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EXTENSIONS OF TIME

AND

UNFORESEEN PHYSICAL CONDITIONS

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1 EXTENSIONS OF TIME

Introduction

- 1.1 Construction projects are by their very nature complex, involving a whole host of different trades and professions. The trend in recent years has been to use an increasing number of sub-contractors to carry out the construction work, and it is not uncommon to have 30 or 40 different companies working on a construction site during the course of the project. This leads to great difficulties in completing on time. There are invariably events, large and small, which threaten the smooth running of the project, such as unforeseen ground conditions, freak weather, an adjoining owner taking out an injunction to prevent out-of-hours working. Given this complexity, and the potential for delays to occur, it is perhaps surprising that any project is ever completed on time.
- 1.2 It is to be expected, then, that some provision should be made in the commonly used forms of contract to provide a way of dealing with delays which are likely to affect the completion date. The standard forms all recognise that there should be a date set for the completion of the project, and at the same time that the completion date might be put back by the contract administrator thereby granting an extension of the time originally allowed to achieve completion of the project.
- 1.3 Most construction contracts contain express provisions under which the period allowed for the Contractor to undertake and complete the works can be extended. These provisions cater for two types of delay. Firstly, those which are neither the fault nor the responsibility of the Contractor, such as inclement weather. Second, those that relate to the risks or obligations the Employer has taken, such as the ordering of variations or late instructions. Both give an entitlement to an extension of time, as both are beyond the Contractor's influence. However, the second scenario also gives the Contractor a right to claim financial compensation from the Employer, as it was the Employer who brought about the situation.
- 1.4 This often leads to confusion. An extension of time only relieves a Contractor of liability for liquidated damages for any period prior to the extended contractual completion date. People often, incorrectly, think that an entitlement to extension of time automatically carries with it an entitlement to compensation for prolongation costs which have been incurred during the period for which time has been extended. Whilst it may be that under other terms of the contract, a

Contractor is entitled to recompense for the period, the effect of an extension of time is merely that the Contractor is relieved from its liability for liquidated damages during the period of the extension. Best practice is that applications for extensions of time should be made and dealt with as close in time as possible to the delay event that gives rise to the application.

- 1.5 Whilst I have said that such provisions benefit the Contractor in removing liability for damages for delay during the period for which time is validly extended, the power to extend time is also for the Employer's benefit.
- 1.6 Without such provisions, at common law a Contractor's obligation to complete the works by the specified date is removed if the Employer delays the Contractor in execution of the works. Therefore, if the Engineer issues an instruction which increases the amount of work to be done, or is late in giving the Contractor necessary instructions, the specified completion date no longer applies. In this situation, time is said to be 'at large', and the Contractor's obligation is merely to complete the works within a reasonable time. In order to ascertain what is 'reasonable', all the circumstances of the particular project must be taken into account. However, in practical circumstances, this will simply mean that the amount of delay for which the Employer is responsible will be added to the old completion date.
- 1.7 One area where the importance of the completion and extension of time provisions is clearly demonstrated is where there is a delay period caused by both the Employer and the Contractor. With a fixed completion date a Contractor who has caused part of the delay is still liable to pay general damages for the delay, but is not liable for liquidated damages. Even where the delay caused by the Employer is a very small part of the overall delay, an Employer cannot simply discount this and claim liquidated damages for the remainder. The liquidated damages provision will not work in these circumstances. The Employer can only claim for those losses resulting from the delay which can actually be proved. In such circumstances, the Employer faces the same difficulties in proving his claim as the Contractor does. In this situation it is of great benefit for an Employer who has caused delay to have the power to extend time to cover the delay he himself has caused. In this way he preserves his entitlement to liquidated damages from the revised completion date for the balance of the delay which was caused by the Contractor.
- 1.8 A basic point to consider is that the period for completion of a project can only be extended where the contract allows for this and then only in strict accordance

with the contractual provisions. If the delay is caused by something which is outside the contract, the Contractor cannot claim an extension nor can the Employer grant one. As such is likely to be the case that since it is almost always the Contractor who claims an extension of time, the Contractor will have the responsibility for proving that a delay has been caused by an event for which an extension can be granted.

- 1.9 Something that is often forgotten is that extensions of time can only be granted in respect of events which are likely to delay completion of the overall project. Delay can be divided into two broad categories: delay to completion of the contract itself, resulting from a delay to work which is on the critical path of the construction programme, and delay to a part of the work which does not cause delay to overall completion, ie, non-critical delay. Extensions of time are clearly concerned with the first type of delay. Within this category there are two kinds of specific extension of time clauses:

Neutral Event

- 1.9.1 These are events which have not been caused by either party and where the contract provides that the Contractor may be entitled to an extension of time, thereby relieving him of liability for liquidated damages but not to any further payment for losses arising out of that delay. Examples of neutral events commonly referred to in an extensions of time clause are insurable perils such as fire and storm, exceptionally inclement weather and work by statutory undertakers.

Employer's delay

- 1.9.2 These clauses cover a variety of events, such as failure to give access to the site on the due date. Where the Employer or his workmen carry out work on the site at the same time as the Contractor and cause the Contractor delay, the Contractor may be entitled to an extension of time. The most important category of Employer's delays will be those arising from variations.
- 1.9.3 These grounds are pretty standard and are seen in one form or another in the majority of contracts. However, you must remember that extension of time clauses always contain notice requirements eg, "if the Contractor considers himself to be entitled to an extension of time for Completion, the Contractor shall give notice to the Engineer in accordance with sub-clause 20.1". The golden rule is that Contractors should never allow their right to an extension of time to be

prejudiced by poor contract administration. As engineers you should always know what is required of you and the Contractor under each particular contract.

- 1.9.4 Extensions of time can only ultimately be fully understood in the context of the particular contract in which the provision appears. Everything will depend upon the exact wording used and any amendments made, whether to the extensions of time clause or to other relevant parts of the contract. As such, we are going to look this afternoon at some of the extension of time provisions you will find in both the local Hong Kong contracts and international contracts.

2 ANALYSIS OF EXTENSIONS OF TIME PROVISIONS IN HONG KONG CONTRACTS

2.1 I will be looking at 3 forms of construction contract:

- (a) the Government General Conditions of Contract
- (b) the KCRC West Rail General Conditions for Civil Engineering and Building Works December 1998
- (c) the HKIA/HKIS Standard Form of Building Contract

The Government Contracts

2.2 I am referring to both the General Conditions for Building Works and the General Conditions for Civil Engineering Works, both 1999 Editions.

2.3 The relevant clause dealing with delay is clause 50.

2.4 Clause 50 allows a contractor to claim for an EOT in certain circumstances.

2.5 The time for completion of the works is defined in clause 49. Unsurprisingly it is calculated from the commencement date of the contract, which is the date notified by the Architect under clause 47. Failure to complete within the defined time limit is a breach of contract.

