs which might cause undue risk to site operatives, its requirements are sufficiently broad to oblige designers always to have safety in mind. This may place a designer in a difficult position, because his training and experience may not yet have given him the expertise to anticipate the way a contractor might build an element which to him appears to be innocuously designed. He has only the phrase 'foreseeable risks' to guide him.

The designer will have to decide for himself how the regulations and ACOP are to be interpreted to avoid becoming criminally liable. The glimpse of the regulations given above is intended only to illuminate the indirect effects of CDM on civil liability aspects and not in any way as advice on how to approach the effects of CDM on design. The civil liability aspects, i.e. risk of being claimed against, could arise between designer and client or between designer and a third party. Standard appointments between designer and client now embody CDM (see Chapters 9 and 10). While they do not charge the architect with designing with safety in mind, there is sufficient to encourage the client to claim as a result of events which caused a breach of CDM. If, say, the designer had been forced to redesign because he had not 'avoided foreseeable risks to health and safety' and had thereby caused delay and expense, the client might try to recover his expense by claiming. A claim from the same cause might arise indirectly from a fellow consultant or even the contractor if they believed that the redesign had caused them delay also. Or the architect could be claimed against by injured site personnel or building users.

Liability is not limited to the safety of site personnel. While the greater force of CDM is directed at building sites, it is intended also to protect those involved in building maintenance. In any event, the health and safety file (HSF), which in effect becomes a maintenance manual, is handed to the building users. No doubt it would be used in evidence if the building owner was able to link some injury to an alleged fault linked to the contents of the file. ACOP also makes it clear that the designer owes a duty to the building user.

In risk terms, the designer would always be well advised not to involve himself in the contractor's working methods. However,

ACOP charges him to 'examine methods by which the structure might be built'. There is a fine line to be drawn here. A designer may well be confident that his design is buildable with little risk, then find on site that the builder has chosen a high risk construction method. Should the designer intervene? What are the risk consequences if he either does or does not? Unfortunately the answers will have to wait until there is more experience in interpretation and court precedent. ACOP, while helpful, provides no answers.

Risks for the lead consultant

CDM also charges the lead designer to:

'Co-operate with ... any other designer who is preparing any design in connection with the same project or structure ...'

Therefore, the coordination processes must include coordination of CDM requirements also; the implications for risk are obvious. If the project manager's duties lead to his involvement, he too could become liable. Where a designer is instrumental in introducing design by the industry, he must ensure that through the building contract the specialist takes his share of responsibility in complying with CDM. Specialist design may involve novel and hazardous site activity. The consultant designer should address these and/or take measures which firmly place responsibility with the specialist. It seems unclear, in order to comply with CDM, to what extent the designer should continue to take a coordinating role in specialist design after the specialist has become a subcontractor, so that the contractor then becomes 'designer' (in CDM definition) of the sub-contract package. Provision must be made in the contract documents, but the planning supervisor may interpret CDM differently.

Risks for the QS

It may seem curious to the other designers that CDM defines the QS as a designer through his involvement in specification and bill of quantities. However, this is justified if what he writes or advises influences an aspect of design which concerns safety. We have seen in Chapter 10 the dangers of the QS involving himself in the design process, whether his appointment and the appointments of the designers involve him explicitly or not; and if he has become so involved, he is fully exposed to the rigours of CDM. The QS may also have been included as a designer for his part in the purposes of administering CDM, e.g. aspects of preparing the health and safety plan (HSP) and health and safety file (HSF).

It was said that if the QS advises on overall cost, he has some responsibility for ensuring that the cost plan and building contract have made sufficient provision for health and safety measures. Such matters would seem extremely difficult to assess and are probably beyond the normal skills and experience of the QS before CDM.

Risks to design team of planning supervisor's role

The planning supervisor (PS) is a new player. Government have conferred on him a curious title: does he 'plan' and 'supervise'? His presence creates potential risk to the design team. His duties in connection with design are onerous, wide ranging and potentially intrusive. It is worth quoting parts of CDM as they concern his duties:

'Ensure, as far as reasonably practical that the design of any structure includes among the design considerations adequate regard to the need to avoid foreseeable risks to safety, to combat at source risks to safety, to ensure that the design contains adequate information ... To ensure that design includes adequate information about any aspect of the project or structure which might affect the health or safety of any person ... Take such steps as it is reasonable to take to ensure co-operation between designers ... to enable the designer to comply with Regulation 13...'

There are interesting parallels to be drawn here between the roles of the PS and a QA type auditor. We have seen earlier the possible consequences when an auditor becomes involved in quality judgement of the process itself. Cautious encouragement was given to some involvement of this kind in audits of the risk management processes and warnings were given on the dangers of his over-involvement. CDM gives considerable audit-type scope to the PS in enacting his role. If he is from a design background, he may be tempted to exercise designer judgements and may regard the parts of CDM quoted above as mandates to intrude. If his background is construction, he might intrude into design less and construction planning more. These powers, depending very much on the discipline background of the PS, can be seen to be supported by the wording of CDM and designers will have to live with them. The worst case may arise where a PS intrudes into design without having the necessary experience.

While designers will have to live with such variety of PS involvement, they do not have to accept it without protest. They are contractually charged with the responsibility to design and would

be prudent to assume that reliance on 'advice' from the PS would not be a very sound basis for their defence (any more than undue intrusion by a QS or project manager into design would be a sound basis for reliance). The safest situation for the designer to assume is that the PS is there to report, perhaps to advise, but not to instruct. The designer is right to complain if he feels uncomfortable, or that his position is being undermined. His ultimate sanction is to complain to the client and the Health and Safety Executive (H&SE). Obviously if there is conflict or contradiction between the designers' and PS's appointments, there is a problem – which should have been foreseen and corrected by the parties at drafting stage.

Has CDM increased risks for the design team?

It is clear from the above that CDM imposes substantial risk. That is not quite the same as asking whether the potential for being claimed against has increased. Designers may argue that entry into innovative design may pose greater risks than confronting the challenges of CDM. I think the question would be more helpfully answered if CDM were to be seen as a different or new risk, rather than simply an increase in an existing risk area.

It seems very likely that many designers have entered new territory by having to confront safety overtly in construction as an inherent part of the design process. There seem to be two parts to this problem: the overall need to ensure that the safety integrity of the whole design has been reviewed, and, perhaps the more difficult, entering for the first time the world of the contractor's construction methods.

We are still left with the questions: does CDM threaten potential extension of risk or create new risk, and do building professionals have cause for concern? I think they do, although the effects may not be felt until there is some precedent. The important aspect is how the civil courts will in future interpret 'reasonable skill and care' in the CDM context. The word 'ensure', employed frequently by CDM, dominates the duties of all who have to operate CDM. Even though it is qualified by 'reasonably foreseeable/practical', 'ensure' is still a powerful executive and empowering term, perhaps even intended by government as instruction to the PS to secure a guarantee of performance. Perhaps as important will be the attitude of insurers, who will find the prospect of insuring guarantees, as a component of professional services, equally novel. They might not welcome the prospect of designers entering the construction chain either.

Arrangements by the design team when introducing CDM

Often the appointment of the PS is left until late in the design process, even when the design team have made the client aware of his duty to appoint a PS. This may not be the correct way but it happens. This section, therefore, discusses any professional obligations that the designers may owe to the client if the PS is appointed later.

An early aspect to be addressed is whether or not the project is exempted from CDM. Under regulation 13(1), the design team – probably the lead consultant – should expect to advise the client, who may be a stranger to construction. Assuming that CDM will apply, everyone is deemed to be aware of the law. The designer should expect to advise the client on the broad implications of CDM, and specifically that the regulations require the client to appoint a PS. If the client has not appointed the PS early in design, perhaps a little whistle-blowing – a quiet word with the H&SE – might achieve results. The team might resist any suggestion by the client that one of the team members should become PS, if the client's only motivation is to save paying out more in fees. If a team member is appointed, refer to the advice later in this chapter on conflicts of interest.

The next matter for attention by the team is the setting up of the administration demanded by CDM and any appointment implications which might arise. These are best done in collaboration with the PS, which is another good reason for his early appointment. It is as well that the lead consultant should review the PS appointment for compatibility with the team appointments. Administrative measures concern how the effects of CDM might affect team working methods, and measures the PS reasonably requires of the team to allow him to do his job, which include production of the HSF and HSP. Ask also how he will wish to fit in with the design programme, which meetings he will wish to attend, the documents he will wish to see and so on. This is basic management and while not risk free, requires no comment in depth.

Appointment matters – the legal aspects of the relationships – may be a little more weighty. They start with the appointments themselves and, as I have mentioned above, all the standard appointments now make provision for CDM which in practical terms largely comprises accommodation of PS requirements. But there are other consequences that the team will have to face, whether included in the appointments or not:

- The need to design with the requirements of regulation 13 in mind. While there is nothing the designer can do to avoid this, he should take a view on whether the appointment and brief might

need some adjustment, e.g. where compliance with CDM might restrict, say, innovative design he has promised the client.

- Administration will revolve around the demands made by producing the HSP and HSF. Reference should be made to the PS appointment if it is available at this stage so that appropriate arrangements can be made in the designers' appointments, and, in drafting the building contract, the contractor's involvement. Strangely, CDM does not define who is actually to prepare the HSP and HSF. The PS only 'ensures that they are prepared'. All parties do need to be sure, through their appointments and the building contract, of who will prepare these documents. As will be illustrated later, there is no common institute view on which profession should prepare them. As the information for the HSP and HSF will come from the team and then the contractor, provision has to be made in the administrative procedures for the information required and its timing.

Other risk management measures

It is clear from the above that until there is some claims experience, no one can be quite sure which risks will prove critical. However, prudent measures can be taken initially which will protect the practice when or if a claim arrives:

- Training is important, in the recognition of safety risks from design and in awareness of construction methods. Maintain contact with the H&SE in the development of the regulations and their interpretation.
- Procedures should be in place for the management of safety in design, to include risk assessment at each of the Work Stages, development of lists of common hazards, grading seriousness of hazards, ground rules for boundaries between design and involvement by designers in site working methods.
- Careful records should be kept of the implementation of the above, and of all communications related to CDM duties, including communications with other designers.
- Include review of the other professions' application of CDM as part of coordination (lead consultant)

The planning supervisor's risks

CDM's requirements of the PS are potentially team intrusive and, like the designers' duties, onerous and wide. It is worth repeating the parts I quoted above expanded to illustrate the wide risks the PS himself faces:

'Ensure, as far as reasonably practical that the design of any structure includes among the design considerations adequate regard to the need to avoid foreseeable risks to safety, to combat at source risks to safety, to ensure that the design contains adequate information ... about any aspect of the project or structure which might affect the health or safety of any person ... Take such steps as it is reasonable to take to ensure co-operation between designers ... to enable the designer to comply with Regulation 13...

'Ensure that a health and safety file is prepared containing information concerning design or any other information which might affect health and safety on site. Ensure that it is delivered to the client on completion of construction.

'Ensure that a health and safety plan is prepared and developed over the life of the project.'

The planning supervisor's contractual position

The PS's position as he relates to the client is no different in principle from the designers' position. He answers to the H&SE for his performance and they will prosecute him if he breaches his duties under the regulations. He answers contractually to the client, and through his appointment may become civilly liable for negligence. He may also become liable to third parties (e.g. injured site operatives). However, there may be a noticeable difference in practice. CDM duties for designers comprise only a small part of their overall duties. But the PS is appointed only to perform CDM duties. The client, who is paying him, might reasonably expect also to instruct him. On the presumption that compliance with statute takes precedence over compliance with contract, it is difficult to imagine any situation when a client instruction could override the PS's duties under the regulations. Planning supervisors may find it difficult to ensure that no conflict arises as between client and CDM.

The PS may be either an independent consultant or, according to the regulations, the client or the contractor. Strangely, the regulations do not mention whether or not one of the designers to the project may also be the PS. ACOP is no more helpful, except to say: 'There is no restriction on who is appointed as the PS provided that they are competent ...' It does seem illogical to assume that project designers are thereby prevented from acting as PS. In practice, one of the designers is often the PS and the H&SE appear to be relaxed on this point.

A greater problem for both designer and PS when the PS is a

member of one of the designer's practices, is the possibility of a conflict of interest. It is often tempting to the practice from a commercial point of view, as well as comfort, that the PS is 'part of the family'. Many practices have now developed PS duties as a separately marketed discipline. There will be occasions when PS duties under the regulations will clash with designer opinion in matters of safety. Creation of Chinese walls is a device which may not be sufficient to avoid a conflict. The same kind of problem could, of course, arise within the respective organisations if the PS were client or contractor. If the PS feels professionally compromised, the practice needs to consult its insurer to ensure that normal cover will continue to be provided.

If the PS is 'one of the family', he should still be appointed via a separate and direct appointment. CDM prohibits the PS from subletting his duties.

It hardly needs stating that aspiring PSs must ensure that they can obtain indemnity insurance cover, particularly if they are likely to be appointed on non-standard agreements.

Dangers of over-intrusion by the planning supervisor

Just as the designer, as described above, has to regard the PS as essentially an information gatherer, a monitor/auditor, in an ideal world the PS role should not exceed this function. However, as we have seen, CDM places wide responsibilities on the shoulders of the PS, and the word dear to the regulations - 'ensure' - will undoubtedly substantially influence the way in which some PSs seek to discharge their duties. Depending on his professional background, it is difficult to imagine that his role will always be passive. There will always be the risk danger to him (and to the designer) that one of his actions, perhaps a piece of advice (seen by all parties as innocuous at the time), will enter the chain of design responsibility. Quality, cost or time could become affected. He will face the same problem when he communicates with the contractor and visits building sites. There is no solution, except vigilance and awareness of a line which should not be crossed. If there is an unresolvable conflict between compliance with the regulations and interference with the design process or safety on site, the H&SE, the client and the insurer should be consulted.

The arguments on the widening of liability discussed above for designers will apply equally to PSs. As professionals, in attempting to preserve the standards of 'reasonable skill and care', they may have more difficulty than the design team, charged as they are with the wide responsibilities CDM places on them.

Standard forms appointing planning supervisors

The standard forms reviewed here are:

- Form of Appointment as Planning Supervisor (PS/99); Health and Safety: The Construction (Design and Management) Regulations 1994: 4.99 Edition, published by RIBA.
- Agreement for the Appointment of Architects, Surveyors and Engineers for Commissions in the National Health Service (1995 Edition): Volume 3: Duties under the Construction (Design and Management) Regulations 1994, issued by NHS Estates.
- Agreement F for use where a consulting engineer is engaged to act as a planning supervisor in accordance with the Construction (Design and Management) Regulations 1994, issued by ACE.
- Form of Appointment as Planning Supervisor (FOA/98), published by the Association of Planning Supervisors.

RIBA Agreement PS/99

The arrangement and terminology of PS/99 will be familiar to users of SFA/99 and CE/99. PS/99 comprises a Memorandum of Agreement, Schedule of Services, Schedule of Fees and Expenses, and Conditions of Appointment. Although it was clearly written with the architect in mind as PS, the foreword states that it could be used for the appointment of 'suitable qualified construction professionals'. The foreword also recognises a point made above, in making clear its intention that the PS prepares the HSP and HSF.

Memorandum of Agreement

Content is similar to the content of SFA/99 – see comments in Chapter 9.

Schedule 2: Planning supervisor's services

The following sections of the Agreement are risk relevant.

All commissions

Clause 1.1. In obtaining 'the Client's requirements' the PS should make it clear that his extensive duties under CDM must prevail in the event of a conflict when acting under the regulations. This is included as conditions 2.2 and 2.3, but because of its importance would be better emphasised at the outset in plain language.

Clause 1.11. It might seem presumptuous that PS/99 assumes that the PS will take part in the selection of designers and that it fixes a maximum number for consideration. The regulations do not specify which party will select the designers. It is possible that the designers will have been appointed before the PS and they will have advised on suitable PSs.

Section F: Production information

Clause 4. It might be inadvisable for the PS to involve himself in design input from specialists without the involvement of the appropriate members of the design team. It may also be too late in the Work Stages; the critical decisions may have been taken much earlier. If he is to become involved, he needs also to enquire about specialist design input pre-tender.

Section K: Construction to practical completion

Clause 4. Delivery of the HSF to the client 'at completion of construction work' begs the question of how 'completion' is to be defined in this context. Since, under the JCT traditional contracts, work by site operatives may continue into the defects liability period, demanding further HSF content, perhaps the certifying of making good defects is the more appropriate time. It might be safer, particularly if the making good of defects causes substantial work, to establish the JCT defects liability period as a separate project under CDM definition. This is suggested by 'Other activities' clause OA.07.

Other activities

It seems highly likely that clause OA.03 (Changes to production information), clause OA.04 (Design variations), and clause OA.07 (Defects notifiable under a separate project) will be required for many projects. Clause OA.05 (Health and safety audits) and clause OA.06 (Health and safety implications of temporary works) are not required by CDM and should not be entered into by architects unless they are sure of the scope required and their competence to carry out such duties.

As with SFA/99, it is recommended that operative services be circled, and those to be deleted crossed through and initialled by the parties.

Conditions of Engagement

Cooperation etc.

The PS should endeavour to see the obligations imposed by the client on other persons, and should satisfy himself that they allow him to carry out his services.

