Bearing the risk of the unexpected in the ground

Ground conditions present a common problem for contractors in Southeast Asia and elsewhere. Employers often try to pass all or most of the ground conditions risk to contractors, who are frequently made responsible, to a large degree, for anticipating ground conditions that may affect construction of works and for the time and cost impact that may follow if the initial assessment proves wrong. As is well known in the region, this is a major area of risk which frequently gives rise to substantial disagreements in practice.

This newsletter highlights the basic approach of most legal systems to issues of unforeseen ground conditions and considers (using the examples of the FIDIC Red and Silver Books) how different standard contract forms take different approaches to modification of that basic allocation under the law. We also consider the basic philosophy of whether the contractor should bear all the risk of ground conditions, and how contractors might try to get around the harshness of some contract terms.

Basic Principles

Most legal systems deal with ground conditions in a simple but brutal way. A building contractor is employed to perform a specified piece of work within a specified time and for a specified budget, and the contractor carries the risk of all events that may disrupt that schedule or budget unless those events are:

(a) so severe and unexpected that they qualify for force majeure relief (or whatever such relief is called under the relevant law: for example, the doctrine of ‘frustration of contracts’ under English law); or

(b) the fault or responsibility of the employer, in which case the ‘prevention principle’ (or a similar doctrine under the relevant law) will usually prevent the employer from insisting on a time or budget which he himself has disrupted.

Thus ground conditions are treated as contractor risks under most legal systems: in most cases the contractor will not get extra time or money if the performance of the works is substantially affected by unexpectedly troublesome ground conditions.

Risk allocation under standard construction contracts

Many construction and engineering contracts contain a clause that deals expressly with ground conditions. However, the detailed content of these clauses varies widely between the different standard forms. Some merely endorse the general position in law and confirm that the contractor is to carry the risk of unforeseen ground conditions. For example, this may be the approach of some EPC style contracts where a greater part of the project risk is carried by the turnkey contractor. Other standard forms give the contractor relief where the adverse ground conditions were genuinely not foreseeable – for example, this may be the approach of more traditional construction-only contracts. Yet other standard forms do not address this issue at all (for example, this was the traditional approach of the English JCT forms).

To illustrate the different approaches and the consequences of each, we will look briefly at the contrasting philosophies of the FIDIC Red Book (Conditions of Contract for Construction) and the FIDIC Silver Book (Conditions of Contract for EPC/Turnkey Projects).
How does FIDIC deal with allocating risk?

Clause 4.12 of the FIDIC Red Book modifies the harshness of the position under general law. In summary (for reasons of space), it states that if the contractor encounters adverse physical conditions which were 'not reasonably foreseeable by an experienced contractor by the date for submission of the tender', he shall give notice to the engineer as soon as practicable and may then be entitled to an appropriate extension of time and/or payment of cost.

Thus the Red Book allows for extension of time and additional cost where the physical conditions are not reasonably foreseeable at the time of the tender by an experienced contractor. This represents a risk distribution in line with the philosophy that it is better for the employer to take on ground condition risks which cannot reasonably be ascertained or priced by an experienced contractor. To do otherwise would mean that the lowest tenderer is likely to be the contractor who has seriously underestimated or ignored the risk, and who may therefore be looking to claim to recoup any losses. Of course, the main draw back of this clause, from the employer's perspective, is that it reduces the incentive on the contractor to 'go the extra mile' in investigating and taking account of the effect of all possible ground conditions.

The contractor's entitlement to payment of additional cost incurred due to unforeseeable physical conditions is, however, subject to a power of the contract administrator to take into account whether 'other physical conditions in similar parts of the Works (if any) were more favorable that could reasonably have been foreseen when the Contractor submitted the Tender'.

On the other hand, the FIDIC Silver Book is fiercely (and famously) employer friendly. Clauses 4.11 and 4.12 provide that, by signing the contract, the contractor 'accepts total responsibility for having foreseen all difficulties and costs of successfully completing the Works', so that 'the Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs'.

Here, the contractor carries the risk of physical conditions irrespective of what might otherwise be extenuating circumstances. The effect of this clause is to hold the contractor liable even where the conditions were unforeseeable by the most experienced contractor and/or were completely out of the control of the contractor. The risk falls aggressively onto the shoulders of the contractor.

Other standard forms typically either follow one of these two philosophies or simply remain silent on the issue. Regionally, the Hong Kong Government's standard forms are perhaps the best known examples of aggressive imposition of all risk on the contractor. But given these contrasting approaches, is it possible to offer any opinion as to which is preferred?

