

The first objective of the Risk Register is to identify the risks inherent in a project. Some of these risks are generic, and will apply to whatever work is carried out. An example is the risk of errors in pricing of the tender. Other risks will be specific to a particular operation. An example is the risk of foundation failure due to ground conditions being worse than expected.

The second objective of the Risk Register is to set out how the risks should be managed. It describes who will take what action to manage the risk or to minimise the likelihood of the risk event happening. The Risk Register will refer to other, more detailed documents setting out specific procedures to be implemented. These procedures will include the *Contractor's* quality management system.

The third objective of the Risk Register is to identify the time and cost consequences to the Parties and Others if the risk event occurs. Whilst the Risk Register allocates the actions needed to manage the risk, the rest of the *conditions of contract* deal with the allocation of the cost and time consequences of that risk.

For contracts based on Options A or B, the allocation is straightforward – the total cost and time resulting from the event is borne by the *Contractor* unless it is covered by a compensation event or is an *Employer's* risk listed in Clause 80.1. If it is covered by either of these, the total cost is borne by the *Employer* through the operation of the compensation event procedures.

For target contracts, Options C or D, if the risk is a compensation event or is an *Employer's* risk listed in Clause 80.1, its cost and time implications are again borne by the *Employer*. If the event is not one of these, the costs will initially be borne by the *Employer* but will eventually be shared through the application of the *Contractor's* share mechanism in Clause 53. However, the definition of Disallowed Cost in Clause 11.2(25) should be noted. If a risk event results from a failure identified in this definition, the resulting cost will be disallowed, and the risk will be the *Contractor's*.

For cost reimbursable contracts, Options E or F, all of the risks will usually be borne by the *Employer* unless the event results from a failure identified in the definition of Disallowed Cost in Clause 11.2(25) or 11.2(26).

The key objective of the Risk Register is to apply pre-assessed and documented risk management procedures to specific, identified hazards. The information provided with the Risk Register, including the allowances made for risk, provide a much greater understanding of basic costs and the cost of risk transfer. This helps in both cost assessment of future work and budgetary management.

The *Employer* lists the risks that he wants to be included in the Risk Register in the Contract Data part one; the tenderer adds other risks in the Contract Data part two.

Following contract award, the Risk Register is updated and reviewed as part of the early warning process – see Clause 16.

- (15) The *boundaries of the site* will normally be shown on a drawing which is identified in part one of the Contract Data.
- (16) Site Information includes information about the Site and its surroundings. It is not specific to the work that is to be carried out on the Site; it is simply factual information. Guidance on assembling the Site Information is given under 'Preparing the tender documents'.
- (17) This definition of a Subcontractor does not include a supplier to the *Contractor* except as stated in the clause. 'Labour-only' subcontractors are not Subcontractors under this definition; a designer, who provides the 'service' of designing all or parts of the *works* for the *Contractor*, is a Subcontractor.

- The *Employer* should ensure that the Works Information states the operations for which he requires detailed method statements. This requirement should be limited to operations where the method of construction and the design of the Equipment to be used are crucial if the design of the works is not to be put at undue risk. Where there is a large amount of *Contractor* design, it may be appropriate for the Works Information to require an increasing amount of detail to be shown on the programme as the design is developed.

31.3 This clause lists reasons why a *Project Manager* may decide not to accept a programme or a revised programme. Any failure by the *Project Manager* to accept a programme for reasons other than those noted is a compensation event (Clause 60.1(9)). The *Project Manager* is required to respond within two weeks, but if the reply is non-acceptance the *Contractor* is required to re-submit, within the *period for reply*.

Revising the programme 32

32.1 This clause lists the matters which are to be shown on a revised programme. It should record the actual progress achieved on each operation and the re-programming of future operations. It should also show the effects of implemented compensation events. If a compensation event affects the timing of future operations, the consequent alterations to the programme are to be submitted as part of the *Contractor's* quotation (Clause 62.2). The revised programme should also show proposals for dealing with delays, Defects and any changes the *Contractor* wishes to make.