NHS Agreement

Plan of Work

We find demonstrated here the need always to check who is to prepare the HSP and HSF; unlike PS/99, it is the lead consultant not the PS who prepares the HSP.

Sections A–C

For NHS structure reasons, the PS may be appointed at an earlier stage than in non-NHS projects. As noted in the review of the appointments for designers, the tabular structure and inclusion of all of the designers' services produce a much more satisfactory way of integrating the PS's with the other designers' duties. Also, unlike PS/99, there is far greater provision for collaboration between PS and designer, where collaboration is needed.

The NHS agreement seems generally to have adopted a more cautious approach than PS/99, or even the regulations themselves, in establishing the relationship between PS and lead consultant. The PS *assists* or *collaborates with* the lead consultant. This may be just semantics, but the NHS agreement does seem to attempt to establish relationships which are conciliatory, rather than confrontational. Such language also strengthens the lead consultant role, which is to provide leadership and management of the team. Once more we find ourselves wishing that the NHS documents could be used as models for non-NHS projects.

The agreement also gives a menu of services for design and build procurement. This reminds us that if a standard agreement includes a menu, it needs to address the procurement route intended; there is only passing reference in PS/99. There may be no great risk issues, but the procurement route chosen may demand particular attention to responsibilities at different stages for producing the information required under CDM. NHS may have over simplified matters by attempting all the design and build variants in one menu. It may be safer to start with a set of principles and develop a health and safety programme for each procurement variant.

Certificate by planning supervisor

The primary purpose of the certificate by the planning supervisor is to assure the client that the contractor's HSP is adequate, prior to commencement of the works. It raises several interesting questions which have some risk interest:

- It is the only part of the agreement containing a condition, which contrasts with PS/99 where RIBA deem necessary no fewer than three closely printed pages of Conditions. Aspiring PSs for health projects would do well to study PS/99 Conditions before accepting a health appointment. They will see, for example, that while PS/99 makes it very (and properly) clear that the PS's first duty is to the H&SE, there is nothing in the NHS agreement.
- It is a feature of NHS agreements that parties sign 'readiness to proceed' certificates. It might be somewhat surprising that the only certificate demanded by the PS is that the lead consultant has developed the HSP. CDM places equally onerous duties on all the parties – including the client. It is strange that the NHS agreement requires no further certificates.

ACE Agreement F

The format of ACE Agreement F follows the format for the other ACE Agreements reviewed in Chapter 10. When compared with the other ACE Agreements, this one is curiously inconsistent and tentative in parts. Perhaps, in its attempts to be more comprehensive than the other two agreements previously reviewed, it has had to confront the wide statutory duties placed on the PS by CDM ('ensure...') and decide how much to incorporate as contractual duties to the client. Uncertainty results from some uncharacteristic lack of clarity. If, in the process, this agreement hopes to limit civil liability, it may not be wholly successful. Generally, risk exposure is lessened if appointments and their risk allocations can be clearly expressed.

The first curiosity concerns the use of the definite and indefinite article. The title of Agreement F says it is for use where 'a' consulting engineer is to be the PS. This would position it nicely within the family of the other agreements used: the language of PS/99 is familiar to the architect PS, who would be comfortable to have it as his appointing document; and the NHS agreement might find favour with any of the building professions. Both of these agreements are intended for use whether the PS is an independent consultant or a member of one of the project consultant's practices. Correspondingly, the engineer PS in either of these posi-

tions would be happy to be appointed under a form having the familiar arrangement and expression of the other ACE agreements.

However, the indefinite article (*'a consulting engineer'*) changes to the definite article (*'the consulting engineer'*) for the agreement itself. ACE clearly intend (and confirmed in the definitions) that only the engineer appointed to provide design services (presumably under agreement ACE/B1 or ACE/B2) should be appointed as PS under this agreement. (How ACE intend the 'consulting engineer' to be defined if, as is normal, separate structural, civil and services engineers are appointed, is not explained.) In other words, a PS cannot be appointed as an independent consultant under this agreement. More importantly, perhaps, this confirms ACE's confidence that there will be no risk of conflict of interest where the consulting engineer is also the PS. As readers will have seen from the above, I believe that a very real risk of conflict could arise when the PS is also a member of the design practice, which engineer planning supervisors cannot avoid if they are appointed under Agreement F.

The definitions make it clear that in interpreting Agreement F, whenever the term 'consulting engineer' appears, it is to be read as 'planning supervisor'. When deciding this, did ACE consider the possibility that there might be confusion in practice in distinguishing communications from the engineer when he acts as consulting engineer and when he is acting as PS? Although there will always be the possibility of such confusion whenever a PS is in-house, it might have been more sensible for the document to have encouraged clarity by using the title 'planning supervisor' throughout. (The additional advantage would then have been that the Agreement could have been used for appointing the PS as an independent consultant.)

The following sections of the agreement are risk relevant.

Obligations of the consulting engineer

Clause 2.6: Specialist subconsultants. CDM intends that there should always be a direct contract between client and PS. This clause, no doubt imported from the other ACE agreements, seeks to undermine this intention.

Clause 2.7: Health and safety coordinator. The intention of this clause is not clear. Is this an attempt by ACE to create a Chinese wall to avoid any conflict of interest? Does it mean that the consulting engineer himself may not act as PS? Can the role be subtle? Why has the client to be involved?

Clause 3.8: Responsibilities of contractors. This raises several questions. On the face of it, it sensibly strengthens avoidance of liability for actionable matters affecting construction work. However, if the PS ventures into construction matters as a result of exercising his 'ensuring' duties under CDM (a line not to be crossed if at all possible, but perhaps on occasion inevitable – see earlier advice) and as a result becomes criminally liable, would this clause protect him if he were then sued? Since the PS's duties are likely to be at least as intrusive into the design team as they are into construction, it is puzzling why ACE did not seek similarly to protect the PS from liability arising from the activities of the other designers.

Clause 3.9: Pollution and Contamination. One can understand why similar caveats to those in this clause appear in the ACE agreements for engineering services, which seek to place responsibility upon the client. Engineers have faced considerable risk when clients have found, too late, that their buildings are to be constructed on contaminated ground. However, it is questionable whether strict interpretation of CDM would allow such exclusions. CDM intends the PS to have wide ranging powers to 'investigate' the sources and effects of any matter he considers likely to be a danger to health and safety and places on him responsibilities for action. It may be that ACE intended to limit civil liability when they wrote this and the later, related clauses under services. In that event, civil intention of the ACE form sits uneasily with breaches of CDM when they become criminal. Again, engineers acting as PSs might draw false comfort from these clauses.

Appendix 1: Services

The words 'ensure', 'discuss' and 'advise' appear frequently and not always consistently. 'Ensure' is used when a service is described where CDM also requires the PS to 'ensure' something is done. That is entirely proper. However, a PS appointed under this agreement must realise that ACE have expressly inserted a very onerous word for professionals into the civil liability chain. 'Discuss', on the other hand, implies a vague or even non-existent responsibility. It seems a rather open-ended word to use for a range of matters requiring the attention of the PS which could have substantial consequences. Indeed, it has been used in the agreement for some duties where CDM uses 'ensure'. 'Discuss' also seems to have been used interchangeably with 'advise', which might create uncertainty if liability arose. Pedantry or semantics are not intended by these comments. My purpose is rather to warn the PS that he must be careful of his intentions when operat-

ing the clauses which contain these words and their relationships to CDM content and must be aware of the possible liability implications.

Clause 1.1(a): Seek client instructions. In importing terminology from other ACE agreements, ACE may again have misread the intentions of CDM. Regulation 14 of CDM gives the PS wide ranging independent authority which contains few, if any, matters on which the client could instruct the PS.

Clause 1.1(b): Advise the client on appointing a contractor. Why did ACE not also involve the PS in advising the client on the CDM responsibilities and competence of the designers?

Clauses 1.3 (f) and (g). These clauses may not be helpful by avoiding so carefully who should prepare the HSP or HSF. The PS can not 'ensure action is taken' unless he knows who is to take the action. Moreover, clause 1.5(h) (for the PS to transfer responsibility for the HSP to the contractor) requires the PS to exercise an authority he would not have unless clause 2.2 (g) (additional service requiring the PS to prepare the HSP) operated. One appreciates why ACE wished to preserve existing agreement format, but here there was a clear opportunity to include the additional services (g) and (h) as alternative clauses, with an appropriate footnote. This would have been more helpful to drafters than tucking comment into the Guidance on page 29. And, of course, none of these drafting difficulties would have arisen had ACE followed the example of either RIBA or NHS who decided at the start which party should prepare the HSP and HSF.

Clause 1.8: Construction Stage. ACE clearly attach some importance to the limitation of responsibility given in the preamble. However, it is difficult to understand exactly what they mean by 'the Consulting Engineer shall have no responsibilities for performing duties on site'. All the contents of clauses 1.8 require of the consulting engineer (acting as PS) some substantial duties connected with the contractor's activities. Do ACE *really* intend that he must not undertake any of these duties on site? Since the central concern of CDM is site safety, it is difficult to imagine that any competent PS could avoid visiting a site while carrying out his onerous CDM duties.

Is it a realistic intention to attempt to exclude or limit the PS's civil liability for some areas where he may be exposed to substantial criminal liability? Is it a sustainable expectation?

The Association of Planning Supervisors' Form (FOA/98)

The form seems straightforward, clear and practicable to operate.

Memorandum of Agreement (Conditions)

Clauses 2 (f) and (g) partly confirm (unlike ACE) that in the event of conflict, the regulations will prevail. It is a pity that this is not made completely explicit, however.

It is curious that clause 4, while requiring designers to comply with the regulations, does not also include the contractor.

Schedule of Services

The admirable brevity of the services has been achieved by including, by reference, the appropriate parts of the regulations. This device also ensures that no conflict of interpretation can arise between the services and the regulations.

The drafting difficulties created by ACE by not committing the PS to prepare the HSP and HSF as part of the standard services, are experienced also by this form. By not specifying which party is to prepare these documents, the regulations place the PS in an impossible position when they require him to *ensure* that these highly important documents are prepared, if none of the consultants' appointments has specified who is to prepare them. ACE and APS could at least have eased the PS's predicament by including an optional clause requiring the client to appoint someone to prepare the documents.

15 The Building Procurement Process

(Work Stages A–B, but mainly F–G)

Introduction

Procurement in its wider sense means the way of arranging the contractual processes through which the client procures his building project. In a route which includes consultant design, this will include the consultants' appointments. Since Chapters 8–11 have already dealt with appointments, commentary in this chapter is confined to the risks to the design consultants which can arise from the various forms of building contract.

In a book which attempts to span the major risks a building professional faces, it was difficult to decide where to place the chapter dealing with procurement risk. The only specific place in RIBA SFA/99 is at clause 2A of Stage A, 'Review with the client alternative construction approaches', although clause 4 of the lead consultant duties adds 'advising on methods of procuring construction'. Stage A is indeed the right point to start to advise the client. However, unless some form of fast track working demands the early appointment of a contractor, it is not practicable or necessary to select the actual form of contract until much later. Normally, the actual form of building contract is not selected until Stages F and G, where there is no mention in SFA/99. It might seem broadly acceptable, therefore, to place this activity towards the end of design, whatever the procurement route, when the client and team have to commit themselves to a form of contract. Preparation of tender documents cannot commence (Stage H) until the form of building contract has been chosen.

I shall now discuss the procurement process in detail. However, the importance of establishing the procurement route intentions at appointment stage should not be forgotten. Chapter 8 recommended that at least a basic, or even provisional, assumption for procurement should be included, even though final details may remain to be decided. It is quite likely that the client might still not have made up his mind by the time Stage F arrives. When that point does arrive, the consultant needs to be in a position where he can

assess whether the range of procurement routes under discussion will expose him to a lesser or greater risk in administering the particular contract, than his appointment anticipated. If the appointment contains sufficiently robust procurement assumptions he will be in a stronger position to accept or refuse any additional risks.

In this chapter I shall be exploring some of the aspects of building contracts which can produce unreasonable risks for the consultant administering the contract, and the steps he might take to mitigate them. One of the most comprehensive and effective ways of limiting consultant risk is to ensure that the client understands and accepts the risks he himself must take for the procurement route he chooses. He should not expect the consultants to bear the whole burden of the uncertainties of construction. One of the greatest risks of all is where both sides remain unsure of where the risks lie, until it is too late.

Each of the professions (including QS and project manager) must take its own steps to assess the risk it faces for the menu of procurement routes under consideration. While designer risks may be broadly similar to each other for a given route, differences of detail arise from the different institutes' forms of agreement, and, less objectively, through their different cultures. There are also different risks for the coordinating and coordinated professions. There is the additional burden for the lead profession of coordinating the inputs of all the professions and the client into the decision-making process. All the professions, as in the negotiation of their appointments, must involve each other fully in selection of the procurement choice where their responsibilities, and the terms of the building contract, interact.

Procurement alternatives and their risks

While it is not the intention of this book to provide detailed advice on choosing the best building contract, some general advice is necessary in the evaluation of risk.

There are, firstly, several important questions to be considered before we can look at forms of contract and their individual risks in establishing consultant risk. It is suggested that the consultant uses the following as a basis for testing client need and consultant advice. It is always useful to seek reasons for client decisions; they often reveal information relevant to consultant risk. Document the process. Remember that it is part of your services to offer the client impartial advice on the best route for him and to ensure that he understands such advice. If you disagree with his reasons, do not hesitate to tell him. Resist arriving at conclusions at this stage, even

though they may seem obvious. Ask the following questions and note his replies.

- (1) Where do his priorities lie as between quality, time and cost certainty? These questions will already have been asked in the context of design only; now construction has to be added. If one aspect predominates, the others may suffer. The form of contract has to reflect these factors as well as it can. If quality predominates, traditional, full design followed by traditional lump sum may be the most appropriate way. But if construction has to start before design is complete (time), traditional lump sum may not be the answer. If time is of the essence, perhaps to the extent of having to start on site well before design is complete, cost may increase, cost certainty may decrease and the risk arises for consultants of having to delay the contractor's programme while design catches up. If cost certainty predominates, only full design followed by a lump sum contract can guarantee something approaching certainty. (There are devices like guaranteed maximum price contracts, but they often turn out to be illusory.)
- (2) Does the client require a 'one stop responsibility'; in other words the contractor takes responsibility for both design and construction? It may appear rather late to be asking this question, but through novation at this stage, clients often seek to transfer a completed design and its responsibility to the umbrella of the contractor. If substantial design is to be carried out by the contractor, this will affect the form to be chosen. However, this raises a sometimes subtle point which could lead to choosing the wrong form of contract. Is such design to be handed to the contractor 'without strings', or is it design by the industry? If the reader still has any doubts, he should read the next section before proceeding.
- (3) Would the client like the contractor to have any advisory role in the management of the contract? Under lump sum contracts, contractors traditionally take full responsibility for the total construction performance and either reimburse the client if they fail to deliver, or claim extra if they are prevented from delivering. Or does the client seek a less confrontational relationship, by having the contractor on board as a fellow consultant, but losing a single point of responsibility if things go wrong.
- (4) This seems a rather brutal way of putting it, but is the client looking for a confrontational or a harmonious relationship with his contractor? Is risk to be loaded against one party or distributed between the parties best able to take it?

- (5) Does the client require any form of contract administration by any of the consultants? This question may well have been settled in the appointment, but now is the time for settling the detail.

Having analysed the responses to the above and, if necessary, studied the complications caused by industry design (below), we have narrowed some risk areas and are in a position to look at the various procurement alternatives available and the further risks they generate.

Industry design

If the risks of industry design are not completely understood, they can cause considerable complications in the procurement process.

The procurement route and its effects on design and construction should have been settled in principle in the appointment (see Chapter 8), because the means of procurement can substantially affect the design process, its management and its programming, even when the consultants design fully. Some arrangements for construction management and management contracting, while not affecting the level of detailed design expected of the production drawings, may well influence their timing. If a construction manager is to be appointed and becomes a member of the design team, he will have a say in both the timing and the structuring of the drawings. Such procurement routes are far more likely to require fast track or parallel working by the team than traditional full design followed by construction. As a member of the team, the construction manager should expect his appointment to be submitted to scrutiny by the other members for 'boundary' duties.

Design and build, in either 'lay' or 'builder' client form, will invariably affect the design process. The lay client may expect no more than sketch design with an outline specification from his consultant team, from which he will arrange for a contractor to complete the design. A builder client may expect anything from sketch to full design, but often requires information presented differently from the traditional structuring. The transfer of design responsibility from one client to another required by novation requires particular care when arranging the design programme. In this section, however, we are concerned only with design input from industry specialists, not principal contractors.

Difficulties imposed on design management

Any of the procurement routes described above may involve specialist or industry design. The risk difficulties imposed by industry

design derive partly from the absence as yet of any established custom for where lines should be drawn in responsibility for design between consultant designer and specialist. Much depends on the design complexity of the element involved, the extent of industry design required, the expertise of the specialist in his field and how the individual designer divides design between himself and the specialist. Further difficulty can arise in defining the interfaces between consultant and industry designed elements.