2.6 The events – generally referred to in the industry as “relevant” or “delay” events - that can lead to a contractor being entitled to claim for an EOT are set out in clause 50 (1) (b) as follows:

- (i) inclement weather and its adverse consequences;
- (ii) typhoon signal No. 8;

- (iii) black rainstorm warning;
- (iv) an instruction issued by the Architect for clarifying ambiguities in the contract documents;
- (v) a variation ordered by the Architect;
- (vi) a substantial increase in the quantities of work not resulting from any error in firm quantities or from a variation ordered by the Architect;
- (vii) the contractor not being given possession of the site or any part of the site;
- (viii) disturbance to the progress of the Works for which the Employer or the Architect is responsible;
- (ix) suspension of works instructed by the Architect;

Note, however, that by virtue of clause 50(1) the Contractor is not entitled to an EOT if the cause of the delay is due to suspension of the works in certain specified circumstances (as defined in clause 54 (2) (a) to (d)) or a shortage of constructional plant (as defined in clause 1) or labour;

- (x) delay caused by other utility undertakings or authorities, provided that the contractor has taken all practical steps to cause the utility undertaking and/or authority concerned to commence or to proceed with its work;
- (xi) delay on the part of any Nominated Sub Contractor; and
- (xii) any special circumstance of any kind whatsoever.

2.7 The last event – “any special circumstance of any kind whatsoever” – is a catch all, sweeping up provision which gives the Architect the power to grant an EOT for any other event that causes delay. There is no clear meaning as to what is

meant by "special circumstance". "Special" in the "Concise Oxford Dictionary" means "of a particular kind, peculiar, not general: exceptional in amount, degree, intensity". This suggests that routine delays or matters reasonably within the contemplation of the parties would fall outside the ambit of these words but there is little authority on the point. Whether particular facts amount to "special circumstances" will depend on the construction of the Contract as a whole including any special terms.

2.8 It is unlikely that the words "any special circumstances" are wide enough to entitle the Architect to grant an extension of time for an Employer's act of prevention. (Peak v McKinney 1970). It is for this reason that the ICE contracts have introduced new wording "any delay, impediment, prevention or default by the Employer". FIDIC contracts have also moved away from the "special circumstance" wording and adopted the wording "any delay, impediment or prevention caused by or attributable to the Employer or the Employer's other contractors". Such wording will protect liquidated damages clause where the Employer caused delay and so prevent time from being set at large.

2.9 Note that the words "any special circumstance" are not qualified by reference to the Contractor's default or breach of Contract. However, given that the Architect has to consider in clause 50 whether the Contractor is "fairly entitled" to an extension of time before one is in fact awarded, the absence of the qualification is unlikely to assist a Contractor who is in default. Indeed, one could argue that the inclusion of an express qualification would undermine the interpretation of the word "fairly"; there is no need to include a qualification since the use of the word "fairly entitled" is intended to mean the same thing.

2.10 You will note that the GCC delay events do not include unforeseen ground conditions. The reason for this will become apparent when I come to discuss unforeseen ground conditions later today.

- 2.11 If one of these clause 50 (1) (b) events occurs, the next step is for the contractor to give notice of the event to the Architect. The notice must be in writing and must be given as soon as practicable but in any event within 28 days after the cause of the delay has arisen. However, where the delaying event is an order or instruction issued by the Architect, the contractor must give his notice forthwith and in any event not later than 28 days after the relevant order or instruction.
- 2.12 The notice must specify the cause and probable extent of the delay.
- 2.13 The Architect then has “a reasonable time” to consider whether the Contractor is fairly entitled to an EOT for completion of the works or any section of the works.
- 2.14 To assist him in deciding whether the contractor is entitled to an EOT, the Architect may require the contractor to submit full and detailed particulars of the cause and extent of the delay, which the contractor must provide as soon as practicable after the request is made. If the contractor fails to provide full particulars on request, the Architect shall consider such extension only to the extent that he is able to do so on the information available.
- 2.15 If the Architect considers that the contractor is fairly entitled to an EOT he must within a reasonable time determine, grant and notify in writing to the contractor such extension. The Architect must also notify the Contractor if he decides that the contractor is not entitled to an EOT.
- 2.16 In determining any extension, the Architect must take into account all circumstances known to him at the time including the effect of any omission of work or substantial decrease in the quantity of any item of work.
- 2.17 Note that the Architect is not obliged to consult either the employer or the contractor in deciding whether to award an EOT. However, the Architect is obliged to review the circumstances causing delay and determine whether any further extension should be granted if requested in writing to do so by the contractor. This provision in effect gives the contractor a second opportunity to persuade the Architect that he is entitled to more time.
- 2.18 Clause 51 (Rate of Progress) deals with events leading to delay that do not entitle the contractor to an EOT but do result in a rate of progress of construction which is too slow to achieve the specified date for completion of the contract. This clause permits the Architect to give notice – in writing – to the contractor requiring him to take such steps as are necessary to expedite the progress of the works.

The contractor is not entitled to any additional payment for complying with any instruction to accelerate given under this clause.

KCRC West Rail Contract

- 2.19 Clause 45 allows the contractor to claim for an EOT in certain circumstances.
- 2.20 Time for completion of the works is defined in clause 44 by reference to Key Dates. Failure to substantially complete the works or any section or to achieve any stage of the works by the respective Key Date is a breach of contract.
- 2.21 The events that can lead to the contractor being entitled to claim for an EOT are set out in clause 45.3 as follows:

"45.3 If the event notified by the Contractor pursuant to Clause 45.1 is the subject of a claim for extension of time by reason of:

- (a) (i) the issue of an instruction, or the failure or inability to issue or delay in issue of an instruction, pursuant to Clause 2.9;
- (ii) the reversal or variation of an instruction or decision by the Engineer, or the Engineer's Representative, pursuant to Clause 3.5;
- (iii) ambiguities or discrepancies in or between the documents comprising the Contract, pursuant to Clause 7.3;
- (iv) the failure or inability to issue or delay in issue of further or amended Drawings or Specification by the Engineer which was the subject of a notice in accordance with Clause 9.3, pursuant to Clause 9.4;
- (v) the presence of unforeseeable physical conditions or artificial obstructions and measures taken to overcome them and/or instructions issued by the Engineer in respect thereof, pursuant to Clause 15.6;
- (vi) errors in setting out due to incorrect data, pursuant to Clause 19.2;
- (vii) an instruction for the rectification of loss or damage due to Excepted Risks, pursuant to Clause 21.6;

- (viii) delay in obtaining any occupation permit under the Buildings Ordinance or any other Enactment, which is caused by any person other than the Contractor and which is the sole reason preventing the substantial completion of the Works, pursuant to Clause 24.3;
 - (ix) the activities of Relevant Authorities or Project Contractors, pursuant to Clause 28.9;
 - (x) the issue of an instruction, or the failure or inability to issue or delay in issue of an instruction in respect of antiquities, pursuant to Clause 31.4;
 - (xi) the uncovering of acceptable work, pursuant to Clause 39.3;
 - (xii) ad hoc successful tests, pursuant to Clause 41.7;
 - (xiii) access constraints, pursuant to Clause 43.4;
 - (xiv) an instruction issued by the Engineer for the handing over of the Works or any part thereof, pursuant to Clause 50.4;
 - (xv) suspension of the Works, pursuant to Clause 51.2;
 - (xvi) the issue of a variation instruction, pursuant to Clause 54.8;
 - (xvii) the instruction of work included as a Provisional Sum, pursuant to Clause 65.4;
 - (xviii) making good the destruction or damage to the Permanent Works and/or the Temporary Works by reason of special risks, pursuant to Clause 77.4(b); or
- (b) any other cause of disturbance to the progress of the Works for which the Employer or the Engineer is responsible whether pursuant to or in breach of any provision of the Contract or otherwise including, but not limited to, any act of prevention or delay by the Employer or the Engineer,

then the Engineer shall assess and decide whether the Contractor may fairly be entitled to an extension of any of the Key Dates."