Failure by the *Contractor* to submit revised programmes is of considerable disadvantage to the *Contractor* in that if a compensation event occurs, the *Project Manager* may assess it entirely on the basis of his own judgement. Thus it is in the *Contractor's* interests to keep the programme up to date and maintain the existence of an Accepted Programme (Clause 64.2).

32.2 The *Project Manager* should note, in reviewing a submitted revised programme, any changes to the dates by which the *Employer* is required to provide information, facilities, possession, etc. He should be prepared to accept a programme with earlier dates if this is acceptable to the *Employer*. After acceptance, any subsequent failure by the *Employer* to meet these earlier dates is a compensation event.

Access to and use of the Site 33

33.1 The dates on which the *Contractor* may have access to the various parts of the Site are stated in the Contract Data. In many cases it may be possible to give access to the whole Site on the *starting date*. In other cases, particularly where there are several contractors on the Site, this may not be possible. The *Contractor* must then programme his activities according to the dates when he can have access.

The *Contractor* may not require access on the dates stated in the Contract Data, in which case he should show on his programme the later dates. These then supersede those in the Contract Data and become obligatory on the *Employer*.

Instructions to stop or not to start work 34

34.1 This clause gives the *Project Manager* authority to control the stopping and re-starting of work for any reason, for example where there is risk of injury to people or damage to property. An instruction given constitutes a compensation event (Clause 60.1(4)), but if it arises from a fault of the *Contractor*, the Prices, Completion Date and Key Dates are not changed (Clauses 61.1 and 61.4). In certain circumstances, if the *Project Manager* fails to instruct the re-start of work within thirteen weeks of instructing work to stop, either Party may be entitled to terminate the contract under Clause 91.6.

6 COMPENSATION EVENTS

Introduction

This section consists of six main clauses.

- Clause 60 defines compensation events.
- Clause 61 deals with notification, by either the *Project Manager* or the *Contractor*, that a compensation event has occurred.
- Clause 62 covers the submission of quotations for compensation events.
- Clause 63 sets out the rules for assessing the effects of a compensation event (time and money).
- Clause 64 covers assessments made by the *Project Manager*.
- Clause 65 explains how any changed prices or dates are incorporated into the contract.

Core clauses

Compensation events 60

Compensation events are events which, if they occur, and do not arise from the *Contractor's* fault, entitle the *Contractor* to be compensated for any effect the event has on the Prices and the Completion Date or a Key Date. The assessment of a compensation event is always of its effect on the Prices, the Completion Date, and any Key Date affected by the event. Any event may entitle the *Contractor* to additional payment and also to additional time. In the case of some events, the results may be reduced payment to the *Contractor*. (Further notes on the principles of compensation events are included in the introduction to these guidance notes.)

Compensation events are listed in the core clauses, the Options and the Contract Data. The main list is in the core Clause 60.1, which includes compensation events (1) to (19). Events applicable to main Options B and D are stated in Clauses 60.4, 60.5 and 60.6. Other compensation events are stated in secondary Option Clauses X2.1, X14.2, X15.2 and Y(UK)2.4.

Option Z may be used by the *Employer* to insert additional compensation events. If he does so, the effect is to take the risk of costs and delay arising from the event from the *Contractor*. The event must be described precisely.

Clause 60.1 does not include an industrial dispute as a compensation event unless it is a dispute classed as an *Employer's* risk by Clause 80.1. In such a case it becomes a compensation event through Clause 60.1(14). Employers vary as to the policy they wish to adopt towards the risk of industrial disputes. Outside the United Kingdom the legal, cultural or religious climate can also affect policy.

The following are examples of possible additional compensation events for specific contracts. None are applicable generally.

- The cycle time for tunnel excavation exceeds eight working hours for more than four consecutive cycles for reasons outside the control of the *Contractor*.
- The water level in the estuary at Point A rises to more than 26.00 metres above ordnance datum.
- The minimum wage ordered by the Government of X exceeds £Y per hour.
- The amount of water flowing into the main tunnel exceeds 5000 litres per hour before concreting of the invert is completed.
- Work is stopped to allow a ship to pass on more than 24 occasions in a given period.