It is now common practice for designers to approach specialists, sometimes very early in the design stages, to develop, usually speculatively, specialist designs for sometimes substantial and risk laden elements of the building. While this practice is more favoured by architects, engineers (particularly services engineers) are also exposed to the risks; their traditions for incorporating industry design into construction are more established, even though their institutes' standard agreements do not always define design responsibilities clearly (see Chapter 10 and below).

The central problem for all designers is the ability to draw the line between consultant and industry for taking the design responsibility, in order to define the boundaries and write them into the contract chain. Designers need to think this through very carefully before approaching the industry. They must have their clients' protection in mind. The designer should never be drawn into taking professional responsibility for specialist construction. The specialist should be appointed directly by the client, usually through the building contract, but how that is done will depend on the procurement route chosen. If the specialist work is part of the architecture, it should appear on Schedule 4 of SFA/99, as already recommended in Chapter 9. If the work is of an engineering nature, the engineer's appointment should similarly make clear that the work is to be designed by a specialist.

Getting the work identified as specialist work with responsibility direct to the client does not automatically remove consultant designer responsibility. This may be work which the client would reasonably have assumed the consultant to design completely and he will reasonably expect the designer not to increase his (the client's) risk by transferring design to a specialist. Specialist design may introduce some state-of-the-art proposals. It is design by an organisation having a commercial interest in its construction. Only the consultant designer can warn the client of any increased risk.

The next stage to be faced by the consultant is to define the extent of design responsibility to be borne by the specialist. SFA/99 offers the architect no help in definition. This may be because almost any part of the fabric and finishings may be either industry

or architect designed. The late 1990s recession produced aggressive competition and sometimes fees were less than cost. Designers were forced to explore methods of producing designs more economically. One method was to procure a great deal more industry design than ever before. Design fashion with its atria and dazzling elevational treatments was another reason for the increase in industry design. Manufacturers' systems responded to the call for the sometimes spectacular architectural applications demanded. In some applications they have even led the way. They now hold a monopoly of design and technical development. Society has not yet adjusted to the reality that a great deal of design source has passed permanently from consultant to industry. But the whole of the risk has not transferred with it. Consultant designers may no longer have the skills to design the whole of the building or to judge the design competence of industry expertise. Until we adjust to these new realities, consultant and industry will continue to occupy greyish design risk ground. Services engineers face the same problems, but to a lesser extent. Their industry has a longer track record of industry design than the architect designed elements. The ACE agreements recognise that contractors or subcontractors will complete the design. ACE/B(2) clause C8.3 calls on the engineer to 'examine installation drawings, shop drawings ... for design intent'. However, such terminology still begs the question of how design responsibility for these elements should be apportioned.

For risk evaluation purposes, all design consultants should assume that however strongly they stipulate in their specifications that specialists take complete design responsibility, they cannot themselves entirely avoid it. Simply by being appointed a lead design consultant for his discipline, the designer has become part of the total design risk chain. He will set performance standards and probably produce sketch drawings for any industry-designed element. It would be clearer and in the end less contentious if the designer honestly appraised the design responsibility he was to retain and wrote it into his appointment. The complementary responsibility would then be written into the specialist's contract. There would be transparency and clarity, always good risk management features. The illusion that the designer can make himself risk-free by writing some onerous contract clauses would cease to exist. However, it is understood that designers feel they must have the design liability protection which they often write into contracts and this will, no doubt, continue. In the end, of course, such attempts to avoid responsibility may come to nothing when the designer forgets all the protection he wrote into the contract and cannot resist meddling with the specialist's design.

Specifying by performance

The specification which accompanies the design intent drawings is part of the consultant designer's brief to the specialist. It will form part of the contractual arrangements. It will be a key document in the employer's requirements under the JCT Form with Contractor's Design or JCT Form with Contractor's Designed Portion Supplement.

The consultant designer may have good reason to produce a virtually complete design and a correspondingly prescriptive specification. We are reminded again of the JCT Practice Note CD/1A in which employer's requirements may range from a description of accommodation to full scheme design. The nature of specialist industry design will normally demand a specification nearer performance (description of accommodation) than prescriptive (full scheme design). The whole intention of such design is to allow the industry as much scope as possible. However, there are no rules about where a designer should draw the line for any given situation. The major specification source, NBS (National Building Specification), contains few examples of performance written content to guide the designer. In risk terms, however, the important messages for the designer are:

- Study JCT Practice Note 25 before you start to write the specification. JCT also intend to publish a guide to performance specified work in the year 2000.
- Be sure that the balance of performance and prescription content is right for the situation and clearly expressed. A well written performance specification will define much of the all important split between consultant and specialist responsibilities.
- Recognise that you cannot design by performance and then vary the specialist's design solution yourself without compromising your risk. (Furthermore, the JCT design contracts will not allow you to vary the work as if it were fully consultant designed.)
- Ensure that the performance design intent of the drawings matches the words of the specification.
- Include in your specification material suggested by the specialist only with great care. He has a commercial interest in what he is suggesting. If you really have to look to the specialist for advice, consider obtaining suitable warranties. There may be a suitable consultant who can advise. He will be a subconsultant, should have PII and a back to back appointment, and you need to obtain the client's consent.
- Be sure that you are capable of assessing whether or not specified performance has been achieved, and that you have knowledge of testing methods or access to resources to fund them.

'Approval' of specialist drawings

The above reminds us of another myth. However hard consultant designers try to exclude any design responsibility, they still have to 'examine for design intent' (the words ACE use) the specialist's drawings. What *exactly* are they examining them for? This is a serious question in attempting realistically to establish whether avoidance of the term 'approval' really does absolve the consultant from any responsibility for the specialist's design. Reversing the question, does responsibility *increase* if drawings are 'approved'? It does seem that the specialist (who did not write the rules) is entitled to some clarity; this is the sequel of the need at the outset for the designer to think clearly where he wants the responsibilities to lie. It brings us back inevitably to what 'approval' might mean; or is there a 'safer' expression? There is a general belief in the consultant world that avoidance of the term when examining specialists' drawings maintains the myth of avoiding any responsibility. Would it not be more healthy to define in the specialist or principal contract what the designer intends to achieve by inspecting drawings, than to calling such definition 'approval'? He can still add the rider that his inspection will not reduce the specialist's (defined) design responsibility.

The contractual aspects of industry design

It may appear sensible that the JCT Form with Contractor's Designed Portion Supplement should always be used, because it establishes a comprehensive contractual framework for the administration of specialist design. Like the JCT Form with Contractor's Design from which it was derived, it makes provision for the designer to stipulate how he wants the contractor to develop the design brief (employer's requirements) and submit for comment the completed design (contractor's proposals). However, there may be two problems for the designer:

- The element requiring industry design may be so small (the designer believes) as not to need the heavy hand of a special contract form. There is the temptation to include the work in the standard construction contract (whether under clause 42 or not) so as to avoid the need to operate the 'heavy machinery' of the Designed Portion Supplement. This temptation should be resisted.
- The designer often needs advice from the specialist early in the design stages. The specialist effectively becomes a member of the design team. Clearly the designer cannot wait for the main contractor to be appointed, which he would have to do if he were using the Designed Portion Supplement unamended.

Unless a non-traditional procurement route is to be adopted (e.g. a management contract, with separate works contractors), the designer will have to anticipate the means of incorporating the specialist work within a traditional contract. In other words, he has to hope that the as yet unappointed and usually unknown contractor will accept the specialist as a subcontractor. Contractors in a 'hard' market might be reluctant to take over a predetermined specialist and all his design responsibilities. If it is thought likely that the contractor will refuse to accept responsibility for the subcontract design, the specialist should be required to be prepared to provide a suitable collateral warranty to the client. The consultant designer may also want to keep open his direct line to the specialist after he has become a subcontractor to the contractor.

An alternative is to consider using the basic JCT form and nominating the specialist. Nomination has fallen out of fashion in recent years because of its administrative and contractual complications. However, it was written with such specialist work in mind and has the advantage that it makes some rudimentary provision for creating a contractual relationship between specialist and client before nomination takes place. This device could be useful if the early specialist design work is likely to be extensive.

It is usual to write clauses in the contract preliminaries making these arrangements where content will be required to clarify design responsibility, and, if necessary, to give a programme for integrating completion of specialist design with construction. (NBS contains some helpful material on this.) Designers should ensure that they themselves draft the content. It is not unknown for the QS or another discipline to write these clauses. This should be entirely the consultant designers' responsibility. It involves their risks.

Inspection of industry designed materials and workmanship

If the design consultants have been appointed on SFA/99 or ACE Conditions to administer a JCT building contract, they will undertake substantial responsibilities, as will be discussed in Chapter 17, when they issue certificates for payment, the practical completion certificate, schedules of defects, certificate of making good defects and final certificates. When they are considering using specialists to design and construct, they must consider who, if anyone, will independently inspect the specialists' work (on or off site) and take the professional responsibilities that the certificates impose on the contract administrator. The client has paid for and is entitled to the

comfort that independent inspection gives him. It seems likely that, by definition, the design consultants will not have the skills to inspect these specialist elements, nor should they attempt to inspect. Some industry designed elements carry considerable risk potential and really need the benefits of independent inspection. The design consultants should discuss this with the client. It may be possible to employ specialist inspection consultants for some elements. If this is not possible, the certificates must exclude the work. This is an opportunity again to remind readers of the need to ensure that the appointment documents (Chapters 9–11) specify the mix of consultant fully and partly designed work.

Risks of purpose made building contracts

Before we review the risks arising from the standard contract forms, we should look at the risk implications of the bespoke or purpose made contract forms popular with some large corporate clients. I include here any standard form which has been substantially modified. There are many reasons why clients will require non-standard forms and not all of them will be disclosed to the design team. Clients are entitled to select their own forms and to test whether contractors will accept them. However, the three most common reasons for non-standard contracts are:

- The client has been persuaded by an adviser that he has devised a clearer way of expressing rights and duties than the standard forms.
- The client is seeking a different distribution of risk (normally favouring him) than do the standard forms. (For the same reasons he will probably also have written a non-standard appointment.)
- The unusual nature of the project.

The consultant designer who will have to live with such a form should enquire of the client which of the above were the reasons for choosing it. The answers might be risk instructive.

A non-standard form written because of someone's belief that it expresses risk more clearly than a standard form should be questioned. The consultant who has to administer it has to wait until dispute arises between client and contractor, before its intention can be tested. Shrewd contractors will have had their lawyers look at it during the tender period, and will attack the loopholes at the appropriate moment. If ambiguity is proved, the burden of administering or interpreting such a contract, or of arguing its

meaning, falls to the consultant. The standard contracts have been criticised for their complexity and opacity, but they have developed over the years and have responded to changes caused by precedent and custom. To imagine the 'perfect' contract is to imagine an illusion. Words in any contract can never entirely anticipate the decision of a court. Another feature of most standard contracts is that they attempt to apportion risk fairly.

If, alternatively or in addition, the client has chosen to use a non-standard contract because he seeks to redistribute risk, that is a decision for him alone and must be respected. Contracts between professionals are not necessarily 'fair'. However, he should be warned that in addition to the risks of ambiguity, there are also the risks arising from a possibly contentious relationship. These are risks for the consultant also, who may be able to argue that they are unexpected and pose unacceptable risk to him.

Consultants are expected to be able to understand the terminology of standard building contracts. These contracts were written by the professionals themselves in non-legal language. The consultant facing a non-standard draft contract must satisfy himself that he understands it and that it does not place him in any danger in administering it. Contracts drafted by lawyers without experience in the construction world have been known to include content which, while legally explicit, might be a puzzle to the non-legal reader. You should not hesitate to protest, or qualify your responsibilities, if you find yourself in this position. Solutions, none of them entirely satisfactory, include obtaining legal advice on interpretation and comparing the meaning with its equivalent content in one of the standard contracts.

The Trojan horse of the non-standard contract can be the contract preliminaries which, being part of the bills of quantities, are often accepted by the designers as the property of the QS. The preliminaries are used increasingly as the means of changing standard contract clauses and introducing substantial new content. Preliminaries would be better seen as part of the specification (not, strangely enough, an explicit contract document in the JCT Standard Forms with Quantities), under the control and drafting of the designers. NBS preliminaries clauses can be very helpful as a framework for drafting 'safer' non-standard content.

What follows now wholly concerns standard forms of contract. The risk messages apply equally to non-standard forms where related content should be compared with standard form equivalents. It is tempting for the consultant to resist any but the minimum involvement in the preparation of many highly complex non-standard contracts. If he feels that it is better that he should not advise the client, he will protect his risk position by qualifying the limits of his advice.

Risks of standard forms in procurement routes

How do the standard forms respond to the procurement routes? Where are the risks? Before we look at the forms, it is necessary to return again to the important SFA/99 lead consultant clause: 'advising on methods of procuring construction'. It is debatable whether this obliges the consultant to advise the client on the risks to him from the range of building contracts he considers. However, to oversimplify considerably, the greater risk for the client, the less the risk for the consultant. Therefore it must be better for consultant risk if, at the outset, the client understands the risks he should reasonably take as one of the two parties to the building contract. It has been my experience that consultant designers frequently agonise over, and therefore become implicated in, contract problems which should be wholly problems for the client. Setting his risk scene at the outset can prepare the ground.

As earlier, I shall use the JCT forms of contract as exemplars. They are the most frequently used forms and are the most comprehensive, so the messages which result from this review can be applied to most of the other forms published.

Risks common to all JCT designer-administered contracts

As I cautioned about my commentary on appointments, this text is not intended as comprehensive advice on how to administer a building contract. Content of standard contracts is reviewed only where risk commonly arises.

The JCT 80 forms and their derivatives are now updated with Amendments 1-18 and republished as JCT 98 forms. I have ignored any further alterations which are believed to comprise minor drafting improvements. With these provisos all references to the JCT forms are to the 98 publications.

Comment is based on the Private Edition with Quantities but, unless stated otherwise, embraces also the other forms in principle, if not the strict interpretation of some individual clauses, for the purposes of discussing risk. The forms are:

- JCT 98 and derived forms:
 - Private with and without Quantities
 - With Approximate Quantities
 - Local Authorities with and without Quantities
 - Local Authorities with Approximate Quantities
 - Contractor's Designed Portion Supplement with and without Quantities
- Intermediate Form of Contract

- Management Contract
- Prime Cost Contract

I have grouped principal risk under the following headings:

- A change in the balance of responsibilities
- Provision of information
- The contract administrator's powers to instruct on behalf of all consultants
- The contract administrator's responsibilities in inspecting quality of construction
- Variations to the contract
- Insurances
- Payment.

Changed responsibilities

Consultant and client must understand that on appointing the contractor, the consultant's responsibilities change. Before appointment, he owed duties solely to the client. To administer the contract fairly, he now has to act even-handedly as between client and contractor. The consultant should not give advice to the client, or take instructions from him which could compromise his contract administrator's quasi judicial duties under the contract. This may put the relationship in a difficult position. The client has grown used to a relationship in which the consultant has put the client's interests first. Fortunately, the combination of contractors' robust defence systems to a sometimes perceived less-than-even attitude by the consultant, and the innate wish of most design consultants to see fair play, has avoided the more obvious conflicts of interest. The principle remains, however, and resolution is best openly discussed with the client before the contract is signed.

Provision of information

There is discussion later, on the meaning, if any, that the contractor can attach to 'lump sum contract' as an indication of the completeness of information he can expect on appointment. Whatever he might assume, it is almost certain that he will not receive full construction information on appointment. Various devices have been tried to give the contractor the protection he needs and at the same time allow the consultants to issue some information later. This is substantial risk territory for consultants when, as often happens, the contractor claims and the client pays up and then looks to the consultants to recoup. Consultants may be well advised not to invoke

the optional JCT clause on master programmes but rather to rely on the time honoured clause which requires the contractor to give reasonable notice of the information he needs.

However, JCT 80 Amendment 18 introduced a new device. The contract administrator, not the contractor, determines at appointment the programme of information yet to be provided – at first sight an attractive risk option. However, failure to deliver by the time promised, or argument over what the programme included, could increase risk. This clause should be viewed with caution if it is intended to include it.

The consultants' powers to instruct

The title 'Architect' may be used only when the administrator is an architect registered by the Architects' Registration Board. Otherwise, the title 'Contract Administrator' (CA), the title given him in the Local Authorities Editions of JCT 98, must be used. I shall use CA. The client's title in the contract is 'Employer', but I shall continue to refer to him as 'client'. The QS is also named in the JCT forms of contract with quantities, and I will return to his status later.

There are several interconnected issues here. One is the status of the CA, who is the sole agent appointed by the client to administer the contract on his behalf. The CA, in exercising the wide powers given him by the contract, really performs two functions. He acts:

- On his own behalf as the designer of his part of the total design (under a JCT contract, the architect, as designer of fabric and finishings)
- For the other consultant designers (the engineers and probably others), as a channel for passing on their instructions and certificates to the contractor.

The contract makes no distinction between these functions. This is sensible management (Fig. 17.1), but is potentially risk-laden for the CA and the consultants. To preserve their risk boundaries, the individual consultants acting through the CA, and the CA when representing the architect designer, need to be able to identify the initiating profession for all communications with the contractor. The boundaries themselves, of course, will have been laid down in the respective appointments, but the principle needs re-emphasising to the client before the contractor is appointed. If these distinctions are not made, the architect as designer may attract liability for the actions of another consultant. The CA also has the special responsibility of making sure that the other consultants are advised when

they should make their contributions to administering the contract (e.g. before the various certificates are issued).