2.22 The last ground – any other cause of disturbance to the progress for the works – is a sweeping up provision that gives the Engineer the power to grant an EOT caused by the Employer or Engineer. Again, similar to the Government GCC provision on EOT, there is no express qualification for Contractor default to the words "any other cause of disturbance to the progress of the Works for which the Employer or the Engineer is responsible". It could be said that these words are too wide and encourage Contractor's to make unworthy claims for extensions where the Employer has played some causative part in delay but the Contractor is also in default. But the Contractor must still demonstrate in clause 45.3 that the Contractor may "fairly be entitled to an extension of time". In addition to the fact that the Contractor must be "fairly entitled" to an extension of time Clause 45.4 goes on to provide expressly that the Contractor shall not in any circumstance be entitled to an extension of time if "the relevant delay is caused directly or indirectly by breach of the Contract or other default of the Contractor".

2.23 The Contractor is not entitled to an EOT if the cause of the delay is due to (clause 45.4):

- Breach or default by the contractor
- The contractor's failure to make the proper time allowance to enable him to substantially complete the works and any section and to achieve any stage by the relevant Key Dates (see clause 15.2)
- Non-availability or shortage of the Contractor's Equipment, Temporary Works (as defined), labour, utility services or any part of the Permanent Works (as defined)
- An increase in the quantity of any item of work unless consequent upon an instruction or variation issued by the Engineer
- Any instruction in relation to matters which are the responsibility of the contractor under the contract
- Inclement weather conditions (including storm warnings or strong wind signal)

- Delay in issuing or failure to issue to the Contractor any approval or consent in respect of the works by any Relevant Authority (as defined)
- Delay in obtaining any occupation permit under the Buildings Ordinance or any other enactment relating to the use and occupation of the Works which is caused by the contractor
- Defective design by or on behalf of the contractor
- An event that is not expressly described in clause 45.3

2.24 If a delaying event occurs for which the contractor wishes to claim an EOT, the next step is for the contractor to give notice of it to the Engineer (cl 45.1). The notice must be in writing and must be given as soon as the Contractor can reasonably foresee any event occurring that is liable to cause delay. Thus, the contractor should not wait until delay occurs. In any event the notice must be given within 28 days after commencement of the event. Again, like the Government GCCs, the time period for giving notice runs from the event causing delay and not the start of delay itself.

2.25 The notice must state:

- The likelihood and the probable extent of the delay
- Whether the contractor considers he is or may become entitled to an EOT
- The grounds in clause 45.3 relied upon.

2.26 You will recall that under the Government GCC conditions the Architect may require the Contractor to provide full and detailed particulars of the cause and extent of the delay. The obligation under the KCRC West Rail Contract is more onerous. The contractor is required “as soon as practicable” but in any event within 28 days of the clause 45.1 notice to submit a further notice to the Engineer (the clause 45.2 notice) containing:

- Full and detailed particulars of the cause, effect and actual extent of the delay
- Where the event has a continuing effect or where the contractor is unable to determine whether the event will actually cause delay, a statement to that effect with reasons together with interim written particulars including

details of the likely consequences to the progress of the works and an estimate of the likelihood or likely extent of the delay. Thereafter, the contractor is to submit to the Engineer at intervals of not more than 28 days further interim written particulars until the actual delay caused (if any) is ascertainable whereupon the contractor shall as soon as practicable but in any event within 28 days submit to the Engineer full and detailed particulars of the cause, effect and actual extent of the delay

- Details of the documents that will be maintained to support the claim in accordance with clause 59
- Details of the measures that the contractor has adopted and/or proposes to adopt to avoid or reduce the effects of the event upon substantial completion of the works. The effect of this provision is to place the contractor under an obligation to use and continue to use all reasonable endeavours to avoid or reduce the effects of the event on completion of the works.

- 2.27 It is extremely important that the contractor complies with his notice obligations. Failure to do so will result in the contractor losing the right to an EOT. Clause 45.11 provide that it is a condition precedent to the Contractor being granted EOTs that he complies strictly with the terms of clauses 45.1 and 45.2.
- 2.28 Assuming the contractor gives notice, the Engineer then has 28 days to consider whether the Contractor is fairly entitled to an extension of any of the Key Dates and to assess, decide, grant and notify the contractor of the extension (cl 45.5)
- 2.29 However, where more time is required to consider the particulars provided by the contractor pursuant to clause 45.2 the Engineer shall make his decision within a reasonable time following receipt of the contractor's information.
- 2.30 Clause 45.5 recognises that there will be times when a delaying event has a continuing effect or where there will be a significant period before the actual effect of a delaying event becomes ascertainable. In this situation, the Engineer may grant an interim EOT. The Engineer is required to make his decision and notify the Contractor within a reasonable period of time following receipt of such particulars as in the Engineer's opinion are sufficient for him to decide the interim EOT.
- 2.31 If the Engineer decides that the Contractor is not entitled to an extension of time he shall notify the contractor as soon as reasonably practicable. (clause 45.7)

- 2.32 In determining any extension, the Engineer must take into account all circumstances known to him at the time including the effect of any omission of work or substantial decrease in the quantity of any item of work (clause 45.5)
- 2.33 Note that the contractor is only entitled to an EOT if the delay actually effects substantial completion of the works or the achievement of any Stage by the relevant Key Date. Failure to achieve any milestone by reason of any delay is not sufficient (cl 45.8). The effect of this provision is that a delay to progress which does not effect completion does not need to be excused in order to avoid liquidated damages being levied.
- 2.34 Clause 45.9 provides that the Engineer shall within 56 days of the issue of the Substantial Completion Certificate for the Works review again the EOTs previously granted and decide and certify the overall EOT. The final review should not result in a decrease in any EOT already granted. The reason for this provision is that as the works go along, there may be subsequent events which change the critical path and reduce the effect of the delay event.
- 2.35 Clause 46 (Rate of Progress) deals with events leading to delay that do not entitle the contractor to an EOT but do result in a rate of progress of construction which is too slow to achieve the specified date for completion of the contract. This clause permits the Engineer to give notice – in writing – to the contractor of slow progress requiring the contractor to take such steps as are necessary to expedite the progress of the works. The contractor is not entitled to any additional payment for complying with any instruction to accelerate given under this clause.

HKIA/HKIS Standard Form of Building Contract

- 2.36 There are two versions of this contract, one with quantities dated May 1979 and the other without quantities dated April 1998. The terms and conditions of the two versions are almost identical.
- 2.37 This form of contract also allows a contractor to claim for an EOT for completion of the works in certain circumstances. However, it does not contain nearly as much detail regarding EOT as the KCRC West Rail contract.
- 2.38 Clause 23 is the clause governing EOT. This provision when compared to the other two that we have just looked at is rather simple and straightforward.
- 2.39 The Date for Completion is a fixed date specified in the Appendix to the Contract.

2.40 The events that can lead to the contractor being entitled to claim for an EOT are as follows:

- force majeure;
- bad weather;
- loss or damage that follows a fire at the site, lightning, explosion, storm, typhoon, flood, and other incidences not due to the fault of the contractor and beyond its control;
- strikes or other civil commotion;
- instructions issued by the Architect;
- the contractor not being able to receive on time the necessary instructions and drawings from the Architect;
- delay caused by the Nominated Sub Contractors;
- delays caused by other parties involved in the project;
- opening up of works for inspection;
- failure to secure adequate labour resources and materials due to circumstances beyond the control of the contractor. Note that this provision shall only form part of the Contract if specifically so stated in the Contract Bills;
- antiquities.