4 Testing and Defects

Core			Options			
Cl. no.	Title	Para. no.	Cl. no.	Title	Para. no.	Applicable Options
40	Tests and inspections	40.1 to 40.6				
41	Testing and inspection before delivery	41.1			40.7	C, D, E
42	Searching for and notifying Defects	42.1 42.2				
43	Correcting Defects	43.1 to 43.4				
44	Accepting Defects	44.1 44.2				
45	Uncorrected Defects	45.1 45.2				

5 Payment

Core			Options			
Cl. no.	Title	Para. no.	Cl. no.	Title	Para. no.	Applicable Options
50	Assessing the amount due	50.1 to 50.5			50.6 50.7	C, D E, F
51	Payment	51.1 to 51.4				
52	Defined Cost	52.1			52.2 52.3	C, D, E, F C, D, E, F
			53	The Contractor's share	53.1 to 53.4 53.5 to 53.8	C D
			54	The Activity Schedule	54.1 to 54.3	A, C
			55	The Bill of Quantities	55.1	B, D

Secondary Options

Option Ref.	Title	Clause. no.	Can be used with these main Options
DISPUTE RESOLUTION			
W1	Dispute Resolution	W1.1 to W1.4	A to F
W2	Dispute Resolution	W2.1 to W2.4	A to F
SECONDARY			
X1	Price adjustment for inflation	X1.1 to X1.5	A to D
X2	Changes in the law	X2.1	A to F
X3	Multiple currencies	X3.1 X3.2	A, B
X4	Parent company guarantee	X4.1	A to F
X5	Sectional Completion	X5.1	A to F
X6	Bonus for early Completion	X6.1	A to F
X7	Delay damages	X7.1 to X7.3	A to F
X8 to X11	Not used in ECC		A to F
X12	Partnering	X12.1 to X12.4	A to F
X13	Performance bond	X13.1	A to F
X14	Advanced payment to the <i>Contractor</i>	X14.1 to X14.3	A to F
X15	Limitation of the <i>Contractor's</i> liability for his design to reasonable skill and care	X15.1 X15.2	A to F
X16	Retention	X16.1 X16.2	A to E
X17	Low performance damages	X17.1	A to F
X18	Limitation of liability	X18.1 to X18.5	
X19	Not used in ECC		
X20	Key Performance Indicators	X20.1 to X20.5	A to F
OPTIONS DEALING WITH NATIONAL LEGISLATION			
Y(UK)2	The Housing Grants, Construction and Regeneration Act 1996	Y2.1 to Y2.4	A to F
Y(UK)3	The Contracts (Rights of Third Parties) Act 1999	Y3.1	A to F
ADDITIONAL CONDITIONS			
Z1 etc.	<i>Additional conditions of contract</i> (as required for a specific contract)	Z1.1 etc.	A to F

APPENDIX 4

Model tender assessment sheet (to be used only for Options A and B)

Introduction

Two categories of adjustment to the tendered total of the Prices are considered. The first relates only to those tenders where the tenderer has been asked to propose the Completion Date. The second covers the likely cost of changes resulting from compensation events.

Where the tenderer has been asked to propose the Completion Date, an adjustment should be made to reflect the value to the *Employer* of having the works completed as soon as possible. Ideally this is based on the delay damages stated in the Contract Data part one, but if delay damages are not used the *Employer* should make an assessment of the value of completion – or the cost of late completion, which should amount to the same thing.

Almost every contract will have some compensation events, resulting in an outturn cost higher than the tendered total of the Prices. This assessment assumes that the cost of most of the basic resources involved in compensation events will be the same for all tenderers and so only examines elements where there will be differences.

The *Employer* must first make an estimate of the likely difference between tender and outturn prices; this will vary depending on various factors such as the nature of the work to be carried out, the nature of the site and the degree of site investigation work carried out. The difference is expressed as a percentage of the tendered total of the Prices.