A further aspect of the consultants' powers to instruct concerns any differences between the wide powers given to the CA under the contract, and the powers given to the consultants under their appointments. The client must understand that, having yielded these wide powers to the CA as his agent, he is powerless to prevent the issuing of an instruction he might have wished to question. Conversely, the consultants must understand that they have corresponding duties to consult the client. Therefore, there has to be some mechanism for the consultants to submit to the client any proposed instructions which the client might consider important before they are issued. The consultants should initiate such a mechanism in their own risk interests, however relaxed some clients may appear about the process.

In the JCT forms of contract with quantities, the QS's position is somewhat different. His is more a valuing than instructing role, but the contract requires that the valuations he makes have to be implemented by the CA through issued certificates. It is no surprise that the nature of his role concerns money, and the contract calls on him to value monies due to the contractor, broadly under the headings of payments on account and compilation of the final amounts due to the contractor. Usually, however, the part played by the QS is much wider than might be expected from the few clauses in the contract which explicitly require his services. He will probably have played a major part in drafting, assembling and issuing the contract documents and negotiating with the contractor before appointment. His knowledge of contract matters may come to be heavily relied on by consultants and client before major decisions are made in administering the contract. He may take the major part of the burden in negotiating the outcome of variation instructions with the contractor. There are good reasons why the QS's role has become pivotal. However, the client, designers and QS should refer to the consultants' appointments before the contractor is appointed to remind themselves of the QS's explicit responsibilities. It may well be found that the CA must undertake such duties. The QS could become exposed to untoward risk if he undertook to provide duties beyond the terms of his appointment.

Inspecting quality of construction

I shall use the term CA here to mean all of the design consultants acting within their own appointment services, and the lead consultant, acting as the single contract instructing channel demanded by the contract form.

Inspecting the quality of construction is, perhaps, the most significant and onerous of all the duties the CA faces in administering the contract. It is a major risk area. Differences of opinion between design consultants and contractor are almost certain to arise in one or more of the three now familiar components: quality, time and cost. However complete the specification and drawings, the quality required can be elusive and often has to remain for the CA's ultimate acceptance when he inspects construction completed or under construction. It has been a long tradition that the designer inspects to reassure the client that construction reaches the standards laid down by the contract. While designers may disagree on what such reassurance might mean to a court, they will be unanimous in rejecting it as any form of guarantee. Therein lie the risks of inspection.

The contractual stages for inspection are:

- Occasional or frequent inspection of work in progress and unfixed materials/equipment by the CA, clerk of works or site engineers, with the CA having the power to reject it and have it rebuilt
- Certification of completion, when the CA is satisfied that the works are complete
- Commencement of the defects liability period, during or shortly after which the CA draws up a list of defects which appeared during the period
- Certification that the contractor has made good these defects
- Issue of the final certificate.

Risk to the CA arising from these duties can be divided into two groups:

- (1) The possibility of two different perceptions, by the consultant and client, of the purposes of site quality inspection. A client may deduce (or choose to deduce, if he is feeling litigious) from the rigours of inspection laid down by the JCT form that these will in fact be exercised. In other words, he assumes that he is entitled to something approaching a guarantee from his designers that all construction work has been inspected and found to comply with the contract requirements. His expectations may be heightened if he is also paying for consultant site staff, a clerk of works and a site engineer. The CA may counter by protesting that, irrespective of inspection and the various certificates, contractually the contractor still remains responsible for providing the quality specified. Nevertheless, the client may still argue that having paid for the reassurance inspection gives him (guarantee or

not), he has the right to claim against the CA as well as the contractor if he believes that he has not received the quality promised.

The words of the contract are not completely clear (nor are SFA/99 or the ACE agreements) in limiting the consultants' potential liability; in fact, the JCT forms do the opposite when they authorise such wide ranging powers by the CA. This reinforces the importance I attached in Chapter 8 to the need by the designers always to prepare the way in their appointments for their risk protection. They are then in a stronger position at contract award stage to make sure that the client fully understands the limitations of inspection.

- (2) The significance of the final certificate. Until the seminal case *Crown Estates Commissioners v. John Mowlem & Co Ltd* (1994) 40 CLR 36, the conclusiveness of the final certificate had not been tested. However, legal commentators have asked from time to time if it was intended to be any form of guarantee by the CA. Did its issue bar the client from making further claims against the contractor? The contractor defendant (Mowlem) was successful in persuading the court that issue of the certificate prevented the client (Crown Estates) from pursuing his claim. More significantly for consultant risk, could the client then have successfully claimed against the CA on the grounds that his issuing the certificate had prevented the client from recovering from the contractor? The court did not address this issue directly, but legal commentators have claimed that this could have been inferred from the judgment.

JCT80 Amendment 15 followed, in which the Joint Contracts Tribunal changed the wording of clause 30.9.1.1 to deprive the contractor of the shelter of the issued final certificate and hoped to give the architect some protection also. Whether that will prove successful remains to be seen. The wording still leaves the architect with wide and onerous responsibilities.

Clearly the above are interconnected. The extent of the CA's inspection duties before issue of the final certificate, and how carefully he carried them out, have a bearing on any responsibility which he carries in issuing the final certificate. If a disaffected client took a CA to court on the grounds that issuing the final certificate had in some way diminished the contractor's responsibility to make good faulty work (and thus deprived the client of some civil redress), it is almost certain that the CA would have to defend the extent of his duty to comply with the qualities and standards specified in the final certificate as being 'to his reasonable satisfaction'. Similarly, if the starting point of a claim from the client was that the

CA had failed to inspect in some way, it is likely that the meaning of clause 30.9.1.1 would again come under the judicial microscope.

Only time will tell whether the new clause has reverted the CA's inspection duties to what architects traditionally assumed them to comprise (whatever that may have been), and at the same time has allowed contractors to be pursued after issue of the final certificate. I believe that until a more precise way is found to define and limit the CA's specifying and inspecting duties, designers who also inspect will remain vulnerable.

Can anything further be done within the present framework? Short of an indemnity by the client undertaking not to claim against the CA when he issues the final certificate in good faith (a suggestion hardly likely to be welcomed by most clients), I believe that consultants can protect themselves to some extent by discussing openly with the client the implications and intentions of the inspection and certification clauses, before a JCT contract form is chosen. There may be an acceptable form of words that can be included on the CA's appointment to limit his inspection duties to a reasonable level for the fee he is paid. Perhaps it should be emphasised that although the expression 'CA' is used in the singular, for convenience, all the consultants who have an administration role in the operation of the contract are equally vulnerable.

Variations to the contract, extensions and damages

After its provisions for the control of quality, possibly the second most substantial content of the contract form is its provision for variation. Although the contract form is said to be for a 'lump sum' contract, and therefore with the expectation of little change, there is the surprisingly complex mechanism suitable for handling major change and its consequences to the parties. Although there is a point at which change becomes so significant that the project is no longer what the contractor tendered for, few contractors complain because there is substantial provision for recovery of their expense. Thus, there is opportunity for the CA to vary the contract substantially and not always appreciate the consequences to the client. The design team need to discuss this with the client at the outset, bringing to his attention the potential consequences of his changes of mind, as well as aspects of incomplete design which might have to be reworked, causing the issue of variation instructions. It is probably unthinkable that any client would appoint a contractor expecting the contract sum to be the final sum, but the consultants do owe the client a duty to ensure that he understands why, as invariably happens, he will usually pay more and only occasionally less, in the end.

This is probably the opportunity also to explain to the client how

the contract form deals with variation, the ways in which the contractor can be reimbursed, and the indirect sources for which the contractor can expect reimbursement, including the substantial amounts which can be paid when the contractor is caused delay; and conversely, when the contractor himself causes delay, how the provision for damages operates.

While, tactically, you may feel it unwise to overstress the subject of variation to the client at the outset, remember that if there is anything significant at Stage H which you are, or should be, aware is a potential expense to the client, you have a duty to inform him. Now is the time to review incomplete design and the intention of the provisional sums. Clients have a right to treat the contingency sum as provision for genuinely unforeseeable events, not a sink for the unforeseeable effects of incomplete design. The place of provisional sums is considered further in Chapter 16.

Insurances

Although the CA is expected to understand the whole of the content of any form of standard contract produced by, or under the advice of, his professional institute, the clauses on indemnity and insurances are partly exceptions to this rule. While the CA might reasonably be expected to understand and advise the client on the matters for which the contractor must indemnify the client, the corresponding clauses on how these indemnities are to be insured have to be treated with more caution. As they were largely drafted on the advice of the insurance industry, their language is substantially the language of the insurance industry. These clauses also involve some large risks, some of which will be borne by the client if the insurance provisions are not set up correctly. Therefore it seems reasonable that the CA, whose professional training and experience is not insurance based, should not have to be drawn into the subject.

Involvement in insurances starts with selecting the right contract clauses and inserting the right indemnity levels in the appendix. These are initially recited in the contract preliminaries. It should be the client's decision whether he wishes the QS or his own insurance adviser to provide this information; the CA merely ensures that the client is aware that the CA takes no part in the process. How the client should then ensure that the insurances are in place is continued in Chapter 17. However, a sensible way to involve the client is to send copies of the appropriate clauses to him, recommending that he pass them to his broker for comment. Whether the QS has sufficient professional background to advise on insurances should be questioned.

Advice which it would be safe and prudent for the CA to give the

client is that contract insurances are there for the benefit of the client, not the contractor, and that they are important and need the close attention of the client.

Payments to the contractor

The client should understand that, unlike other commodities he may purchase, he has to pay a substantial part of the total cost in stages before he can use the building. He has to build this into his cash flow planning. He faces the risk that if the contractor disappears before he has beneficial use, he may have to pay others to complete with no certainty that he can recover from the failed contractor. There are devices such as bonds which may offer him some protection, but they tend to be complicated and expensive. If the contractor is a subsidiary of a much larger organisation whose assets are safer, a parent company guarantee may be available. With the exception of such safeguards, the client has to look to his consultants to ensure that he does not pay too much on account.

Unfortunately the contract may not entitle the CA to retain sufficient for the client's complete peace of mind. The normal provision is a retention of 5% until practical completion and $2\frac{1}{2}\%$ until issue of the final certificate. The adequacy of these percentages should be reviewed with the client before the contract documents are completed. This should be seen as a wholly client borne risk. No consultant should have to prophesy the probabilities of financial catastrophe. The contract does not define what is meant by the 'value' of uncompleted work to be included in interim certificates. If there is reason to anticipate particular problems, definition may need to be included as one of the contract definitions. Is it to be cost to the contractor, or value to the client?

While the CA has no control over the release of retention – the contract rules are quite specific – he can and must exercise his judgement before including payment in certificates for sums for work valued by the QS in the JCT forms of contract with quantities. It is not part of the QS's services to judge the quality of uncompleted or completed work. If the CA overcertifies and the contractor fails before he has completed the work, thus causing the client additional expense, the client may be successful in a claim against the CA.

Risks of standard forms for other procurement routes

These forms contain all of the risks for JCT 98 reviewed above, except where stated.

The JCT Form with Approximate Quantities and the Prime Cost Form

Design teams should not recommend the straight JCT 98 to the client if the contract is to be let on largely incomplete design information. JCT 98 was not intended as a vehicle for substantial variation despite the comprehensive provision for it. The team may cause themselves and the client considerable trouble if they use it in this way. Recognition by the client of uncertain time and cost outcome by adopting other forms, can be valuable risk protection for the team. (He may reasonably have expected certainty if he had adopted JCT 98; by choosing one of the above, he knows he can expect uncertainty.)

The Approximate Quantities Form is similar in every respect to JCT 98, except that by accepting approximate bills of quantities, when all the finally designed work is remeasured, the contractor also accepts and should build into his programme expectation of some change in construction detail from the tender information. The designers will not be able to give the client any accurate indication of final cost until late in the contract.

The Prime Cost Form is to be used when there is even less information available at tender stage. Here the contractor tenders virtually on sums of money only, assessed on cost plan level information by the QS. The contractor is paid by fee, together with the actual cost of the labour and materials and a stated percentage addition. There is even less cost and time certainty for the client than by adopting the Approximate Quantities Form.

The services in the QS's appointment must reflect the different work required if one of these forms is chosen.

The JCT Management Contract Form

The contractor is appointed for a fee, for which he will take responsibility for the quality, time and cost performances of separately identified works package contracts. The form includes provision for appointing the package contractors, and the design team are expected to be involved in the choice of the package contractors. Apart from these aspects, the intention of the form is similar to JCT 98, with a single point of responsibility for performance. Although on paper it is seen as a lump sum contract, it tends to be used where some design information is incomplete when the contractor is appointed. The form is rather a mixed bag; the contractor occupies the traditional contractor position, i.e. there is potential for an adversarial relationship. Involving the design team in the selection of the package contractors may not benefit the client and can implicate the design team in the construction risk chain. The team

should carefully consider whether the Approximate Quantities Form might not be better for the client and their risk.

Construction management may seem a much more sensible alternative, although its principles are quite different. Here the contractor is appointed as a consultant and, if appointed early enough, joins the design team. He is there to recommend and organise the works package contractors but takes no direct responsibility for quality, cost or time. The package contractors contract directly with the client. Individual arrangements range from total lump sum certainty at completion of design, to packages appointed on a day work basis. The greatest disadvantage is to the client who has no single point of responsibility to rely on for performance. There is no particular risk to the design team other than meeting the design programme drawn up with contractor and client.

Strangely, there is as yet no standard form for appointing the contractor or the package contractors. Modified standard forms can be used for the latter, although care is needed in drafting the respective quality inspection and instructing roles of CA and contractor.

The JCT Intermediate and Minor Works Forms

Although the JCT Intermediate Form, as its title indicates, was introduced for a range of contracts between JCT 98 (very large contracts) and the Minor Works Form (domestic work), it quickly became popular for all except domestic sized projects. For nearly all of the risk aspects discussed above it is similar to JCT 98. There is no provision for nomination and therefore no route for any design by the contractor. The Minor Works Form is very much simpler than either JCT 98 or the Intermediate Form and will be adopted only rarely for the range of work anticipated by this book. Ironically, its simplicity has resulted in the absence of the potentially risk laden wording of the final certificate which has caused so much debate above.

Standard forms where contractor takes part of design responsibility

The base JCT forms must not be considered if the contractor is to undertake, or take responsibility for, any design, unless through nomination (a not very popular device these days), or, as discussed above, for the limited purposes of clause 42. There is no specific intention or mechanism for contractor design, and contractors have been known to reject responsibility, even though their tenders included some explicit design element. The specially drafted Con-

tractor's Designed Portion Supplement (below) might support their case for rejecting design responsibility.

JCT Form with Contractor's Designed Portion Supplement

This is a convenient halfway house between none and full contractor design. In its intentions, however, its parentage owes much more to JCT 98 than to the JCT Form with Contractor's Design reviewed below. While it makes similar provision to the latter for the parts of the contract that the contractor is to design, it preserves the whole of the traditional administration role of the CA. Thus the team are exposed to all of the risks reviewed under JCT 98. There is provision for the design team to state in the tender documents exactly what is required of the contractor in his tender, and if he is appointed, for his proposals to be examined as part of the tender appraisal; in other words, provision for full control of the contractor's proposals if the team wish to exercise it. In this operation there is the potential for the team either to increase or decrease their risks, providing they do not seek to undermine the obligations that JCT 98 imposes on the CA.

Contract forms when contractor designs whole of works

It might appear that such forms would not be needed. If the contractor both designs and builds, where is the need for the services of a consultant designer? In many cases, clients do go straight to the construction sector and seek what used to be known as a 'package deal'. If the client required facilities management also, it would have been called a 'turnkey' deal. However, clients frequently come to the consultant sector for some help.

JCT Form with Contractor's Design (JCT 98 WCD)

This form was introduced with the intention that any client who wanted a one-stop responsibility could use the form without reference to any professional design advice. No doubt many clients use it for this purpose. However, the contract requires the client to express his intentions. Here lies the first opportunity for the consultant sector to become involved. Many clients prefer to have a professionally written brief and a quality statement. Some clients go further and commission consultants to produce sketch plans showing spatial relationships, and the shape of the building, together with an outline specification. A few clients go even further and have full production drawings, although that would appear to defeat the intentions of design and build.

Consultants who become involved in this process must appreciate

that, whatever the contract says about the contractor taking full design responsibility, by giving advice, however basic, they have entered the design risk chain. They owe duties to the client. However, they can control the risk, or at least be aware of its full extent, by insisting on advising the client on the tendering and contract award processes. It is good risk management that they should. The contract provides for the client to state in the tender documents his requirements on how the contractor proposes to discharge the design brief. The contractor has to respond with his proposals. By these means, the client can control the content and quality of the project. The consultant design advisers should ensure, if they can, that they prepare the employer's requirements and review the contractor's proposals. By carrying out these steps, the team have the opportunity to ensure that the contractor will properly respond to the quality and design standards that they laid down.