2.41 The claim procedure to be followed is less onerous than under the KCRC contract.

2.42 The notice must be in writing and given to the Architect forthwith – i.e. immediately - upon it becoming reasonably apparent that the progress of works will be delayed. Note that the test is that the progress of the works will – not may – be delayed. When it becomes reasonably apparent that the progress of the works will be delayed is a fairly vague test and it is unlikely – save in cases of blatant delay – that the contractor's notice will fail on this count.

- 2.43 Unlike the Government and KCRC contracts, the contractor is only required to refer to the cause of the delay but not the probable effect of the event that leads to the delay.
- 2.44 If in the opinion of the Architect the completion of the works is likely to be or has been delayed beyond the contract Date for Completion then the Architect shall so soon as he is able to estimate the length of the delay make a fair and reasonable EOT for completion of the Works.
- 2.45 Clause 23 also requires the contractor to use constantly his best endeavours to prevent delay and to do all that may reasonably be required to the satisfaction of the Architect to proceed with the Works.

3 ANALYSIS OF EXTENSIONS OF TIME PROVISIONS IN INTERNATIONAL CONTRACTS

- 3.1 In looking at international forms of contracts, we are going to concentrate on two FIDIC forms of contract, the Red Book 4th & 1999 editions, the UK ICE 7th form of contract and the American Institute of Architects 1997 General Conditions of Contract.

FIDIC 4th Edition

- 3.2 Clause 44 of the 1987 edition allows a Contractor to claim for an extension of time in certain circumstances. The time for completion of the works is defined under sub clause 1.1(c)(ii) of the contract. Unsurprisingly, it is calculated from the commencement date of the contract, which is the date of receipt of the notice to commence the works. Failure to complete within the defined time limit is a breach of contract; therefore, the extension of time mechanism is an extremely important tool for Contractors.

- 3.3 Where a Contractor is entitled to an extension of time for completion of the works, the Engineer must consult with the Employer and the Contractor and then determine the amount of the extension to be awarded. The 4th Edition states that an extension of time can be awarded where any one of the following 5 events occur:

- (a) extra or additional work, or
- (b) any cause of delay referred to in the contractual conditions, or
- (c) exceptionally adverse climatic conditions, or
- (d) any delay, impediment or prevention by the Employer, or
- (e) other special circumstances which may occur, other than through a default or breach of contract by the Contractor for which he is responsible.

- 3.4 If one of these events does occur, the next step is for the Contractor to give notice of it to the Engineer, with a copy to the Employer, within 28 days of its occurrence. Then, within a further 28 days, detailed particulars of the extension of time sought must be provided by the Contractor in the same manner. This second period may be extended by the Engineer if he sees fit to do so.

- 3.5 In deciding whether or not to award an extension, the Engineer must consult with both the Employer and the Contractor before notifying the Contractor of his decision, with a copy to the Employer. This decision must be made "without undue delay". No guidance is given as to what this time period might be.
- 3.6 Clause 46 deals with the events leading to the delay which do not entitle the Contractor to an extension of time, but do result in a rate of progress of construction which is too slow to achieve the specified date for completion of the contract. This clause permits the Engineer to send a notice to the Contractor requiring him to take such steps as are necessary to expedite progress of the works and comply with the time for completion. If the Contractor fails to comply with the notice then it is liable to pay liquidated damages to the Employer.
- 3.7 The Red Book deals with many situations where extensions of time can be awarded. Some examples are:
- sub clause 6.3 and 6.4 – delay in the supply of documents;
 - sub clause 12.2 - adverse physical obstructions or physical conditions;
 - sub clause 27.1 – fossils and articles of value or antiquity discovered;
 - sub clause 36.5 – tests required but not provided for;
 - sub clause 40.2 – suspension of the progress of the works;
 - sub clause 42.2 – failure to give possession of the site;
 - sub clause 41.1 – extension of time for completion.
- 3.8 Problems can occur when Contractors apply for an extension of time under the 4th Edition form where a planned activity fails to start or finish on the date shown on the Master Programme. Generally, it is only where there is a delay to completion that an extension of time can be awarded. A delay to progress which does not effect completion does not need to be excused in order to avoid liquidated damages being levied. Hence, where the provisions require that a delay or a likely delay to completion is a condition precedent to the granting of an extension of time, no extension can be given to a delay for progress, notwithstanding that it may nevertheless be compensable. This is a concept which often causes concern for Contractors who see any delay to programme as being a potential extension of time claim. It, of course, is not and requires good discipline from the Contractor to identify which delays affect overall completion and which delays are in effect disruption to regular progress claims.

The 1999 Edition

- 3.9 Clause 8.4 of the 1999 edition deals with extensions of time and is in basic terms very similar to clause 44 under the 1987 edition. However, it does go further providing for more specific situations in which extensions of time can be awarded.
- 3.10 For an extension to be granted, one of the following 5 events must have taken place:
- (a) a variation or other substantial change in the quantity of an item of work included in the contract; or
 - (b) a cause of delay giving an entitlement to an extension of time under a sub clause of the contractual conditions; or
 - (c) exceptionally adverse climatic conditions; or
 - (d) unforeseeable shortages in the availability of personnel or goods caused by epidemic or governmental actions; or
 - (e) any delay, impediment or prevention caused by or attributable to the Employer, its personnel or other contractors on the site.
- 3.11 There is also provision made under the 1999 version for delays caused by authorities which can result in the granting of an extension of time to a Contractor. This is dealt with under clause 8.5. Clause 8.5 provides for an extension of time to be granted to the Contractor if it has correctly followed procedures laid down by public authorities and these procedures have resulted in the Contractor's work being delayed or disrupted. The delay or disruption must also have been unforeseeable.
- 3.12 Clause 8.4 makes it clear that an extension should typically be calculated by reference to the delay in completion attributable to a listed cause. It may have disrupted progress but may not itself have been the cause of any delay in completion. For example, a listed cause may only delay works which are not on the critical path and thus do not delay completion.
- 3.13 Under the 1999 edition, the requirements for notice on the Contractor are stricter than previously was the case. The relevant clause is number 20, which deals with the Contractor's Claims. If the Contractor considers himself to be entitled to an extension of time, he must give notice to the Engineer, describing the event or circumstance that gave rise to the claim. The notice though must be given as

soon as practicable and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.

- 3.14 If the Contractor fails to give notice within this 28 day period, the time for completion shall not be extended and the Contractor entitled to no further payment. Furthermore, the Employer will be discharged of all liability in connection with the claim.
- 3.15 An obligation of record keeping is also included on the part of the Contractor. He must keep all records that he may use to substantiate such a claim either at the site or another location acceptable to the Engineer. The Engineer may monitor the record keeping and / or instruct the Contractor to keep further records.
- 3.16 Within 42 days of the Contractor becoming aware of the event or circumstance giving rise to the claim for the extension of time, he must provide the Engineer with a fully detailed claim, including full particulars of the basis of the claim.
- 3.17 If the circumstance giving rise to the claim has an ongoing effect then the claim will be considered as interim. Again, there was no such provision for this under the 1987 contract.
- 3.18 Within 42 days of receipt of the claim, the Engineer must respond with his approval or disapproval, including detailed comments. This obligation makes the Engineer's role more defined than it was previously.