This difference must then be subdivided into cost elements – people, Equipment, Subcontractors, design and the *Contractor's* Fee. Note that design may be required for temporary works even if the *Contractor* is not responsible for the design of any of the *works*.

Note that the two elements making up the Fee (the *direct fee percentage* and the *subcontracted fee percentage*) are applied to different parts of the adjustments.

The figure derived from these adjustments is *not* an estimate of the final outturn cost as it only takes into account those elements which will differ between tenderers.

In the example that follows, the following figures will be used to illustrate the procedure.

	Ref.		Source
Tendered total of the Prices	A	£1,320,800	Contract Data part two
Tendered <i>completion date</i>	B	36 weeks after the <i>starting date</i>	Contract Data part two
<i>Employer's</i> estimate of earliest practical <i>completion date</i>	C	32 weeks after the <i>starting date</i>	<i>Employer's</i> estimate
Delay damages for the whole of the <i>works</i> (Option X7)	D	£4,300/week	Contract Data part one
Weighted average of the cost of design staff	E	£48/hour	Contract Data part two
Design overhead	F	35%	Contract Data part two

	Ref.		Source
<i>Direct fee percentage</i>	G	11%	Contract Data part two
Difference between tender and outturn cost (excluding percentage additions)	H	12%	<i>Employer's estimate</i>
People element of this increase	J	25%	<i>Employer's estimate</i>
People overheads	K	45%	Contract Data part two
Equipment element of increase	L	35%	Employers estimate
Percentage for adjustment of Equipment in the published list	M	-10%	Contract Data part two
Subcontract element of increase	N	25%	<i>Employer's estimate</i>
<i>Subcontracted fee percentage</i>	P	8%	Contract Data part two
Design time required	Q	25 hours	<i>Employer's estimate</i>

Adjustment sheet – example

1	Time adjustment (if required)	$(B - C) \times D$	$(36 - 32) \times \text{£}4,300$		£17,200
2	Charges for people overheads	$A \times H \times J \times K$	$\text{£}1,320,800 \times 12\% \times 25\% \times 45\%$		£17,830
3	Equipment	$A \times H \times L \times M$	$\text{£}1,320,800 \times 12\% \times 35\% \times (-10\%)$		-£5,547
4	Design cost	$Q \times E$	25×48		£1,200
5	Design overheads	Design cost $\times F$	$\text{£}1,200 \times 35\%$		£420
6	Fee:				
	Fee on additional direct cost	$A \times (100 - N) \times H \times G$	$\text{£}1,320,800 \times 75\% \times 12\% \times 11\%$ $11\% \times (\text{£}17,830 + \text{£}1,200 + \text{£}420)$	£13,076	
	Fee on additional subcontracted work	$A \times N \times H \times P$	$\text{£}1,320,800 \times 25\% \times 12\% \times 8\%$	£3,170	
	Total Fee			<u>£16,246</u>	<u>£16,246</u>
	Total adjustment				£47,349
	Tendered total of the Prices (A)				<u>£1,320,800</u>
	Notional total for assessment purposes				£1,368,149

Part one – Data provided by the *Employer*

Completion of the data in full, according to the Options chosen, is essential to create a complete contract.

Statements given in all contracts

1 General • The *conditions of contract* are the core clauses and the clauses for main Option A, dispute resolution Option W1 and secondary Options **X3, X4, X7, X13, X16, Y(UK)2, Y(UK)3 and Z** of the NEC3 Engineering and Construction Contract June 2005 (with amendments June 2006).

Choose one main Option (A to F) and one dispute resolution Option (W1 or W2). In addition choose any of the secondary Options appropriate to the chosen contract strategy, ensuring that these are compatible with the chosen main Option.

• The *works* are **the construction of the Much Binding bypass, including the design of the bridge crossing the River Binding.**

Describe the *works* clearly but briefly. The description should enable the *works* to be identified but should not go into details; details will be included in the Works Information. It may be helpful to include the location of the *works* if this is not clear from the description.