The second way in which the design consultants – including the QS – may continue to be involved is in administering parts of the contract. As it stands, the form has been written so that the client himself can administer the contract. There is also provision for an agent to act on his behalf, for all or a part of the duties that the contract requires of either the client or his agent. The team may be asked to administer part or all of the contract. Although there are many similarities with JCT 98, there are also important differences. Consultants should study the contract carefully before accepting the commission, and should ensure that the parts of the contract they are to administer are endorsed in their appointments. The relative parts of SFA/99 and the ACE agreements may not be entirely suitable as they stand.

16 Tendering and Contract Award

(Work Stages F–J)

Introduction

I shall continue to assume a traditional procurement route as the basis for structuring this chapter. However, even if one of the less traditional routes is adopted, the same principles will apply. Advice given is equally appropriate for tender and award of separate works packages, wherever they might arise in the work stages.

Completion of design and preparation for construction is a transition period with considerable risk potential. The designer has to prepare himself to commit the probably irreversible step of committing his design to construction. Once construction has commenced, second opinions on any doubts about design can be very expensive for any of the parties involved. During this period, design activity is replaced by appointing the contractor who will translate design into building. Up to this point, the design aspects of the designer's terms of appointment have dominated his contractual obligations. Now, the contract administration aspects of his appointment and the construction contract itself will take centre stage. Irrespective of whether or not design is complete, he has to freeze the extent of the design to be tendered for. He has to finalise a probably complex building contract form which will heavily involve his client's and his own potential risk. The lead consultant bears the additional responsibility of coordinating all the designers' activities in these important steps.

Sound previous risk management will have prepared the way for confident finalisation of all the steps necessary at this stage, e.g. a sound appointment, attention to the developing procurement strategy, openness with the client on any incomplete design aspects, and clear understanding of the extent of industry design. But, however sound the preparation, there will always be loose ends outstanding at this stage. Now they must be tied up. This chapter attempts to deal with the more important risk aspects.

Review of design completion

This is probably the most important and time consuming of all the steps to be taken. Certainty about design and the form in which the information is to be passed to the tenderer and contractor may well turn out to be the key risk aspect of the whole project. Thoroughness is vital.

It would be a very unusual project where the whole of the design was complete at tender stage and I must realistically assume that completion of some design will have to wait until after the contractor has been appointed. The important risk message here is to be realistic about such incomplete design, to consider the implications and to make plans for overcoming problems which might arise – or at the very minimum to be aware of them. Possibly the worst scenario is the overlooking of incomplete design and the next worst is being aware of the problem but hoping it will go away. It rarely does. You need a routine which ensures comprehensive review of the whole of the design, which of course includes the specification.

You will not normally have the benefit at tender stage of a contractor at your side to evaluate the effects to him of late information. But you will know sufficient about the industry to be able to judge the elements which contain long delivery, lengthy fabrication time components or require lengthy contractor management preparation time. If, even for sound reasons, you are unable to include sufficient details in the tender documents, you must consider discussing the possible consequences with the client and the risks if you do not. Here I return to an earlier theme; do you have a client sufficiently aware of the workings of construction that he does not need advice, or is he a client who must be educated?

To help analyse the various layers of design information which will have been produced over the design stages, I have placed them in the following groups. There should be a way of recognising documents within these groups, e.g. code letters on drawings and specifications.

The whole of the design information

The whole of the design information is not necessarily information for inclusion in the tender documents. There will be early sketches, superseded by full design, superseded production drawings, explanatory sketches and perspectives for the client, coordinational exchange with the other designers and so on. All of this has to be screened, to be certain of the content which should become tender information. Do not automatically discard information which is not selected; it may be useful later for different risk reasons. For example,

sketches worked on by more than one profession may indicate which of the professions was responsible for a design decision.

Tender drawings

Tender drawings are the information on which contractors will base their tenders and probably start to plan construction. As I said in the introduction, some design may still be incomplete. Designers must be realistic and must make sure that tenderers are as aware as possible of aspects which it is known will change, or those which will need further development. This is particularly relevant for the so-called 'lump sum' contracts, e.g. JCT 98, which reasonably anticipate that the contractor will build largely what he tendered for. The practice of including spurious design 'just to get a price' is to be discouraged, unless tenderers are made aware of such practices. The usual device for including part designed or undesigned work is the provisional sum. Provisional sums should include as much information as possible. Beyond a certain point, they are not of much help to tendering contractors. If provisional sums become a substantial part of the tender, they will defeat the objects of lump sum contracts.

What has all this to do with risk? If tenderers cannot reasonably judge the work to be carried out, they cannot reasonably programme and, as the appointed contractor, will be encouraged to use whatever contract devices are available to recoup loss caused by the inability to plan. This will find its way into the designer's risk chain via claims.

Contract drawings

Tender drawings may not always be the contract drawings. When time is short at this stage (as it often is), the tendering period is used to review further the extent of design completion and this can result in changes to the tender drawings. If there is sufficient time, tenderers can be asked to include changes before they submit tenders. Otherwise, the designer has two choices. He can either negotiate with the lowest tenderer (or more than one if other tenders are being considered) to include the changes in the contract, or he can leave the changes to be dealt with via architect's variation instructions (below). Clearly there is more certainty and competitive advantage to the client if the changes can be included in the awarded contract.

Construction issue drawings

Where it is not possible to incorporate all design within either tender or contract, the last chance, of course, is to issue variation instruc-

tions. Issue of such instructions can be left until later, subject to the contractor's reasonable programming deadlines, but variation instructions within this category are best issued as one comprehensive instruction when awarding the contract. In this way, intended changes to design are separated from the normal unforeseen nature of the bulk of instructions issued later.

The lead consultant again has the duty to ensure, as far as he is able under his appointment, that all the design consultants have similarly coordinated their own documentation.

I stress again the importance to risk management of categorising the drawings under the above headings.

Remainder of tender and contract documentation

The written parts of the documentation comprise the specification, bills of quantities, preliminaries and contract particulars. While normally all these are physically part of the bill of quantities, they are not necessarily within the 'ownership' of the QS. The appointments should state which professions are to be responsible for producing the documents, and thus the professions bearing the risks which arise from the contents. I have warned earlier of the potential dangers of allowing the QS too much influence in the preparation of the documents.

The specification

The specification is the written part of the design and must complement the drawings. It is very much part of the documents 'owned by the designers', who must have full control over its content. As it is physically part of the bills of quantities, this point needs stressing.

Contractually, unless one of the JCT forms without quantities is used, the specification is part of the bills of quantities; it is not referred to specifically by the contract. Nevertheless, for reasons given above, the designers must retain full control.

Preliminaries and contract particulars

The preliminaries are part of the bills of quantities probably because they started in life as contractual qualifications to the measured sections of the bills. It may also be true that they are part of the bills because the QS originally took the initiative in ensuring that all contractual matters had been properly covered. Whatever the reasons for their origins, preliminaries are now a place for gathering together anything that is not to be found in the drawings or the

specification. This is a simplified analysis but reminds designers that much of the preliminaries content is within their 'ownership'. It materially affects their risks; they must be responsible for content, even though prudently they may seek QS advice. If NBS preliminaries are used they will form a sound basis and checklist for completing the document. All professions must share in preparing preliminaries, coordinated by the lead consultant. The principal constituents of the preliminaries are listed below.

Contract particulars

The contract particulars set out the form of contract and all the modifications required to change the form from a standard to a dedicated form. Design consultants and the QS should have discussed with the client at an earlier stage the form to be used, where the balance of risk lies, and the modifications necessary. Completing the contract particulars need be no more than a formality at this stage.

Industry design

Instruct tenderers on how industry design is to be incorporated and where responsibilities for design will lie.

Programming requirements

Instruct the contractor on any way in which he is to submit his programmes for construction and information requirements.

Attendances

Common facilities to be provided by the contractor, usually to nominated subcontractors, e.g. power, water, use of hoists and scaffolds.

Access to the site

A potentially important risk section for clients, this normally includes safety to adjoining owners and public highways, and noise and dust preventative measures.

Assembling and issuing the contract documents

This should always be carried out by the lead consultant, normally the architect. As lead consultant, he needs to be sure that this cul-

mination of his design coordination duties has been properly discharged. The duty should be explicitly stated in his appointment.

Selecting the contractor

Participation in selection of tenderers should also be explicit in the design consultants' appointments. Although selection and appointment are within the gift of the client, he must be persuaded that the designers are experienced in advising sources of construction for the particular design brief. Designers also have their own risks to protect and choice of an incompatible contractor can cause misery.

Contractors can be selected by interview, experience or local knowledge. Some consultants are wary of recommending tenderers for fear of being claimed against in the event of a bad appointment. The consultant who is that cautious should weigh the risk of being saddled with a disastrous contractor, against the opportunity to advise. In any event it is difficult to see how any consultant with experience of working with contractors could avoid advising if he were asked to do so. On balance it seems a risk which should be accepted. It does of course involve making prudent enquiries for quality of construction, ability to manage and to complete within a given programme. However, most designers are not financial experts and should make it clear that they cannot comment on tenderers' financial soundness.

Reviewing the tenders

The client should decide where the tenders are to be delivered. If they are to be delivered to him, no doubt he will require reports from the designers and the QS. While the QS will check them for arithmetical error, financial soundness, consistency of rates and the like, the designers may also have an interest. This arises if any tenders have been qualified for other than financial matters, if any negotiations started during the tender period have to be finalised (e.g. incorporation of late drawings as mentioned above), or if some tender amounts are so close that decision on the one to be accepted will depend on criteria other than cost. It is important that the designers give their opinions, so that they can be content with the choice made.

If none of the tender amounts is within the client's budget or cost plan, savings may have to be made through negotiation with one or more of the tenderers. It is important that the designers take care in

producing alternative designs and specifications; details should be as clear as in the originally specified design. There should be similar clarity in the financial basis of the changes, i.e. a subsidiary bill of quantities. It is safer if all such changes can be embodied in the contract amount rather than awaiting incorporation via variation instructions.

Awarding the contract

The architect should assemble all the contract documents for execution (signing or sealing) by client and contractor. The documents will normally comprise the contract form amended as required by the preliminaries, the bill of quantities containing preliminaries and specification, the contract drawings listed, and any negotiation documents which are to be part of the contract. The architect should consult the client on who is to send the documents to the parties for execution; it will normally be the architect unless, say, the client would prefer it to be done by his lawyer. If the architect is to issue the documents to the contractor, he must first obtain the client's formal consent. When the documents return from execution, the architect has a duty to check them for completeness and make sure that all amendments have been initialled by both parties.

Alternatively, if time for awarding the contract is running out, the architect may draw up a draft letter for the client to send to the contractor, awarding the contract on the listed documents. This is a valid way of creating the contract, but the formally executed contract documents should follow within a reasonable time. The architect should avoid sending the letter himself, but if this is inevitable he must never issue such a letter without first securing the client's formal instruction.

So called 'letters of intent' should be avoided; they can be ambiguous and have caused a great deal of case law. Either a contract exists or it does not. It is tempting to send a letter to the lowest tenderer expressing intention to award the contract to him, but it must be very carefully worded so that it is not actually awarding the contract.

Sometimes ambiguity is caused by the client's wish to award only part of the contract, with intention to award the rest later (typically because he cannot now afford to award the whole of it, or because part of the site is not available). This situation, too, has caused parties to go to court. If it is necessary to award only part of the contract, new contract documents should be prepared for the part to be awarded, with no promise of award of the remainder. Designers need to take a full part in this process; risk can arise if they do not.

The contract must always be awarded in time for the documents to be executed before the date of possession (or deferred possession) of the site. If this is not possible, a new date must be negotiated with the contractor, to replace the original date given in the tender documents, *before the contract documents are executed*. The new date cannot be negotiated via a variation instruction.

Clerk of works and site engineer

Development of the extent of site inspection duties expected of the designers should have proceeded during design as recommended earlier. The need or not for a clerk of works and/or engineer will have emerged as part of this process. If the client has been reluctant to appoint either and the architect or engineer believe that the project demands such additional inspection, they must warn the client of the possible effects on quality if he continues to resist.

Assuming that a clerk of works and/or engineer is/are to be appointed, final preparations must be completed during this stage. This means interviewing them and appointing them before construction commences. The process and intention are similar for both, although the wording in the RIBA and ACE Agreements differs somewhat. I shall choose here the clerk of works' appointment wording in SFA/99 to illustrate the actions necessary.

The architect should become involved in the appointment of the clerk of works, even where the client appoints him. In fact it is normal, and preferable in risk terms, that the client should appoint the clerk of works (SFA/99 gives no opinion either way). Whoever appoints the clerk of works, both the SFA/99 and the JCT contracts make it clear that he is to be under the direction of the architect, not the client. Thus the parties are faced with the unusual commercial situation of an appointee whom the employer is not permitted to direct and a person under the architect's direction whom the architect cannot dismiss or discipline. It seems to work, however, but both the terms of employment and the procedure that the architect writes for the clerk of works' site activities, must complement each other.

There is another important reason why the architect must participate in the clerk of works' appointment. The fragility of the contractual expectations of the architect's inspection duties has been debated earlier. The clerk of works plays a substantial part in such expectations. He is usually on site much more frequently than the architect, even when his is only a part-time appointment. He is naturally expected to see more than can the architect whose visits are normally short and less frequent. However, the relationship is

more subtle than that. A clerk of works' background is generally quite different from an architect's background and he will judge quality on a different basis. Also, the architect is charged to make the important strategic decisions, including the directing of the clerk of works to parts of the project the architect may consider to be more important than others. Thus it is important that the architect and clerk of works should come to an accord over these matters, either informally or through a written procedure. Great risk lies in inspection and it is preferable that if conflict arises it is based on a platform of trust between architect and clerk of works as to their roles. Clerks of works can be held liable for their negligence but it is more difficult to demonstrate to a court than the architect's negligence.

17 Administering the Building Contract

(Work Stages K–L)

Introduction

Much of the advice given in Chapter 15 to assist in choosing the right procurement route applies also to this chapter. Readers might find it useful to read Chapter 15 in conjunction with this chapter when setting up their contract administration procedures.

The consultant commonly finds the building contract stage to be the most risk stressful stage of the whole process, and with good reason. The previous stages restricted risk contacts essentially to client and fellow consultants. Now, the shark infested waters of the contractor's world are lapping at his feet. It is probable that some design remains to be completed, with the added distraction created by the newly appointed contractor who is already pressing for information, having extracted from the tender and contract documents any weaknesses he may be able to exploit.

If the consultant has been able to follow some of the advice offered earlier in this book, he will be in a safer position to meet the rigors of administering the contract. It may be prudent that he should run over some of the risk points already made.

However, that will not be enough to prepare him for what is really a completely new environment. One of the most testing challenges is that he now has to serve effectively two clients. Although his appointment is still only with his original client, as mentioned earlier, he now has to act evenhandedly in administering the contract. It can sometimes be difficult always to act (and appear to act) fairly in the interpretation of the design standards he has himself set, and indeed over a range of the many other matters which require his judgement. The arbitration provisions, attempts to insert conciliation, and now statutorily imposed adjudication provisions have all arisen from the desire to apply some level of independent jurisdiction, short of going to court. However, considerable powers still rest with the architect as prime designer and contract administrator, and through him, the other designers, all of which demand independence in their operation.

At times he and they will need the wisdom of Solomon to resolve the problems within their own consciences as well as act disinterestedly between fellow consultants, client and contractor. This is important risk territory. There are no simple answers, but there is a management framework which will help to identify some of the challenges and put them into context.

Preparations for administering the contract

As lead consultant you will, no doubt, have spoken to the contractor informally since his appointment. Deciding how you are going to work with each other will have started. However, there are formalities which have to be completed. One important aspect is that sufficient time should have been created between the contractor's appointment and possession of the site to allow for a pre-site meeting and agreement of the issues which will arise from it. The following are some of the matters which require your attention before this first formal meeting with the contractor takes place.

The client's role

Consult the client on the role he expects to play. As contract administrator, you may have to remind him that the contract recognises only you as the administrator (see below for definitions concerning the contract administrator) and that any contribution he may wish to bring to the process must be via you. The same applies to the other consultants in principle, regarding their own place in administering the contract. If the client wishes to attend some of the site meetings as an observer it would be courteous to inform the contractor first. You will, of course, assure the client that you are setting up procedures to ensure that he is always consulted about any changes to the agreed design (below).

If there is a project manager, his role must be made clear. Again, it is important to establish that the contract recognises only the contract administrator's authority.

Authority of the contract administrator

As with Chapter 15, I continue to use the term 'Contract Administrator' (CA) rather than architect because although the architect (acting as lead consultant and a prime designer) is normally the CA, he may not always be. The title CA is used by the Local Authorities Editions of JCT 98 as an alternative title to architect.

Where the architect is not the CA, he may still continue to act as

lead consultant for the purposes of coordinating contract communications from all of the design consultants, or he may act only as a prime designer. Further relationships and communications links need to be created, linking the CA and the design consultants, which should be recognised in their appointments. It must be ensured that the CA recognises architect and fellow team consultants' contributions in administering the contract. Architect and team must distance themselves from any communications from the CA to the contractor which compromise their appointment duties (e.g. unilateral instructions from the CA regarding quality of work), by informing the client.