The ICE 7th Edition

- 3.19 ICE stands for the Institute of Civil Engineers. This form of contract also allows a Contractor to claim for an extension of time for completion of the works in certain circumstances. Similarly to the earlier FIDIC form I have just talked about, the relevant provision is clause 44, with time for completion again governed by clause 43.
- 3.20 The ICE 7th edition does not include nearly as much detail regarding extensions of time as either of the FIDIC versions I have already talked to you about. Its terms are more in line with the 1987 version and certainly a lot less onerous for the Contractor than under the 1999 edition.
- 3.21 The basis for the time for completion is the same as under both the FIDIC forms.
- 3.22 The events that can lead to a Contractor being entitled to claim for an extension of time under the ICE contract are as follows:

- (a) any variation ordered under clause 51, or
- (b) any increase in the quantities referred to in Clause 51, or
- (c) any cause of delay referred to in the Conditions, or
- (d) exceptional adverse weather conditions, or
- (e) any delay, impediment, prevention or default by the Employer, or
- (f) any other special circumstances of any kind whatsoever which may occur.

3.23 Both these events and the claim procedure to be followed are similar to the 1987 edition of FIDIC and less onerous than under the 1999 version. It is for the Contractor to deliver to the Engineer within 28 days of the event occurring, full and detailed particulars in justification of the period of extension claimed in order for the claim to be investigated properly at the time.

AIA 1997 General Conditions

- 3.24 The AIA form of contract has been in existence since 1981. Its 1997 version covers claims and disputes under clause 4.3.
- 3.25 Clause 4.3.2 requires that claims by either party must be initiated within 21 days after the occurrence of the event giving rise to the claim or within 21 days after the claimant first recognising the condition giving rise to the claim. Claims have to be initiated by written notice to the Architect and the other party. The use of the word 'initiated' underscores the fact that notice of a claim need not contain all the information pertaining to the claim.
- 3.26 Claims for additional time provisions are found in clause 4.3.7. The clause requires the claimant to serve written notice of the claims which should contain an estimate of cost and of the probable effect of the delay on progress of the work. However, it specifically states that in the case of a continuing delay only one claim is necessary. It is worth noting that a delay can be continued even if it is interrupted from time to time, provided it originates from the same cause. Of course, you should remember that only delays impacting upon the critical path of the work entitle the Contractor to additional time.
- 3.27 The conclusion to be drawn from this review is that the FIDIC 1999 version is far more onerous as far as Contractors are concerned. The consequences of failure

to make a claim under clause 20 are very severe and put substantial pressure on a Contractor's contract management procedures.

4 UNFORESEEN PHYSICAL CONDITIONS

General Position

- 4.1 Who is to bear the responsibility for unforeseen adverse physical or ground conditions is often a contentious issue. On one hand it can be argued from the Contractor's perspective that the Employer, who in all probability owns the site, will have had ample opportunity to carry out thorough and detailed investigations into the site and therefore should bear the risk. The Contractor might also legitimately argue, particularly in a tender situation, that it is inappropriate for numerous contractors to carry out detailed site investigations of their own when only one of those contractors will end up winning the job.
- 4.2 A Contractor can argue that it simply does not have the time to carry out the survey which an Employer should, and for all those reasons it would be more cost effective for the Employer to carry out and assume responsibility for site investigations rather than have the exercise being duplicated.
- 4.3 Despite the persuasive logic of the foregoing arguments, in many instances Employers insist that the risk of adverse site conditions is passed to the Contractor. Such insistence is often as a consequence of the stance adopted by finance houses who do not want to take on the risk themselves and who argue on behalf of the Employer that as the Contractor has control of and management of the site, it is best placed to deal with adverse site conditions.
- 4.4 There is a risk to both parties and various methods have been adopted to seek to allocate the risk or resolve problems which can arise.
- 4.5 It is not uncommon for the Employer to provide some form of survey report. On the other hand this is often provided for information purposes only and the Contractor can be obliged by the contract wording to carry out his own investigations in any event. Problems can also arise with regard to reliance upon a report provided by a third party. If the Employer has said or stated that the Contractor should not place total reliance upon the report, it may well avoid liability for any losses incurred as a consequence of the report not revealing adverse site conditions which subsequently come to light. The Contractor might in those circumstances feel that it has a right of action or a claim against the Engineer who has provided the report into the site conditions. Whether or not such a claim will work depends very much upon the law applicable to the contract. In many common law jurisdictions there will be no right to pursue a claim against

that third party unless there is a specific contractual link which is often not the case.

- 4.6 Another methodology adopted in the industry is to seek to distinguish between unexpected adverse site conditions which are nevertheless foreseeable, and those which are not foreseeable. Inevitably such an approach involves an assessment of what is or is not foreseeable and what standard of foreseeability should be adopted. In general the approach is that it is what would be foreseeable to an experienced and competent Contractor, not what would be foreseeable to the particular Contractor involved in that particular project.
- 4.7 It is also possible for further refinement of this type of clause by involving a reasonableness standard. In other words what was reasonably foreseeable. In those circumstances it can be argued that the information the Contractor was provided with or could have obtained would be relevant. In judging whether or not such a standard has been reached, it would be proper to work on the basis that the Contractor carried out a reasonable site investigation consistent with the competent experience prerequisite I have spoken about previously. For the Contractor to succeed in a claim for unforeseen adverse physical conditions he will have to establish that by carrying out such a reasonably competent investigation bearing in mind the information that was made available, he would not have been able to predict or foresee the adverse site conditions which subsequently came to light.
- 4.8 Ground conditions clauses within international contracts vary considerably depending upon the location of the works and the practice in each geographical location. Obviously when carrying out international projects it is important to be aware of the nature of the local market, and the likely adverse conditions likely to be encountered. Very different site conditions are likely to be encountered in projects, for instance, involving reclaimed land in comparison to those involving brown field sites or in areas of historical interest where antiquities and fossils may be encountered which may have adverse effects upon the progress of the project.
- 4.9 All these factors need to be taken into account by the Contractor and I am surprised by how often only scant attention is paid to the precise terms of the unforeseen ground conditions clause in the contract and the effect or otherwise of information supplied by the Employer. As Engineers, who will be called upon to determine these claims in the first instance it is vital that you understand the wording of the particular clause and its implications.

5 ANALYSIS OF UNFORESEEN CONDITIONS PROVISIONS IN HONG KONG CONTRACT

Unforeseen Ground Conditions

The Government Contracts

5.1 Definition

Unforeseen ground conditions are covered in Clause 13.

Clause 13 provides:

(1) The Contractor shall be deemed to have examined and inspected the Site and its surroundings and to have satisfied himself before submitting his Tender, as regards existing roads or other means of communication with and access to the Site, the nature of the ground and sub-soil, the form and nature of the Site, the risk of injury or damage to the property, the nature of materials (whether natural or otherwise) to be excavated, the nature of the work and materials necessary for the execution of the Works, the accommodation he may require and generally to have obtained his own information on all matters affecting his Tender and the execution of the Works.

(2) No claim by the Contractor for additional payment shall be allowed on the ground of any misunderstanding in respect of the matters referred to in sub-clause (1) of this Clause, i.e. the part that I have just read out, or otherwise or on the ground of any allegation or fact that incorrect or insufficient information was given to him by any person whether in the employ of the Employer or not or of the failure of the Contractor to obtain correct and sufficient information, nor shall the Contractor be relieved from any risk or obligation imposed on or undertaken by him under the Contract on any such ground or on the ground that he did not or

could not foresee any matter which may in fact affect or have affected the execution of the Works.