The *Employer's* legal name and usual address are given here. The address need not be the registered office unless the applicable law so requires.

• The *Employer* is
 Name **Greenheat County Council**
 Address **County Hall**
Greater Binding
Greenwheatshire
GN7 3BB.

It is sensible to use a shorter title in correspondence – in this case, for example, 'The Much Binding Bypass' would be an obvious choice.

It is essential that the person chosen as *Project Manager* is sufficiently close to the work and have the time to carry out his duties effectively. He must also have sufficient authority to exercise the authority given to him under the contract.

• The *Project Manager* is
 Name **Mr K Williams**
 Address **County Hall**
Greater Binding
Greenwheatshire
GN7 3BB.

See the guidance notes (GNs) on the *Project Manager*.

• The *Supervisor* is
 Name **Mr H Paddick**
 Address **County Hall**
Greater Binding
Greenwheatshire
GN7 3BB.

The *Supervisor's* role is essentially to check that the works are constructed in accordance with the drawings and specification.

If there is manufacture off site, the *Supervisor* may be represented by, for example, resident inspectors to whom he would delegate powers under Clause 14.2.

The *Adjudicator* proposed by the *Employer* can be named here, or a list of suggested names could be proposed, here or in the Instructions to Tenderers. The most important aspect is that the *Adjudicator* must be acceptable to both parties.

• The *Adjudicator* is
 Name **Mr I Judge**
 Address **Test House**
Michelmersh
Hampshire.

The *Supervisor* does have the vital responsibility of issuing the Defects Certificate – see Clause 43.2.

• The Works Information is in **Parts 2, 3 and 4 of the enquiry document.**

• The Site Information is in **Part 5 of the enquiry document.**

• The *boundaries of the site* are shown on drawing **SP/104 Revision C.**

• The *language of this contract* is **English.**

It is generally easier to show the *boundaries of the site* on a drawing than to define them in words.

If the period in which payments are made is not three weeks and Y(UK)2 is not used

- The period within which payments are made is **2** weeks.

See GN on Clause 51.1.

See GN on Clause 51.1.

If Y(UK)2 is used and the final date for payment is not 14 days after the date when payment is due

- The period for payment is

It may not be economical for the Contractor to assume a particular risk, especially a risk that has a low probability of occurrence but a very serious consequence.

If there are additional Employer's risks

- These are additional Employer's risks
 - 1 Planning permission for the work in the vicinity of the school (marked 'C' on drawing SP/104 Revision C) is not obtained by 10 October 2005.

If the Employer is to provide Plant and Materials

- The insurance against loss of or damage to the works, Plant and Materials is to include cover for Plant and Materials provided by the Employer for an amount of **£25,000**.

Insert the value or replacement cost of any 'free issue' Plant or Materials to be incorporated in the works.

If the Employer is to provide any of the insurances stated in the Insurance Table

- The Employer provides these insurances from the Insurance Table
 - 1 Insurance against **Loss of or damage to the works, Plant and Materials**
Cover/indemnity is **£6,000,000**
The deductibles are **£40,000**.

If the Employer has decided to provide any of the insurances, details should be entered here.

See GN on Clause 87.1.

If additional insurances are to be provided

- The Employer provides these additional insurances
 - 1 Insurance against
Cover/indemnity is.....
The deductibles are.....
- The Contractor provides these additional insurances
 - 1 Insurance against **faults in design (Professional Indemnity Insurance)**
Cover/indemnity is **£2,000,000**.

State any additional insurances to be provided by the Employer. This may include single site policies and other special arrangements.

See GN on Section 8.

The edition used should also be stated.

If Option B or D is used

- The method of measurement is the **Civil Engineering Method of Measurement third edition**
amended as follows **no amendments**

If Option C or D is used

- The Contractor's share percentages and the share ranges are

share range	Contractor's share percentage
less than 80 %	15 %
from 80 % to 90 %	30 %
from 90 % to 110 %	50 %
greater than 110 %	20 %

See GN on Clause 53 before completing this section.