Generally, I have used the term CA wherever the contract calls him to instruct or otherwise communicate. However, bearing in mind the necessary participation of the architect, other design consultants and the QS in administering the contract, reference to them also has been unavoidable.

The CA must assert himself as an authoritative administrator and unless he agrees otherwise, all communications to the contractor shall be through him. This is not to be seen as a declaration of power for its own sake, as some commentators have unkindly put it. Not only is a single point of authority demanded by the contract, but strong management is good management. Figure 17.1 completes Fig. 8.1 by showing how the respective contractor and design team organisations formally communicate with each other.

Single point authority demands that proper consultation channels need to be set up with those who need to be consulted. I have already looked at relations between client and architect, and architect and contractor. That leaves CA/architect and consultants. The consultants' contributions to design are often greater than the architect's, so their opportunities and needs to contribute to contract administration are vital. When setting up his systems for communicating with the contractor, the architect's role, as in the design stages, is to be coordinator of the architectural and other disciplines, as well as designer in his own right. He must anticipate the occasions when the other disciplines must contribute, which means in practice keeping them closely informed of the contractor's programme and problems, even if the individual consultant's interest is not immediately apparent. This is most readily actioned by asking all the consultants how they would like to be involved and which documents they wish to have copied to them. The architect as administrator should come to an understanding with all the consultants on how they intend to operate their parts of the quality inspection requirements of the contract. Machinery needs to be created for consultants to be consulted before key points in the contract, e.g. payments, instructions, certificates for

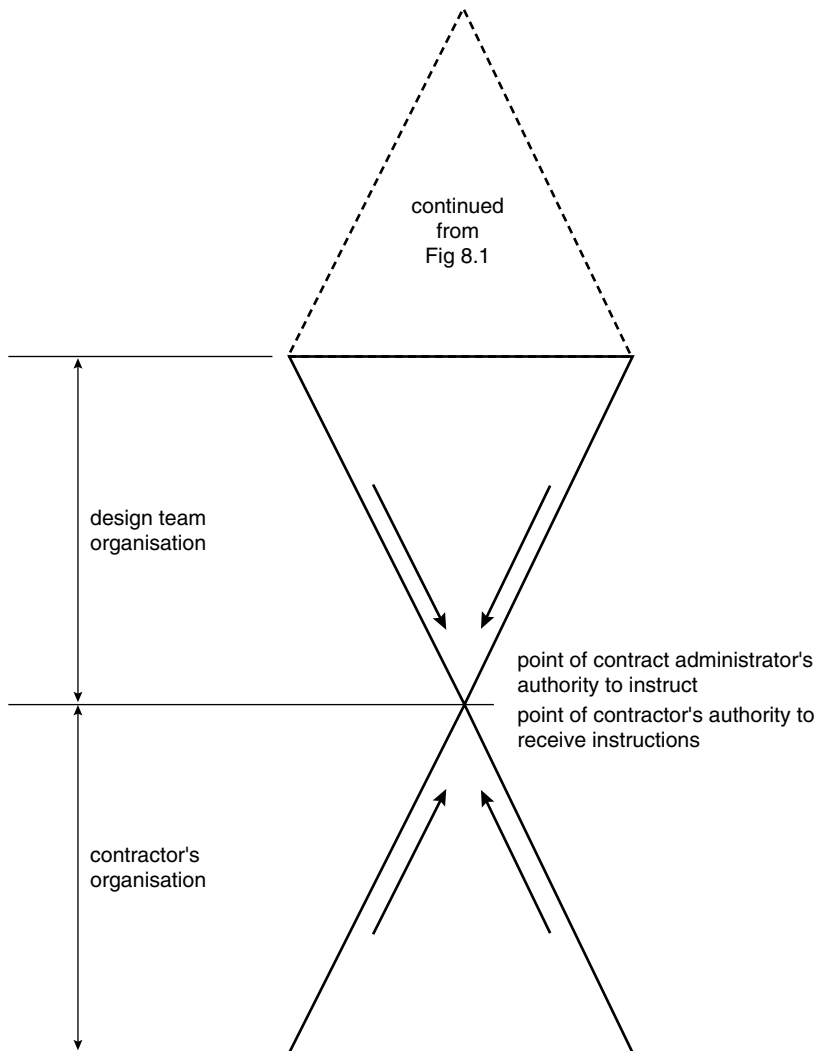


Fig. 17.1 Points of contact

completion, schedules of defects, certification that defects have been rectified, the final certificate issue, and when applications for extensions, loss and expense are expected, made and actioned by the CA.

There is a particular risk aspect here. In instructions and other communications with the contractor, it always needs to be established which consultant originated any communication intended for the contractor, so that in the event of dispute, all will know who originated the communication.

Communications with the contractor

Apart from informal telephone calls (which should be noted), there should only be three principal media in communicating with the contractor: letters/fax/e-mail, drawings, instructions.

Letters, fax, e-mail

Letters are preferable for everything which is not an instruction, including confirming telephone calls where important enough. This discipline should always establish clearly whether a communication is to be seen as an instruction or not. If fax or e-mail are also to be considered, establish a discipline for their use; are they to be the medium of an emergency communication only, or as substitutes for a letter? They must be controlled, logged in and out and copies filed and distributed, as if they were letters.

Drawings

Unless a drawing or sketch is a part of an instruction, its purpose (e.g. to amplify or explain previously issued information) must be clearly indicated in the accompanying letter. If it is intended in any way as an instruction, or to change something, it must be attached to a formal instruction.

The status of drawings and specifications exchanged in the development of contractor design can cause problems. Is the drawing part of design development or is it a change instruction? Ensure that the contractor understands the category, and issue a variation instruction only if change is intended.

Instructions

The routine for instructions demanded by the contract must be scrupulously followed. The CA should always make sure that he has authority to issue an instruction by reference to the relevant contract clause. The instruction may not disclose the clause, but the contractor has the right to be informed if he requests it. The CA may wish to require the contractor to acknowledge receipt of instructions. As well as containing (listed) drawings, instructions should also contain specification requirements in as much detail as the work which they alter or replace. Instructions should always be clear on whether they are intended as variations or as other instructions (e.g. removal of substandard work).

Ensure that variation instructions are part of the change management procedure recommended in Chapter 13. Annotate the

designer's copy of the draft and issued instructions with reasons for the instruction (if they are not evident from the content), and link the instruction to the previous part, if any, of the change chain.

Consultation on CA/architect's instructions within the team

Reference was made above to the need to consult the client and consultants on aspects of administration. Instructions are a key aspect, because most instructions are variation instructions, require client consultation and may affect the designs of other consultants and the contractor's programme.

When there is time, copy draft instructions to the client, QS, all consultants, the PS if he requires them, and, if they are employed, the clerk of works and site engineer. Invite comments within a stipulated time. Consider sending an earlier letter to the client, copied to relevant team members, giving the reasons for the proposed instruction and seeking his consent. This is usually accompanied by a QS costing and is part of the cost reporting system. The client may have stipulated a ceiling cost of, say, £500 for any variation instruction above which his explicit permission is required. If there is no time, e.g. an emergency on site requires immediate instruction, consult informally if possible, followed by the normal process but retrospectively.

Drafts originating from the consultants require the same treatment. While the architect acts only as postman for consultant originated instructions, he still has a coordinational duty to understand within the limits of his professional knowledge the intention of the instruction, and to consult other consultants if he thinks that their designs might be affected.

Cost reporting

Cost reporting is a significant aspect of risk management. The duty and risk importance of establishing an efficient system falls primarily (perhaps surprisingly to many) to the CA. However, the architect (where he is not the CA), as lead consultant and a major designer, and whether or how cost reporting duties are written into the respective appointments, bears the major responsibility for ensuring that the client is kept fully informed and that final cost lies within the client's financial expectations. Cost arises from design and cost reporting stems from the way design change is controlled. The lead consultant is the only player who sees the whole picture. Even if all the appointments were silent on cost control, I would still advocate that an appropriate cost reporting system was adopted and driven by the lead consultant.

In practice, of course, the QS accepts responsibility for cost reporting, in accordance with his and the other consultants' appointment terms, and unless there are explicit terms otherwise, he is best regarded as a reporter, not a prime generator of cost strategy.

Cost change arises principally from variation instructions. For the purposes of cost reporting, variation instructions should fall within one of the following categories:

- Initial proposal to change design (the letter to the client which precedes the draft instruction). If there is a cost potential, it should be priced.
- Draft instructions. Instructions for exchange within the team before issue, again to be priced.
- Issued instructions. To be repriced if different from drafts.
- Instructions whose cost has been agreed with the contractor for inclusion in the final computation of costs.

Intention and structure of the cost report

The QS will normally prepare and issue cost reports. The ultimate intention of a cost reporting system is to assure client and team that the final cost will fall within the client's financial expectations. The QS should warn the client and the team of the possible margins of error or uncertainty and advise on the prudent level of contingency at any time.

The format of the report should be understandable by all who need to understand it. Frequency of issue, normally monthly, should be agreed by all.

The detail in the report should indicate the cost health of the project by reporting the degrees of certainty over the elements of the contract and the progression of the various stages of an instruction. Normally, an instruction in one category will be expected to move up to another category as the contract proceeds. For example, an instruction priced by the QS will transfer to the final category after the contractor has agreed its cost. If the designers feel that there is unreasonable delay in movement, the CA should inform the client.

All reports should include aspects of design still to be resolved and not yet committed to instructions, so that they will not be overlooked. These are normally expressed as provisional or prime cost sums. The effects on the contractor's programme of issued and unissued instructions must not be overlooked either, even though he may not yet have made an application for additional loss or expense.

If the client is disposed to doing deals with contractors, with or without QS advice, say, to pay money for accelerated working/

earlier completion, such arrangements, unless they are part of the contract, should be excluded from reporting. The team have been employed only to operate the contract. This principle also applies to the wider aspects of administration.

It is preferable if the QS works through the team in producing his cost reports and other duties, rather than consulting separately with the client. While separate consultation cannot be prevented, it can affect team morale, and of course it undermines my proposition that the lead consultant should drive cost reporting.

Continuation of design team meetings

If design continues over the construction period, the design team meetings will also continue. In any event, it will probably be useful to continue the meetings as a forum for reviewing cost reports and other aspects of multidisciplinary interest. Such meetings can be linked with meetings with the client, to review quality, the contractor's programme and costing design change.

Control and security of documents on site

The normal arrangement for providing site accommodation is for the contract preliminaries to require the contractor to provide suitable furnished offices for the clerk of works, site engineer and visiting consultants. Such accommodation can range from a simple hut on a small site, to substantial offices with near permanent type facilities for large sites requiring the presence of 'head office' type staff. Whatever the level, consideration needs to be given to the type of documentation to be filed on site and its security. Copies of, say, drawings and CA/architect's instructions for the clerk of works may require no more than a plan chest and filing cabinet for him. If, however, the practice intends to place executive staff full time on site, it is likely that original documents will at times be on site, together with computer terminals and fax machines with access to base office. In such situations, security can become a major hazard. Quite apart from the possibility of losing equipment and information by fire or theft, there is the chance of risk sensitive information falling into the wrong hands. Unless adequate pass words are built into an information system, it might be relatively easy for anyone on a site to access confidential documents.

The open plan accommodation favoured by some clients who see a bonding advantage from all working together (which can include client and contractor) is to be avoided if at all possible. In risk terms, space is required which permits confidential discussion and security of documents.

The pre-site meeting

There is considerable administrative detail to agree with the contractor during the period between appointing him and his possession of the site. While much can be achieved by exchange of letters, a formally structured meeting between the principal players has much to commend it. Now is the time to delete from the project plan any design stage procedures no longer required, and insert contract administration procedures. The contractor will wish to introduce his team to the consultant team and explain his organisation's management structure and their places in it. Correspondingly, the lead consultant (normally the architect) will wish to introduce his staff and the principal consultants, and set out their parts in the contract administration (see Fig. 17.1). It is usual (and risk effective) for the CA to draw up the agenda in consultation with the contractor, to issue invitations, chair the meeting and issue the meeting record. The following constitutes some of the items for discussion which are known to be hazardous to risk if they are not introduced at this stage.

Points of executive contact

Figures 8.1 and 17.1 show the importance of establishing single points of authority between the various bodies who have roles to play in the procuring of a building. The final link in this chain is between the CA as client's agent and the contractor. The persons should now be named, with deputies to act in their absence, as the only persons authorised by their organisations to give and receive instructions and the other communications demanded by the contract.

Instructions to the contractor

The contract is explicit about the circumstances in which instructions may be issued and how the contractor is to respond. It might be useful for the CA to restate the contract clause, to avoid later misunderstandings.

The CA might stress that only matters requiring instructions will comprise issued instructions; all other matters will be communicated in writing. This is also the opportunity to discuss any matters which might better be communicated by fax or e-mail and the safeguards to be applied.

The CA should remind the contractor that he will act only as postbox for instructions and communications concerning solely engineering and other consultancy aspects included in the contract,

albeit that he is to be the sole executive contact. Any aspects in which any informal contact between the parties will be permitted should be discussed and safeguards agreed.

The clerk of works and site engineer will be introduced and relevant parts of their terms of reference tabled. It may be necessary for the CA to remind the contractor that the clerk of works' terms of reference do not include advising the contractor on how to construct the building. The clerk of works' authority to issue directions sometimes causes difficulty when, according to the contract, the contractor must wait until he receives confirmation from the architect before he can action the direction. Where a direction has been issued as a matter of urgency, the architect, clerk of works and contractor may come to some accommodation while still observing the spirit of the contract. The engineering consultants may or may not determine that directions issued by the site engineer are to have the force of CA/architect's instructions.

Purpose and structure of site meetings

It is normal to hold site meetings regularly, normally monthly. The CA and the contractor should understand and agree the purpose of these meetings. Neither appointment nor building contract normally call for them and on the face of it the matters typically discussed might equally well be transmitted via correspondence. There is a risk point here. Less experienced architects and consultants can be manoeuvred into making verbal admissions at site meetings which can prejudice their defence if they are later claimed against. One is normally more circumspect when responding to a letter than when replying orally to a challenge thrown across a crowded and public conference table. However, the site meeting is an established custom and will no doubt continue.

Programming and information

It is preferable if the CA, the appropriate consultants and the contractor review completeness of information flow and exchange the latest programmes before the site meeting, so that any points demanding the wider audience of the meeting can be meaningfully debated. This will have given the contractor a chance to review the master programme that he may have been required to submit with his tender and include in the contract. Review can be dangerous ground for the consultants in laying the foundations for later claims for missing or late information. Contractors, with justification, have a commercial front to maintain, honed by years of exposure to a hostile world. If the master programme has been

allowed to dictate some conditions precedent, it will be a powerful tool to the contractor who hopes for success under the loss/expense provisions of the contract. For this reason, the master programme is an optional extra in JCT 98. However, it should be remembered that at the stage such programmes are prepared, with many of the subcontractors still to tender, the programmes can never be more than broad statements of intent. Sensible negotiation at this stage, with information shortfalls laid honestly on the table, and a contractor willing to look at alternative ways of programming the works, should yield sensible accord and pave the way for a harmonious contract.

It is useful to have a standing item on the agenda which asks the contractor to list outstanding information requirements and reviews satisfaction of earlier requests.

Resources

Although the regular clerk of works' report to the architect, and corresponding reports from the site engineer, will list resources on site (labour, plant) and the weather, it can be useful to bring these factors into discussion on programmes and information flow, when the clerk of works will be present to take part in discussion. Current and intended levels of resources can be superimposed on the programme to demonstrate the chances of finishing on the programmed date.

Quality of materials and workmanship

The site meeting is a good opportunity to review quality as a whole and resolve any immediate difficulties not resolved at the CA/architect's normal inspections. It can also be a good forum to prepare for completion and the important quality certificates, which are of course, linked to the programme.

Who should chair the meetings?

There are two schools of thought on who should chair the meetings. One holds that as it is the contractor's meeting, the contractor must initiate, prepare and distribute the agenda, and call and record the meetings. The other reckons that since the meeting is primarily the means by which the CA/architect can report progress to the client, he should chair it. If the architect does not write the record he and the other consultants must take their own notes and dispute anything in the record which might be prejudicial.

Formalities for visiting the site

Although the contract gives the CA explicit authority to visit the site, it is the contractor's site. He is responsible for security and safety and his procedures for allowing visitors access to different parts of the site must be respected, subject to their reasonable needs in administering the contract. It is reasonable to expect the contractor to issue rules, which will no doubt include the names of regular visitors and the formalities to which they will have to conform.

Unless the planning supervisor is present at the pre-site meeting, his own wishes in operating CDM should be taken into consideration.

Meetings other than regular site meetings

Any of the parties may see the need to call special meetings from time to time. If the contractor wishes to arrange meetings which concern only his domestic problems, e.g. subcontractor issues, the consultants will not usually object to attending but must make it clear that such meetings have no contractual status.

Timetable for valuations and certificates

The timetable for valuations and certificates should be agreed, so that the CA, design consultants, QS, consultants, clerk of works (if he is to check unfixed materials on site) and contractor each know the dates when information is needed and certificates issued.