5.2 I have underlined the relevant words as far as unforeseen ground conditions are concerned. The effect of these words is that all the risk of unforeseen and unforeseeable ground and sub-surface conditions is placed on the contractor. This is the case even where the contractor is misled by insufficient or incorrect information provided by the Government. Thus the Contractor must bear the financial consequences (including liquidated damages for consequent delay) of discovering the unexpected, whether it be natural (e.g. fracturing, vice rock, voids, material prone to settlement), toxic or hazardous (e.g. asbestos, industrial and human waste) or manmade (e.g. utilities, pilings, antiquities, out-of-specification embedments in reclamation areas).

5.3 Contractors regard this provision of the GCCS as the most repugnant.

5.4 Although clause 13 prevents the Contractor from seeking to recover from Government in the event of coming across unforeseen ground conditions it may be possible to claim against the Engineer in tort for negligent misrepresentation. There is commonwealth authority to the effect that an engineer owes a duty of care to the contractor and can be held liable for negligent misstatement e.g. if the engineer prepares information on ground conditions for use by a definable group of persons (e.g. the tenderers). Edgeworth Construction v ND Lea & Associates 56 BLR 56, Supreme Court of Canada

Grove Report:

5.5 In 1998, the Works Bureau of the Hong Kong Government engaged an independent consultant, Mr Jesse B Grove III (USA attorney at law) to review and make recommendations for improving the Government GCCs (the then 1993 and 1988 editions although clause 13 is in the same format as the 1999 editions).

- 5.6 Mr Grove III pointed out that Clause 13 was against international practice. The only other place in the world where contractors have to bear the risk of unforeseen ground and sub-soil conditions is Malaysia. In almost every other part of the world, the government always takes up this risk.
- 5.7 His recommendation was that the Government should accept the risk of unforeseeable physical conditions. This means compensating the contractor by extending the time for the contractor to perform and complete the works and compensating him for having to spend extra time and monies to deal with the unforeseen conditions.
- 5.8 Mr Grove's recommendations sound convincing but Government remains to be convinced. In the latest version of the GCCs, i.e. the 1999 version, Clause 13 remains unchanged.

Utilities

- 5.9 In Hong Kong, utilities are required by law to place new installations and relocate old ones as necessary to accommodate public works projects at the cost of the utility. In practice, it is the responsibility of the contractor to determine what is in place and to make arrangements with the appropriate utility for performance of the undertaking. By virtue of clauses 50(1) (b) (ix) and 63(d) the contractor bears the financial consequences (excepting liquidated damages for consequent delay) when an utility fails to pursue planned locations and relocations with due diligence.
- 5.10 Mr Grove recommended that Government should accept the risk of lawful third party interferences including utility undertakings.

KCRC West Rail Contract

Definition

5.11 Clause 15.4 provides:

"If, during the execution of the Works, the Contractor shall encounter physical conditions (other than weather conditions or conditions due to weather conditions) or artificial obstructions which could not, in his opinion, reasonably have been foreseen by an experienced contractor at the date of the Letter of Acceptance, the Contractor shall, as soon as practicable thereafter, and in any event within 28 days of encountering such conditions, give notice thereof to the Engineer. Without prejudice to Clauses 45, 56, 57 and 58, such notice shall specify the physical condition or artificial obstruction, the effects thereof, the measures the Contractor has taken or is proposing to take to overcome the physical condition or artificial obstruction, their estimated cost, and the extent of the anticipated delay in, or interference with, the execution of the Works."

5.12 Clause 15.6 provides:

"If by reason of::

- (a) the presence of the physical condition or artificial obstruction notified by the Contractor in accordance with Clause 15.4 which in the Engineer's opinion could not have been reasonably foreseen by an experienced contractor at the date of the Letter of Acceptance; and
- (b) the measures taken by the Contractor to overcome the physical condition or artificial obstruction notified by the Contractor in accordance with Clause 15.4 and made the subject of the Engineer's consent pursuant to Clause 15.5(b); or
- (c) instructions issued by the Engineer pursuant to Clauses 15.5(a) or (c),

the Contractor is prevented from achieving any Stage or substantially completing the Works or any Section by the relevant Key Date or incurs Cost which the Contractor did not and had no reason to anticipate then, if the Contractor claims additional time and/or payment therefor, the Engineer shall give a decision pursuant to Clauses 45 and/or 56 and/or 57, provided that the Contractor has complied with his obligations pursuant to Clause 45 and/or Clause 58, as appropriate."

What is meant by physical conditions and artificial obstructions?

- 5.13 There is no express definition of either terms in the Contract but it will include such things as toxic or hazardous materials (e.g. asbestos, industrial and human waste), manmade obstructions (e.g. utilities, pilings, antiquities, out-of-specification embedments in reclamation areas), natural events (e.g. fracturing, vice rock, voids, material prone to settlement)

What is the test for foreseeability?

- 5.14 It is not clear whether "could not reasonably have been foreseen" means "possible though unlikely" or "probable and likely". However, notwithstanding that the test is unclear the burden is clearly on the contractor to prove the conditions or obstruction were not reasonably foreseeable. The burden of proof is the balance of probabilities i.e.54:49.

- 5.15 Under the contract there is a 2 part test for foreseeability:

Part 1 – Contractor's Subjective Test

Whether the obstructions/conditions are not foreseeable in an experienced contractor's opinion.

Part 2 - Engineer's Subjective Test

- 5.16 Once the Engineer has received notice of the condition/obstruction, whether the condition/obstruction was foreseeable in the Engineer's opinion. (clause 15.6(a))
- 5.17 If the Engineer agrees that the condition/obstruction could not have been foreseen by the Contractor he is then required to make an award of money/time cl 15.6

What is the test for an "experienced contractor"?

- 5.18 There is no guidance for this definition. The contractor is a hypothetical person and the test is based on what this hypothetical person ought to have considered at the time of the Employer's Letter of Acceptance. Inevitably the experienced contractor must also be competent.
- 5.19 How quickly does the Contractor have to give notice?
- 5.20 The requirement on the Contractor is to give notice as soon as practicable after the conditions/obstruction is encountered, and in any event within 28 days of encountering the conditions (clause 15.4).
- 5.21 The notice must be in writing and must specify:
- The physical condition/artificial obstruction
 - The effect of the condition/obstruction
 - The measures the Contractor has taken or is proposing to take to overcome the condition/obstruction
 - The estimated cost of these measures
 - The extent of the anticipated delay in or interference with the Works

- 5.22 The contractor's notice triggers the claim mechanism for compensation in terms of time and money.

HKIA/HKIS Standard Form of Building Contract

- 5.23 Both versions of this contract are silent on unforeseen site conditions. Where the contract is silent as to who bears the risk – employer or contractor – the common law steps in.
- 5.24 At common law the contractor has all risk that is not specifically accepted by the employer. Thus, where the HKIA/HKIS Standard Form of Building Contract is used it is the contractor who bears the risk of encountering unforeseen ground conditions.

6 ANALYSIS OF UNFORESEEN CONDITIONS PROVISIONS IN INTERNATIONAL CONTRACTS

6.1 Introduction

Again, in looking at international contracts you may encounter, we are going to look at the two most recent FIDIC red book editions, 4th Edition and 1999 Edition and the ICE Form of Contract Edition. 7th Edition, and the AIA 1997 General Conditions.