Should contractors bear the risk of unforeseen physical conditions? A word of warning

Questions often arise on the reasonableness and indeed the practicability of allocating such risks in their entirety to a contractor who has limited means, opportunities and time to undertake detailed site investigations at tender stage. There is generally not enough time for a contractor to carry out extensive or comprehensive site, subsoil or seabed investigations in the period prior to tender. Therefore in most circumstances the contractor cannot include an accurate price for dealing with the ground conditions he will encounter. Tender prices are typically based on educated guesses or 'gut feelings'. This introduces an element of uncertainty and, potentially, massive losses for the contractor who underestimates the risk – or extra cost for the employer who has to pay a premium price for a contingency which is overestimated or may never arise at all.
In fact FIDIC makes this exact point in its introductory notes to the contract: ‘If the Contractor is to carry such risks, the Employer obviously must give him the time and opportunity to obtain and consider all relevant information before the Contractor is asked to sign on a fixed contract price’. Even in the Silver Book context, FIDIC accepts that there may be some circumstances where the impossibility of adequate investigation means that the full allocation of ground risk to a contractor is not appropriate: the guidance notes state that the Silver Book ‘is not suitable for use if construction will involve substantial work underground or in other areas which tenderers cannot inspect … If the works include tunneling or substantial sub-surface construction, it is usually preferable for the risk of unforeseen ground conditions to be allocated to the Employer’.

These and similar considerations lie behind the philosophy that the risk of genuinely unforeseeable ground conditions should be allocated to the employer who – it is argued – is better able to anticipate and bear them, not least through the luxury of greater time and resource for full subsurface (or seabed) investigation. As has been noted, many standard contracts reflect this view.

In truth, it is unwise to generalise. Allocation of risk for physical conditions is a prime example of an issue that must be considered on a case by case basis. Sometimes it is reasonable and appropriate to expect the contractor to carry all the risk, for example if fully comprehensive site and subsurface data is available or (arguably) if the contractor is familiar with the site from previous works such as the expansion of an existing facility which the contractor also built. In such cases it is perhaps reasonable to expect that the contractor is adequately equipped to anticipate and price any remaining risks. Conversely, it may instead be appropriate for the employer to accept a greater part of the ground risk (though rarely all – otherwise, the contractor would have no incentive to plan and execute the work with reasonable anticipation of likely physical conditions). An example might be where a contractor is asked to take over and complete a part-built project with a significant underground component but with no time for site investigation.

All of these situations have potential for difficult disputes. Ground conditions are a fertile source of controversy, with particularly common disagreement as to what an experienced contractor should have foreseen in light of the data that the employer has made available, and whether it was possible to rely on that data. Matters are made more complicated still where the employer aggressively seeks to transfer all risk to the contractor in circumstances where this may not reflect the most sensible balance of risk (for example, in the context of underground railway works or hydroelectric projects with a large subsurface component). In such cases, what can the contractor do to relieve the burden?

**Turning the table…**

As with any potential claim the facts of the case and the terms of the contract are key, therefore the ability for the contractor to turn the table must be approached with caution. In general terms, however, where the aggressive Silver Book-style risk allocation applies, other provisions in the Silver Book may assist a contractor if ‘unforeseeable difficulties’ arise².

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² Note that whilst the heading of clause 4.12 of the Silver Book refers to ‘Unforeseeable Difficulties’ the express terms refer to ‘Unforeseen difficulties’.
One possibility is for the contractor to rely upon the 'force majeure' provisions of clause 19. Though this is rarely likely to be successful, the contractor may be able to argue that the 'unforeseeable difficulties' are an exceptional event that is beyond the contractor's control and which should relieve him of responsibility — for example, in Hong Kong where a sloping site was utterly devastated by a massive landslip which swept away the building under construction and most of the rest of the site. In appropriate cases the Silver Book offers this line of defence.

A highly contentious loophole is whether the contractor can rely upon clause 5.1 — although some employers choose to omit this provision due to its impact on clause 4.12. Under clause 5.1, the employer shall be responsible for various data and information provided by the employer including 'portions, data and information which are stated in the Contract as being immutable or the responsibility of the Employer' and 'portions, data and information which cannot be verified by the Contractor, except as otherwise stated in the Contract'. Subject to the facts, information falling within either of these categories, if incorrect, which the contractor has relied upon when submitting his tender and which reliance has caused him to suffer delay may entitle him to an extension of time. In other words, the delay is attributable to the employer.

Other options for making claims under clause 5.1 depend on the applicable law. In particular, disputes often arise about the status of data provided by the employer — whether it was incorporated into the contract or not, whether there was a collateral warranty of accuracy, whether there was a misrepresentation, whether the contractor was entitled to rely on that data, etc. These matters depend so substantially on the particular terms of the contract and on the governing law that it is difficult to describe them in detail in a general newsletter, but in practice it is often important — and occasionally successful — for contractors to explore different options of this kind.

**Comment**

Dealing with the risk of unforeseen ground conditions is a matter of bargaining power. However, it is frustrating to witness contracts within the region being let on a "might is right" basis, where the risk allocation is determined more by the strength of one party's bargaining position than by a sensible analysis of where the risk is best allocated for the efficient and cost-effective pricing and execution of the work. This imports tensions which, more often than not, lead eventually to disagreements, claims and disputes. The point is not one-sided — contractors should understand better than most that it is sometimes appropriate for them to carry the risk — but more typically it is employers who fail to give sufficient attention and understanding to the best commercial and technical risk allocation. Offloading all risk may well not be the best solution in the long run.

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3 Wong Yang Lai v Chinachem Investment Co Ltd [1980] HKLR 1