Evidence that contract insurances are in place

The pre-site meeting is the last chance for the contractor to produce evidence that he has submitted his insurances to the client and the client or his advisers are happy with them. Work should not commence on site until these steps have been taken. The client, or CA on his behalf, should have set this process in motion before the contractor was appointed. It is impossible to prevent a contractor from commencing work once he has been appointed. The situation should be recorded at the pre-site meeting.

Risk for architects administering JCT contracts

The following is appropriate to the principal JCT contracts where the architect or consultants design the whole or most of the scheme.

In administering contracts, architects are deemed to be conversant with the contract terms. They are not expected to need help from lawyers or quantity surveyors. In other words, unless there is explicit recognition in appointments, the client may rely on the architect to be able to understand and operate the contract on his behalf. This is an onerous challenge for any designer faced with a large and complex contract under a large and complex contract form. In practice, this challenge may be softened:

- His fellow consultants should take some responsibility for the parts of the contract which affect their own disciplines and appointments. They should be as capable as the architect of understanding the intentions of the contract. They should be consulted and the advice they give recorded and if necessary taken into account if the architect has to defend a decision.
- The client and his own advisers may have created a non-standard contract, either through a unique form or by substantially modifying a standard form. The architect would be well advised not to await the incident which tests interpretation, but at the outset to warn the client that legal opinion might be called for.
- The contract form itself contains clauses for some situations (e.g. determination) which a practitioner only rarely encounters. If these occur, I think it unreasonable for the architect to have to struggle with them, and he is justified in asking the client to obtain expert advice.
- In practice, the architect will rely heavily on the QS before he makes decisions. It is right that he should, because quantity surveyors often have wisdom beyond lawyers not experienced in the field. Compared to lawyers they are natural conciliators, seeking solutions not conflict. However, as I have stressed before, caution is needed. Unless appointments say otherwise, it is the CA's duty to make the decisions, not the QS's. (In fact the QS may unnecessarily expose himself to risk if he advises. Also, like the architect, he too is expected to be even-handed as between the client's and contractor's interests.) The CA may also have to bear in mind that if the QS has separate, private access to the client, there may be risk-sensitive information that is best not shared with the QS.

This section offers some practical advice from the practitioner's point of view, in his own language, on the more difficult parts of the contract. It is not a treatise on interpreting the form of contract, neither does it have lawyer credibility. For that reason I have deliberately omitted reference to clauses unless absolutely necessary to make a point.

Inspection of work under construction for conformance with the contract

I use the term 'designer' in this section to mean either the architect as designer (not CA) or all the other consultants who have contributed to the design of the project. The architect's duties as designer, of course, come within his duties as CA.

I have discussed earlier the difficulties in defining the exact duties that the designer owes to the client, and how the standard appointments attempt to come to terms with the problem. All I can hope is that the designer and client will have come to some understanding by the construction stage on what is reasonably to be expected and the designer's intentions in planning his inspection duties. He will by now have incorporated the clerk of works or site engineer into his plans, again with the full understanding of the client. He must now face a contract form which gives him very wide powers to pronounce on the quality of the work. Part of the problem lies in such comprehensive powers, and the extent to which he intends to use them, compared with his reasonable promises to the client.

One aspect of designers' promises and the client's expectations, is the length of time the designer intends to be on site. Normally, he will make periodic visits to sample quality and establish the areas which might require priority attention. However, he may be on site more often, for one of two reasons. The first is for his administrative convenience, e.g. for issuing instructions or for completing the design. Here, he owes the client no wider duty than would be expected from periodic visits. The second is where the appointment requires him to be on site to provide enhanced inspection. It is important that the client understands the difference. It is also important administratively that the contractor understands.

The contract establishes (although not explicitly) links between stages of inspection. In the event of a claim against the designer, the claimant might seek to prove that inspection was flawed because one of the links had been broken or indifferently operated. These links are all interconnected and below I show the importance of observing all the links, and of adhering strictly to the relevant clauses in the contract.

Requiring faulty work to be made good before practical completion

This arises from the designer's normal inspection duties, aided by the clerk of works or site engineer. As I have said above, the designer has considerable power to order the opening up of work and to reject work which in his opinion is substandard, ordering it to be redone. He may accept substandard work, with adjustment

to the contract sum. Such compromise is potentially dangerous to his risk if the work turns out to be faulty after the end of the defects liability period. The client must be consulted if the designer is minded to compromise. Inspection before practical completion is the only opportunity the designer has to ensure, as far as he is able from the level of inspection he promises in his appointment, that the contractor has achieved the standards set by the designer. Although the contract makes it clear that, irrespective of inspection, the contractor has a duty to build to the quality the contract stipulates, if the designer falls down in his inspection duties the client may seek to implicate him. I shall return to this point later, and introduce it now to emphasise the importance of inspection at this contract stage.

Well planned and implemented inspection is the foundation of a satisfactory practical completion point. Many designers experience considerable difficulty as the project approaches completion with many defects still outstanding. There may be pressures by the contractor, who wants his retention release, and by the client, who wants to occupy his building. For his risk safety, the designer must resist both if he is not satisfied that all defects have been made good; he has his appointment and the contract behind him. If he yields, he may face a risk uncertain future.

I have put off introducing the expression 'snagging' as long as possible, but I now have to say something about it. Snagging is an expression foreign to the contract (at least to JCT 98 and probably every other form). It appears to be the process entered into, often with irritation, between designer and contractor, to persuade the contractor to clear outstanding defects before completion. I neither criticise nor defend the practice. I repeat only that it has no contractual status, i.e. it is an administrative convenience. Attempting to give it status by defining it in the preliminaries might frustrate the inspection processes the contract intends. By this I mean, for example, that if the onus for preparing a snagging list lies with the contractor, he may only have to produce the list and demonstrate that he has cleared it, to demand the completion certificate. The designer has the wider duty to be satisfied that the project is 'complete', irrespective of what snagging lists do or do not include.

Practical completion

At this stage, as with every other, the CA must remind the other designers to furnish him with their own 'certificates', giving him authority to act for them but indemnifying him from their actions.

Much has been written about what 'completion' means. There

have been pleas for definition over the years and critics of the JCT have made bold promises to write a definition. None has been forthcoming. This is significant; definition is probably impossible, or if it is possible it would create more problems than it solved. It seems right to leave to the judgement of the professional what is 'completion' on every contract. Many of the standards set and much of the resulting work are in the end subjective anyway, despite a tomesized specification.

The significance of completion lies less in its definition than in having satisfied the unique inspection criteria which every appointment and contract demand. By issuing the certificate, the designer cannot turn back. He has certified simply that the project is complete, i.e. that through his inspecting all the defects he noticed or *should have* noticed, given corresponding instructions, there are no remaining defects. 'Should have' will become significant if, after having certified completion, the designer attempts to place items on the schedule of defects and the contractor refuses to make them good on the grounds that they have not appeared during the defects liability period. To whom then will the client turn for redress? Hence the tremendous importance of exemplary and firm inspection *before* completion.

Significance of completion also lies in what the contract does not say, rather than what it says. There is no provision in the contract for requiring the contractor to make good any defects other than those identified by the designer before completion or those which appear during the defects liability period. There are good grounds for assuming therefore that in certifying completion, the designer certifies that at that point, in his opinion there is no further work to complete. This seems to be supported by most legal commentators. Those designers who, aware that there is work to complete, still issue a certificate even when qualified by uncompleted work, should beware. If pressure by the client to issue a qualified certificate is overwhelming, he should be asked to accept the risk which might ensue.

Completion also (normally) means that the building is fit to be occupied by its end users and that there is proper comfort and access. Users do not expect to find their building still crawling with workmen, with the accompanying dust and noise. The longer the list of contract work outstanding, the greater will be the chances of these hazards arising.

It might be useful here to review the dangers to the designer in yielding too readily to pressures from the client to certify partial possession. While the contractor's consent is necessary, he might be content to release an uncompleted part of the building in exchange for payment of retention, or reduction in damages. The designer has to be completely sure that the 'relevant part' is in fact complete, that

its services are operating, that there is safe and comfortable access and that the occupants will not suffer from adjacent work still proceeding on the remainder of the building (noise, dust). The planning supervisor must be consulted on safety aspects. The risk principles are the same for sectional completion, but the actual risks less because the controlling conditions will have been laid down in the contract. The part to be certified as complete should be carefully defined, in writing and normally on a drawing.

The defects liability period (DLP)

The DLP is the period stated in the contract appendix, during which defects which appear may be instructed by the CA to be made good, or included in a schedule he draws up during the 14 days after expiry of the period. It is good practice to include in the schedule any defects that he may have instructed earlier should be made good. The CA may not include in the schedule any defects which he should have been aware of before issuing the completion certificate. Neither has he the power to require the contractor to make good defects appearing *after* he has issued the schedule, or defects which he should have identified during the DLP. Thus, the importance of care in ensuring that all defects have been properly processed in accordance with the contract, will be obvious. If the CA has been at all careless, he may have deprived the client of important powers if defects later become apparent. (See my concerns below on the status of the final certificate.)

Certification of making good defects

This formality is one of the conditions precedent to the issuing of the final certificate. The contractor has a 'reasonable time' to make good the defects on the schedule. This may become a considerable time but the certificate of making good defects, and thus the final certificate, cannot be issued until the CA is satisfied that all defects on the schedule have been cleared.

The final certificate

The other conditions precedent to issuing the final certificate are computation of the final amount to be paid to the contractor, and that two months shall have elapsed after the end of the DLP. The CA must then issue the certificate. Because of the uncertainty of the status of the final certificate (see Chapter 15), various devices have been invented in attempts to avoid issuing it, e.g. a qualified certificate, or paying the contractor the final contract sum less £1. In the

event, such devices are unworkable because they defeat the intentions of the contract. Issue of the final certificate is unavoidable.

The problem lies in clause 30.9.1.1 of JCT 98 and its counterpart in IFC 98 (the Minor Works Form is arguably safer by avoiding altogether the areas in contention). Until the case of *Crown Estates Commissioners v. John Mowlem Ltd* (Court of Appeal, 1994), although there had been some minor skirmishes, it was thought that the architect was safe from action in issuing the final certificate if he had strictly followed the inspection stages. However, in the *Crown Estates* case, the decision that the contractor was immune from action once he had the final certificate, placed doubt on the architect's inviolability. If, by issuing the certificate, the architect placed the contractor beyond the reach of the courts, might the client then successfully pursue the architect (or fellow designers) for negligently issuing the final certificate?

We will have to wait for further case law for the answer to this question because the case was not actually fought on designers' liability. Nevertheless, RIBA took note of the point and altered the wording of the clause. The substituted clause which sought both to protect the architect and to allow the courts to pursue the contractor after issue of the final certificate is now in all current issues of the JCT standard forms. In my opinion, the new clause still lacks the clarity necessary to achieve its aims. There is still risk to the client that issue of the certificate will inhibit his rights in law and therefore there is risk to the architect who issues it. Since we may assume that RIBA took competent legal advice before rewriting the clause, we must assume either that it was watered down in the consultation processes of the JCT, or that there is something fundamental in the whole of the inspection duties which prevents full clarity. I favour the latter.

The only, and partial, risk solution at the moment is that the architect should study carefully the new clause at the stage when a JCT contract is under consideration, should consider his own position (can he live with the ambiguities?) and discuss the clause with the client, who should understand and accept his own risks.

What the courts say about the inspection chain

Legal commentators complained that *Crown Estates* left too many questions unanswered and they hoped that there would be further actions to establish more sensible precedent. There has been as yet no further case law to test the full meaning of the JCT 80 Amendment 15 to clause 30.9.1.1. However, a case has been tried on the pre-amendment wording, which illustrates how the whole of the architect's inspection responsibilities, including issue of the final certificate, can be linked in establishing his liability.

In Oxford University Fixed Assets Ltd v. Architects Design Partnership & Tarmac Construction (Contractors) Ltd (Formerly Wimpey Construction Ltd) (1999) CLC 631, there were problems of cracking to block-work walls around the time of practical completion. Remedial work took place, and the certificate of making good defects and the final certificate followed. The problems returned, leaving the plaintiff with further remedial expense which issue of the final certificate barred him from recovering from the contractor. So he successfully turned to the architect alleging negligent inspection and certification. Whether the *Crown Estates* judgment and Amendment 15 would now permit a plaintiff to recover from the contractor is not the important issue. Whatever 30.9.1.1 currently means, the *Oxford University* case underlines the continuing vulnerability of the architect if he fails in any one of the chain of inspection duties, including issue of the final certificate.

Completion of the CA's duties

Subject to any further duties stated in the appointment, issue of the final certificate by the CA signifies completion of the design consultants' duties to the client. If this is the case, it is useful in risk terms for them to remind the client that all duties have been fulfilled. This also fixes an important aspect of limitation in establishing periods after which the client may not sue the designer.

Cost and the quantity surveyor's duties

We have already seen the importance of cost control and reporting, and the pivotal part played by the QS. Here we look at some of the other activities in which he will normally become involved.

It is typically assumed by client, designers and contractor, that the QS will take part in all aspects of contract administration which have some cost implication. Since nearly all of the 'meat' of the contract has cost implications in the end either for the contractor or the client, the QS becomes involved in most aspects of the contract administration. As mentioned earlier, his help is beneficial and to be encouraged. However, there are some formalities to be dealt with at the outset, to clarify his and the designers' potential risks.

The only part of the contract which gives express and unqualified duties to the QS is the preparing of valuations for payments on account (clause 30.1.2). The other duties referred to by the contract operate only if the CA so instructs:

- Ascertainment of loss and expense (clause 26.1)
- Final adjustment of the contract sum (clause 30.6)

Such duties may appear to be surprisingly limited when compared with what the QS normally automatically undertakes. It would therefore be prudent for the client, designers and QS to review the whole of the contract against the respective appointments (particularly any strategy in awarding extensions to the contract) and formally agree the range of duties the QS will actually undertake.

The designers must understand that the QS's knowledge is not expected to extend to valuing the quality of work expected by the designers, when he makes his interim valuations. That is part of the designers' responsibilities before they issue the certificates. In the wider context of this principle, the designers should not rely wholly on the figures that the QS produces in his final computation.

Contract extensions

I include this necessarily complex part of the designer's duties so as to emphasise the need to follow carefully the rules that the contract lays down and to keep the client and other consultants fully informed. Important implications arise from lateness of completion, which might affect all the parties: the reasons for lateness, which party is responsible, the practical completion certificate, certificates that the contractor has not completed on time, and the calculation of damages. A clear head is required in keeping all of these factors properly reviewed. Once issued, some of the above certificates cannot be withdrawn if, for instance, it is later found that they were issued in haste.

Areas beyond the competence of the designer

I said earlier that the designers are expected to be able to understand the clauses of the standard contracts without the need to consult lawyers. That is certainly true for the bulk of the JCT standard forms. It is also true for the substantial insurance clauses, however daunting they may appear, although the matching of the clauses to how the insurance industry responds is another matter, and not for the designer.

Other areas of the contract which surface rarely and sometimes never in the designer's professional life are where the contractor refuses to complete, or is unable to complete, or goes into liquidation or determines the contract. Much of the above is governed by complex law, when the designer is justified in asking the client to make expert advice available.

Some of the complex situations arising from delays, extensions and allegations of failure to provide information are less easy to

judge. While on the face of it it is the designer's duty to make the necessary decisions, they might be so complex that legal precedent influences the decisions to be made. In such situations, the designer should always urge the client to seek legal opinion. Of course, if the process is likely to implicate the designer's risk, he must consult his PI insurer.

Effects of CDM on contract administration

Under JCT 98, the CA becomes directly involved in the following:

- The contract has always obliged the contractor to complete the works 'in a proper and workmanlike manner'. Now the words 'in accordance with the HSP' have been added. These obligations are entirely the contractor's. But we have seen above that the CA/designers' inspection duties chain can involve their risk all the way through to issue of the final certificate. They might become implicated when, as is common, their inspection roles include some assurance to the client that the contractor has completed 'proper and workmanlike' work. There is then allegation by the client that this duty was not discharged. Now, we have the added complication of the widening of this role to possible involvement in the adequacy of the HSP, leading to their involvement in the contractor's safety measures. We have seen earlier that designers are not equipped for such involvement (neither do their appointments call for such expertise). They have hitherto been well advised to avoid this field. However, it is difficult to see how they can avoid involvement under this new clause and they must approach it with care.
- Before issuing the certificate of practical completion, the CA has to be satisfied that the contractor has delivered the health and safety file (HSF) to the client. This was discussed in Chapter 14 when reviewing RIBA PS/99. It was suggested that 'completion of construction work' as stated under the CDM for delivery of the HSF might be best defined in construction contracts as the point when the architect certifies the making good of defects. Otherwise, the contractor might still be on site working on defects. However, JCT have decided that, for the purposes of CDM, practical completion is 'completion of construction work'. It might be sensible for the CA to warn the client and planning supervisor on the handing over of the HSF, that construction work as defined by CDM is not necessarily complete.
- In considering granting extensions, the CA has to be satisfied that the planning supervisor (PS) has properly carried out his duties.

- If performance specified work forms a part of the contract, the CA should ensure that the PS is satisfied with the contractor's statement.

The CA might be indirectly involved in the following:

- Informing himself and the team how the PS and contractor intend to carry out their CDM duties in maintaining the HSP and preparing the HSF. Although the CA has no responsibilities, it might be useful to invite the PS to the pre-site meeting and include an agenda item to ensure that the PS has a proper forum to discharge his duties.