FIDIC - 4th Edition 1987

6.2 Definition

Clause 12.2. provides:

"If, however, during the execution of the Works the Contractor encounters **physical obstructions or physical conditions**, other than climatic conditions on the Site, which obstructions or conditions were in his opinion, **not foreseeable** by an experienced Contractor, the Contractor shall **forthwith give notice** thereof to the Engineer, with a copy to the Employer....."

- 6.3 There is no express definition of "physical obstructions or physical conditions" but it will include the obvious issues Mark has talked about. For example, the actual bedial may fracture much more readily than is typical and expected for that type of rock, or a concealed structure may include iron connections when only wood joints were expected.

What is the Test for "Foreseeability"?

- 6.4 It is not clear whether foreseeable means "possible though unlikely" or "probable and likely". This ambiguity is crucial and leads to many disputes. There are many Court decisions on this point but no clear answer. This lack of certainty is something which causes contractors commercial difficulties.
- 6.5 Notwithstanding the fact that the test is unclear, the burden is clearly on the contractor to prove the conditions were not foreseeable. The burden of proof in civil cases such as these is the balance of probabilities ie 51:49.

- 6.6 Under the contract, there is a 2 part test for "foreseeability...".

Part 1 - Contractor's Subjective Test

- 6.7 Whether the obstructions/conditions are not foreseeable in an experienced contractor's opinion.

Part 2 - Engineer's Subjective Test

- 6.8 Once the Engineer has received notice of the condition, whether the obstructions/conditions are foreseeable in the Engineer's opinion.
- 6.9 If the Engineer agrees that these conditions could not have been foreseen by the Contractor, he is then required to make an award of money/time.

What is the test for an "experienced Contractor"?

- 6.10 There is no guidance for this definition. The contractor is a hypothetical figure. The test is based on what this hypothetical person ought to have considered at the time of the contract.

How quickly does the Contractor have to give notice?

- 6.11 The requirement on the Contractor is to give notice "*forthwith*" which usually means immediately. The notice must be given in writing (pursuant to Clause 1.5). The notice triggers the claim mechanism for compensation in terms of money and/or time.

7 FIDIC - 1ST EDITION 1999

Definition

- (a) Clause 4.12 provides:

*"If the Contractor encounters **adverse physical conditions** which he considers to have been **unforeseeable**, the Contractor shall give notice to the Engineer **as soon as practicable**.*

*.....The Contractor shall **continue executing the works**, using such proper and reasonable measures as are appropriate for the physical conditions, and shall comply with any instructions which the Engineer may give."*

What is meant by "adverse physical conditions"?

- 7.2 This term is defined in clause 4.12 as any "natural physical conditions and manmade and other physical obstructions and pollutants". The term includes:

- (a) sub-surface, and
- (b) hydrological conditions

- 7.3 In what circumstances are the conditions "unforeseeable"?

- 7.4 This term is defined in Clause 1.1.6.8 of the general provisions as:

"not reasonably foreseeable by an experienced contractor by the date for submission of the Tender"

- 7.5 There is in effect a 2 part subjective test in determining whether the conditions are unforeseeable with an opportunity for set off.

Test 1 - Contractor Subjective

- 7.6 Whether the physical conditions are foreseeable in the contractor's opinion. However, the contractor must now include his reasons to the engineer. The notice must state why the contractor considers the adverse physical conditions to be unforeseeable .

Test 2 - Engineer Subjective

- 7.7 Once the engineer has received this notice, he has the right to further investigate or inspect these conditions before deciding whether they are unforeseeable.

Set off - More favourable physical conditions?

- 7.8 Before any extension of time or extra costs are awarded, the engineer now has the right to review any other physical conditions in similar parts of the work. This is a major departure for FIDIC and something which is drawn from US rather than UK or HK forms of contracts.
- 7.9 If other physical conditions are found to be more favourable than expected, the Engineer can set-off the benefits of these conditions in terms of reducing any periods of extension of time and any additional costs. However, the Engineer cannot reduce the contract price.

Evidence of Physical Conditions

- 7.10 At the heart of the test of reasonable foreseeability is the information:
- (a) provided by the Employer to the Contractor;
 - (b) could/should have been obtained by the Contractor in its investigations.
- 7.11 The Employer must make available to the Contractor prior to the base date, all information regarding:
- sub-surface (ie. ground investigation report);
 - hydrological conditions on site (inc environmental aspects);
 - all similar information in the Employer's possession after the base date (this is a continuing obligation).
- 7.12 The Engineer has the contractual right to examine any evidence available to the Contractor of the physical conditions at the time that the tender was submitted.
- 7.13 However, it is the Contractor's responsibility to interpret the data correctly in order to "foresee" any potentially adverse physical conditions.

What is the test for an "experienced Contractor"?

- 7.14 Again, we are left to rely on common sense for this point.

How quickly does the Contractor have to give notice?

- 7.15 The Contractor must give notice "as soon as practicable". This is a lesser requirement than "forthwith". Bearing in mind the Contractor is now under an obligation to continue executing the works, the timing of the notice is less important than under the previous edition of the contract.

8 ICE FORM OF CONTRACT (7TH EDITION)

Definitions

8.1 Clause 12 (1) provides:

"If during the carrying out of the Works the Contractor **encounters physical conditions ...or artificial obstructions** which conditions or obstructions could not in his **opinion reasonably have been foreseen** by an **experienced contractor** the Contractor shall **as early as practicable** give **written notice** thereof to the Engineer"

Link to Claim for Money/Time

8.2 Unsurprisingly, as ICE is the base contract for FIDIC, there is a great similarity. However, there are differences which should be explored. For example, under the ICT theme is a link between these claims and claims for additional payment and/or time. This obligation is found under clauses 12 (i). The Contractor must tie the application for extra time/money together with the condition or obstruction to which the claim relates.

Further Notice Requirement

8.3 Clause 12(3) provides where notice is given to the Engineer under Clause 12 (1) or (2) there is further notice requirement on the Contractor to:

- (i) *"....give details of any anticipated effects of the condition or the obstruction",*
- (ii) *the measures he has taken or is taking or proposing to take*
- (iii) *their estimated cost*
- (iv) *the extent of the anticipated delay in or interference with the carrying out of the Works."*

Action By Engineer

8.4 There is a very wide discretion on the Engineer to take specified action amongst other measures as he "thinks fit".

8.5 This specified action is as follows:

- (a) require the Contractor to investigate and report upon the practicality cost and timing of alternative measures which may be available,
- (b) ...consent to measures ...with or without modifications
- (c) give written instructions as to how the physical conditions or artificial obstructions are to be dealt with
- (d) order a suspension under clause 40 or a variation under Clause 51.

What is meant by "conditions reasonably foreseeable?"

- 8.6 There is a useful definition of this term under Clause 12(5). It provides that the Engineer can distinguish between the conditions being foreseen in part or in whole. This gives the Engineer a little more scope to come to a fairer decision.
- 8.7 However, it does not solve the question of interpretation of what can be reasonably foreseen. Again, this causes major practical problems and I will suggest ways around it later.

What is meant by "Physical conditions"

- 8.8 This is a wide definition and includes conditions occurring before, or after the contract. Weather conditions (including heavy rainfall and floods) are excluded.

What is meant by "Artificial Obstructions"

- 8.9 This refers to non-natural events which obstruct the Contractor's operation. It must be a physical occurrence (as opposed to by way of example, a statutory control). A good example is buried services.