Effect on contract administration of the Construction Act

JCT 80 Amendment¹⁸ created considerable and complex change to the JCT standard forms. In essence the intention of the Construction Act is to give the contractor and subcontractors statutorily enforced payment protection and impose the mechanism of adjudication as a means of resolving disputes at less cost and more speedily than arbitration or the courts. The effect of most of the additional content falls directly on the contractor. While the CA has to adjust to important new and additional administration, his risk is apparently no greater than having to become familiar with any form of contract which is new to him. While there may be some potential pitfalls, I am not going to start any hares. As always for risk, only experience and a few claims will reveal the position. Clearly, the CA/architects and the other designers must become familiar with the new content and ensure that the client understands sufficient of the implications for him.

18 Handling a Claim

Introduction

The best risk management procedures ever devised will not prevent claims. You can even be completely blameless and still suffer a successful claim against you. If you cannot defend yourself, you may well question the point of having written all these procedures. Therefore, your procedures ought to include guidance in getting you out of trouble.

This chapter tries to establish a working climate in which claims may be handled, to help in overcoming the initial panic and helplessness sometimes suffered by the practitioner when he realises he is in deep trouble. Happily, many practitioners will never have to undergo the painful experience of having to defend a claim. But it is prudent to prepare, as it is prudent to consider all the other aspects of risk which this book has covered. When the claim does arrive, it may be a big one. We started to look at this process in the insurance context in Chapter 6. Expert legal assistance will be needed when some claims have reached a certain point, as we shall discuss later.

However, common sense and the ability to analyse a situation calmly should enable many claims to be conducted by the practice itself up to that point. Indeed, the practice should be able to respond more creatively than simply calling its lawyer at the first hint of trouble.

Problems and claims

The strategy for recognising a claim in the context of professional indemnity insurance was introduced in Chapter 6. However, that context, albeit important, is somewhat narrow in the whole spectrum of the problems and claims which will be experienced by all practices at some stage in their history. The advice given there was intended to ensure that insurance will always be there when it is needed, but there will be many problem situations which demand a strategy rather wider than, but still running parallel with, the necessities of insurance.

Claims have their origins in the many problems which arise in the heat of practice, and these are also handled and solved in the heat of

practice. The busy practitioner with many priorities may well argue that, since the majority of problems will never reach the status of a claim, his time is better occupied by problem solving than preparing elaborate defences for litigation. However, if a sensible and non-intrusive strategy for recognising and dealing with potential trouble is practicable, it must surely be sensible to include it as part of the practice's risk management programme. Not to include such a strategy is a recipe for crisis management at the very time when a planned strategy is most needed. Even the most innocuous problems should demand some awareness that, if not handled properly, they can develop into something more serious. There is a framework and there are techniques for ensuring that as far as possible, even if they reach the status of real claims, problems can be handled in such a way as to avoid the spilling of too much of the principals' blood on the carpet.

Claims and the practice hierarchy

The sources of claims often lie buried within the team and lie dormant longer than they should. It is important that each team member has the awareness appropriate to his role, that some problems can become claims – awareness because it would be unrealistic and wrong to set out to attempt to impose on each member precise instructions for imprecise situations. Awareness and practice hierarchy are bedfellows in the identifying and handling of claims and sifting them from problems. We have seen earlier the risk patterns which can arise from different styles of practice – from the near anarchy of the individual's freedom to make decisions, to the rigidity of total authority retained by the principal. The mayhem that can result from an unsupervised junior handling an explosive situation on his own may be equalled in risk by a principal remote from the day-to-day problems.

It is not my purpose to lecture readers on the respective merits of the different shapes of management hierarchy triangles (broad base and low apex = anarchy, shallow base and high apex = authoritarian), but I do argue that there should be a claims handling strategy to match each triangle. If the principal makes all the decisions, he must be really hands-on. On the other hand, while the practice's success may lie in individuals taking responsibility where they find it, that philosophy contains dangers where claims are concerned. It is unfair and unsafe to leave each team member to decide if the problem is a potential claim and also to leave him to get on with it – unfair because it is a burden he should not be expected to carry, and unsafe because the ultimate effects will be felt much higher in the chain.

Personal reaction to a claim

In devising a strategy, a practice must take into consideration how the individual may react when he realises that he has made a possible error. Much will depend here on the practice's ethos, which either fosters denial of personal blame or a willingness openly to share problems. However, it is only pragmatic to recognise the initial human reaction of denying fault, even to oneself ('there is no problem') and then trying to contain the damage by dealing with the problem oneself. Whistle blowing is not a popular quality, so problems, even if shared, tend to become locked into the conspiracy of a few team members.

A strategy for identifying and managing claims

The practice has to devise a strategy which can:

- Encourage openness and the sharing of problems.
- Decide where responsibility lies in the team for handling and reporting problems.
- Ensure that, as the problem becomes more serious, it is reported higher up the hierarchy line, if necessary all the way to the managing principal.
- Identify the point when the problem becomes, or is likely to become, a claim or potential claim, and establish who formally decides.
- Ensure that when the problem becomes a claim, it reaches the right level of management at the earliest opportunity.
- Link the strategy to the insurance claims reporting chain.
- Monitor progress of the claim, keeping informed those who need to be informed (principals, insurer).
- Make financial provision for handling the claim, e.g. extra team time, principals' time, reserves above likely insurance proceeds.
- Establish the means for safeguarding confidentiality. This may involve withholding sensitive information from some members of the practice, removing sensitive information from project files to a more secure place, ensuring that sensitive information does not leave the office, or briefing team members about the dangers of disclosure outside the team, particularly to the media. Special meetings or bulletins to the team members personally involved may be advisable, to keep them informed and involved.
- Enable the specific claim to be handled – who is to manage the claim, who may say what to whom. Safeguard security of information, letters, drawings, sketches, state of the art literature

to be relied on, memoranda, records of telephone calls and daybooks. Establish separate files and classify information for easy reference. Archive carefully so that material is still available after years of dormant activity. (However, see also the later warning in this chapter on 'discovery'.)

- Appoint a member of the practice independent of the claims chain as adviser. This is similar to design review, i.e. detached peer comment. Often, progress of a claim can be seen more clearly by someone who has no personal involvement.
- Establish if there is someone in the practice with the appropriate skills who is better able to negotiate settlement than the person with whom responsibility would normally lie for handling the claim.
- Establish the machinery for closing down a claim and the reasons, e.g. downgrading to a 'problem', settling, formal withdrawal by the claimant.
- Ensure that all principals and appropriate seniors annually confirm formally that to the best of their knowledge there have been no notifiable problems, claims or potential claims that they have not already notified.

Cooperation within consultant team in defending claims

The desire to cooperate is normally one of the strengths of the professional. He looks for solutions, not barriers. He may even ignore commercial caution in the search for solutions. However, he has to face the unfortunate realities of our age of mistrust and blame. No practice, if it wishes to survive, can afford the luxury of always assuming that it can trust the fellow professional to be equally altruistic. There must always be caution (watching your back), even at the risk sometimes of damaging a long-standing mutual confidence. Clearly, there has to be a balance between trust and caution, which only professional judgement can decide.

How is this mutual trust likely to be compromised by a claim which touches one or more of the team? Even if only one of the parties seems to be heading for trouble, existence of a claim will be felt by the whole team. If the claim affects any of the team members, there is a need for caution, even if the problem appears not to implicate your own services. It may be distressing to both of you if your cautiousness appears to place him in a kind of quarantine, but continued overtrustfulness may, as the lawyers would say, 'harm your defence'. Any or all of the parties likely to become involved will be seeking the means to distance themselves from the problem. You do not want to find that your practice is the last to know, yet is

in the front line. It may not even be the other party itself which is appearing to act less than fairly. It may be his insurer seeking to limit his client's pay-out, or his lawyer who sees a chink in your armour. So, here are a few do's and don'ts which might help you to make your own position more secure in the event of civil war within the consultant team:

- Brief the relevant members of your practice on the need for caution in their communications with third parties.
- Exercise particular caution in any communications with the client and third parties. It could be difficult to know where to draw lines, as the project must probably proceed normally. Consider appointing a member of the practice who is not involved in the project to act as a 'filter' for all material, in and out.
- Resist any requests for information by third parties which it is not strictly necessary to provide. Unusual requests for copies of information already sent might reasonably be refused (or suspicions aroused about the reasons). It is possible that the person requesting the information has mislaid his copy and needs it for his defence. It could implicate you.
- Even in the early days of what is likely to become a serious claim involving serious money, the party in the firing line will be starting to seek possible witnesses to support its case. If you are the lead consultant you will be a popular target. There will be pressure on you to provide information, some of it apparently innocuous. The other party may claim that what is being asked for is no more than what would normally be expected from the coordination process. However, be cautious. The possibility that the information could eventually be used against you should cross your mind. This is really lawyer territory, but my layman's instinct suggests that it would be reasonable for you to ask the other party for some indemnity in return for providing potentially sensitive information.
- Beware of being asked to join alliances to resist a common opponent. This is again lawyer territory, but commonsense suggests that your apparent friends may not remain friends. It may be too late when you realise that you have just revealed your strongest cards to a fellow consultant who is now on the other side.

Privilege and discovery

The expressions 'privilege' and 'discovery' will be heard if legal proceedings are commenced. It is beyond the scope of this book to discuss the processes of being sued. If a dispute gets that far better

advice from lawyers is available. However, privilege and discovery may need to be considered at a time when the problem is not yet a claim.

Privileged information is information which cannot be used in evidence in court against the opposing side. It has been said that the only information guaranteed to be privileged is what is exchanged between a person and his lawyer in the course of the dispute. Whether privilege extends to exchanges with one's insurer seems less certain. Discovery is a process which entitles the other side to examine and copy your files if he believes that they will help his case. Only privileged documents may not be 'discovered'.

The practice with a claim to defend therefore has a problem. It needs to gather together the documents which will help its case. On the other hand, on discovery, might some of those documents damage its case? There are no easy answers to this, but conventional wisdom has suggested that, on the whole, it is safest to be as well informed as possible.

Limitation

Limitation is a medieval legal device to prevent court action on issues which have become 'stale'. In other words, the courts will prevent you from suing a person (and you from being sued) if you leave it too long. The law was brought up to date in the 1986 Latent Damage Act, but uncertainties remain and legal commentators say that further changes seem likely. The provisions of the Act (or at least its practical effects) are complex and really for lawyers. It seems safe to say only that if you are being claimed against you can start to feel secure after six years. The difficulties seem to derive from defining when the time clock started to tick, ('accrual of the cause of the action'), the extending effects of secondary actions and the discretion exercised by judges. The actual limitation period may prove to be considerably more than six years.

Relationships with your lawyer

When should you bring the lawyer in?

It might be your policy to keep your lawyer informed of most of your business arrangements. Some practices will not sign an appointment until it has been through their lawyer's hands. Some practices have an in-house lawyer. However, most practices talk to their lawyers only in times of trouble. The occurrence of a claim is a time of trouble.

It will not always be necessary to consult your lawyer in the early stages of a possible claim if the causes are matters of design or of a technical nature, e.g. the choice of the (allegedly) wrong brick or noisy ventilation system. You are at least as capable as a lawyer at sifting and refuting accusatory letters. Much depends on your ability in this direction. You may be a natural deflector of claims. However, a point will be reached where you have to recognise that it would be safer for your lawyer, even if acting only as a sounding board, at least to vet your strategy and your replies. Certainly, if the dispute has reached the stage of reportable 'circumstance', your lawyer should be in the picture. In the exchange of letters between you and your accuser, you may know or suspect that his lawyer is drafting his letters for him. In that event you would be happier if your own lawyer became involved.

There is perhaps a watershed between the negotiation rituals of settling a dispute and more serious warfare with your claimant, e.g. threat of court action. This watershed need not be the point of formal claim, or even when the incident is reported to insurers. It has tactical significance. Deciding when it has arrived involves a subtlety beyond the simple admission or denial of fault. As we have already seen, when a professional is confronted with a problem, his natural instinct is to find a way of solving it even if at some disadvantage to him. Whatever the force of a letter from the party who may become a claimant, the professional will continue to seek solutions, irrespective of blame or innocence. One should not discourage this, even though it might lead to trouble later.

Bringing in the lawyer may precipitate the watershed. Lawyers are trained to be adversarial. That is the basis of British court procedure in achieving justice and it is the way parliament operates. In other words, it will be in your lawyer's nature to attack and be adversarial, not to conciliate. He has to anticipate the possibility, and indeed may relish the probability, that the dispute will go to court. His every move will be in preparation for the event. After a while you will wonder whether he is not playing his own private game with his opposite number, instead of fighting your battle for you. There will be letters of legal semantics (mainly on the meaning of words) and long intervals between them. You will be sorely tempted to pick up the telephone and talk to your opponent direct – 'look, can we not settle this between us?'. But it will all be too late. The lid of Pandora's box has been opened. Theoretically you can influence your lawyer's approach, but it can be very difficult. Your only consolation is that your insurer might be paying for it. The watershed has been crossed. You will have little further influence in shaping the course of the dispute.

If insurers are involved in the settlement, they will advise on the

legal necessities. If, with their permission, you are closing the settlement yourself, it would be advisable to consult the lawyer on the drafting of the closing letters.

Suing for fees

While you might of course find yourself on the other side of the table and be suing the third parties, the most likely opponent will be your client claiming against you. Every practice has experienced the slow or non-paying client. Normally patience prevails and the bill is paid in the end. Occasionally, however, patience is exhausted and you are tempted to send an ultimatum: pay within the next month or I will sue.

Pause and reflect maturely before you take this step. Unless you are bluffing, you have left yourself with no option but to sue or abandon your money, if at the end of the month he still has not paid.

You need firstly to ask searching questions of the job team and your appointment to be absolutely sure that the client has no grounds for counter-claiming: Have your services been exemplary? Have you done what you undertook to do? Has alleged late information to the contractor caused the client to pay for loss and expense?

However comfortable you feel about the quality of your services, the client will find good reason for not paying, or for withholding payment. You should ask first: Is this simply a very late payment caused by his inefficient finance department or a cash flow problem? Can he reasonably claim that you have not yet performed the part of the services for which you are seeking payment? In the end, has he no intention of paying? If you do sue, the client may well counter-claim, alleging breach of contract/negligence. If that happens, both of you have limited the options and the opportunity for some face-saving compromise. So leave the door open as long as you can.

If you are still determined to sue, your lawyer will, of course, handle the proceedings. Insurers also must be consulted. It is likely that no corresponding 'circumstance' or claim will have been notified to insurers. If either does already exist and suing for fees produces a counter-claim, then clearly the circumstance or claim has acquired a new significance. Insurers sometimes ask their clients not to sue for fees, simply because they do not want to risk precipitating a claim and therefore the cost of settlement. Whether they can insist is doubtful but it has been known for insurers to pay all or part of the fees outstanding in order to avoid precipitating the claim.

Alternatives to lawyers and the courts

Are there alternatives to bringing in lawyers? There is arbitration in place of, but enforceable by, the courts, but that is really outside the scope of this book. In any event, arbitration will not avoid the need for lawyer involvement and can be as expensive and lengthy as court action. There is conciliation (where an expert appointed by both parties attempts to negotiate settlement between the parties) and adjudication (where the expert looks at the detail and pronounces a solution, rather than attempting to bring the parties together). The shortcomings of either are that their findings are not enforceable by the law. If you or your opponent disagree with their findings, you then have to use the courts.

19 And Finally ...

It would be unrealistic to expect that every reader from the wide range of disciplines found in consultant practice would find that this book covered every risk situation he faces. However, I do hope that I have dealt with a sufficient range to provide a framework from which everyone can plan a useful risk management strategy. If the reader has been able to identify just one hazard and thus prevent disaster, I will have considered the writing of this book to have been worthwhile.

What does the future hold?

The common strand of the book has been to emphasise the risks arising from the design team working together to produce the complete design. A considerable part of several chapters has been necessary to compare how the standard institutes' forms of agreement deal with such fundamental risk territory. I have made my views clear: the institutes have not attempted to harmonise the words in many critical risk areas. Although I have tried to persuade readers that some of their risk lies in their fellow consultants' appointments, it is not reasonable that they should have to suffer this additional burden to their busy lives. If the Association of Consulting Engineers can harmonise standard agreements between two professions as diverse as structural and services engineers, then it seems an attainable goal that architects, engineers, quantity surveyors and project managers might come together with similar purpose. That, to me, is one reasonable expectation for the future, which would improve a substantial aspect of risk management for the client as well as the designers.

Apart from that, I cannot see any change in the patterns of risk in the foreseeable future. Risk will not change while buildings continue to involve the inputs of such a diverse and complex industry. It will not change until the schools and the institutes encourage student designers and constructors better to understand and respect the contributions their fellow professionals bring to the process.

Even if such improvements in attitude are achievable, human effort is never infallible. There will always be error. There will always be the occasion when one or other of the parties sets out, or is

forced by circumstance, to be adversarial. This sounds a gloomy way to end a book, so I will end by voicing my genuine belief that the larger part of the team effort required to produce a building is underpinned by a real wish by all the players to produce the best possible outcome.

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