9 AIA 1997 GENERAL CONDITIONS

- 9.1 The AIA General Conditions cover this subject in clause 4.34, "Claims for Concealed or Unknown Conditions. The clause covers physical conditions not specifically addressed in the contract documents but those that differ materially from conditions that might reasonably be assumed to exist at the site. If deviation is material to the required work, a claim would be liable.
- 9.2 There are some major differences from the other forms we have looked at. The observing party must give notice before disturbing the conditions and within 21 days of first observing them in order to give the architect the opportunity to investigate the conditions. After investigation, the architect will recommend an equitable adjustment. Changed conditions may result in either an increase or decrease in the contract sum or contract time. Employers as well as contractors may take advantage of these provisions if the circumstances so warrant. If the architect states that in his opinion there is no change, the Contractor has 21 days within which to make a claim opposing that decision

10 CONCLUSION

10.1 Whilst all are similar, FIDIC 1st Edition and the AIA go further in addressing mutual benefits. However, they all have one common problem, namely the definition of "reasonably foreseeable".

10.2 This term is ambiguous in all the contracts. Although there has been some guidance it is likely that it will be judged on a case-by-case basis. I will give you an example of a case Hammonds was involved in:

Project: Airbase in Bahrain

10.3 This project concerned the construction of an Airbase in Bahrain. It involved excavating sand from the desert to use as a base for the material at the airbase. The problem the Contractor encountered when he started excavating the sand from the desert was that underneath the top metre of soil, the sand contained boulders and rocks. As a result, the Contractor had sieve the sand to remove the boulders and rocks before being able to use the sand as material.

10.4 The presence of the boulders had not been disclosed in the ground investigation reports provided by the Employer.

10.5 The outcome was that the claim by the Contractor for extra payment and extension of time failed because even though the ground investigation report was defective in that it did not disclose the presence of the boulders and the rocks, it was very common knowledge to anyone working in that part of Bahrain that the sand did contain boulders and rocks. This is a fairly typical example of the "reasonably foreseeable" test.

10.6 Out of this experience, I would suggest a two-fold approach to deal with such a claim:

- (a) appoint a local contractor to provide evidence that they have never seen circumstances like this, and
- (b) provide an expert's report to show that the Contractor could not have reasonably foreseen the problems.

10.7 In this case even though the ground reports were wrong, presence of the boulders and rocks was reasonably foreseeable as it would have been known to any experienced contractor in the region that they existed. In the international arbitration this was the conclusion of the arbitrators.

Summary

- It is the Employer's responsibility to provide the Contractor (before tender) with all information relating to the ground and subsoil.
- It is the Contractor's job to interpret this information and make his own investigations.
- The Contractor must ensure that he has taken into account all matters relating to the project so that he can pass the "reasonably foreseeable" test.
- There are no similar provisions for "unforeseeable difficulties" which are usually at the Contractor's risk.
- Remember that a claim will not succeed simply because a Contractor has encountered different ground conditions than he had anticipated.

APPENDIX

Comparison of EOT provisions in Government GCCs, HKIA/HKIS Standard Form of Building Contract and KCRC West Rail Contract for Civil Engineering and Building Works

Event	GCC	KCRC West Rail	HKIA/HKIS
• inclement weather	✓	x	✓
• typhoon No.8	✓	x	✓
• Black Rainstorm Warning	✓	x	✓
• variation ordered by the Employer/Architect/Engineer	✓	✓	✓
• substantial increase in the quantity of any item of work included in the contract not resulting from any error in firm quantities or from a variation ordered	✓	x	x
• the contractor not being given possession of the site or part thereof	✓	✓	✓
• disturbance to the progress of the works for which the Employer/Architect/Specialist Contractor is responsible	✓	✓	x
• suspension of works ordered by the Architect	✓	✓	x
• failure of any utility undertaking or other duly constituted authority to commence or to carry out in due time any work directly affecting the execution of the works, provided that the contractor has taken all practical steps to cause the utility undertaking or authority to commence or to proceed with such work	✓	✓	x
• delay on the part of any Nominated Sub Contractor for any of the above reasons	✓	x	✓

Event	GCC	KCRC West Rail	HKIA/HKIS
• any special circumstances of any kind whatsoever	✓	x	x
• the issue of, or the failure or inability or the delay if the issue of an instruction	✓	✓	✓
• the reversal of an instruction or decision of the Engineer or his representative	x	✓	x
• ambiguities or discrepancies in or between the documents comprising the contract	x	✓	x
• the failure or inability or delay in issue of further or amended drawings or specification	x	✓	✓
• the presence of unforeseeable physical conditions or artificial obstructions and measures taken to overcome them and/or instructions issued by the Engineer	✓	✓	x
• errors in setting out due to incorrect data	x	✓	x
• instruction for the rectification of loss or damage due to excepted risks as defined in the contract	✓	✓	x
• delay in obtaining any occupation permit	x	✓	x
• the issue of or the failure or inability or delay in the issue of an instruction for dealing with antiquities	x	✓	✓
• the uncovering of acceptable work	x	✓	✓
• ad hoc successful tests	x	✓	x
• an instruction of the Engineer for handing over the works or part thereof	x	✓	x
• the instruction of work included as a provisional sum	x	✓	x

Event	GCC	KCRC West Rail	HKIA/HKIS
<ul style="list-style-type: none"> making good the destruction or damage to the permanent works and/or temporary works by reason of special risks 	x	✓	x
<ul style="list-style-type: none"> any other cause of disturbance to the progress of the Works for which the Employer or the Engineer is responsible whether pursuant to or in breach of any provision of the Contract or otherwise including, but not limited to, any act of prevention or delay by the Employer or the Engineer 	x	✓	x
<ul style="list-style-type: none"> force majeure 	x	x	✓
<ul style="list-style-type: none"> loss or damage occasioned by one or more of the contingencies defined in the contract 	x	x	✓
<ul style="list-style-type: none"> civil commotion, local combination of workmen, strike or lockout affecting the trades employed upon the works or any of the trades engaged in the preparation, manufacture or transportation of any of the goods or materials required for the works 	x	x	✓
<ul style="list-style-type: none"> delay of artists, tradesmen or others engaged by the Employer in executing work not forming part of the construction contract 	x	x	✓
<ul style="list-style-type: none"> the Main Contractor's inability for reasons beyond his control and which he could not reasonably have foreseen at the date of the contract to secure such labour as is essential to the proper carrying out of the works 	x	x	✓
<ul style="list-style-type: none"> the Main Contractor's inability for reasons beyond his control and which he could not reasonably have foreseen at the date of the contract to secure such goods and/or materials as are essential to 	x	x	✓

Event	GCC	KCRC West Rail	HKIA/HKIS
the proper carrying out of the works			
Notice – Time	As soon as practicable after cause of delay arises but in any event within 28 days	As soon as contractor can reasonably foresee an event occurring that is liable to cause delay but in any event within 28 days after commencement of the event (cl 45.1)	Forthwith upon it becoming reasonably apparent that the progress of the works will be delayed
Notice – Content	Cause and extent of delay	Likelihood and extent of delay Claim Grounds (cl 45.2)	Cause
Particulars	Only if Architect requests	Yes, within 28 days of clause 45.1 notice	No express provision
Award	Within a reasonable time	Within 28 days of clause 45.2 notice or within a reasonable time	As soon as the Architect is able to estimate the length of the delay