Contractor's Claims under the FIDIC Civil Engineering Contract, Fourth (1987) Edition — I

Christopher R Seppala
White & Case, Paris

The Conditions of Contract for Works of Civil Engineering Construction, prepared by the *Fédération Internationale des Ingénieurs-Conseils or FIDIC* (the 'Conditions'), are the only standard form of conditions of contract issued at the international level specifically for civil engineering construction. They are the most widely used standard conditions for projects (building or civil engineering) where tenders are invited on an international basis. While frequently modified in practice and sometimes criticised, they constitute, nonetheless, the norm or standard by which other forms of construction contract used internationally are judged. So as far as construction conditions of contract for use internationally are concerned, the Conditions represent the 'state of the art'.

The Conditions derive from, and remain modelled on, a form of conditions of contract used for civil engineering work in England, the Conditions of Contract of the English Institution of Civil Engineers (the 'ICE Conditions').[1] Thus, the Conditions incorporate, among other things, the traditional English contract system under which important administrative and quasi-judicial powers are conferred on the person supervising execution of the works on the employer's behalf, the engineer (herein and in the Conditions called the 'engineer').[2] While this system was exported from the United Kingdom, in the 19th century, to countries of the former British Empire (Canada, Australia, South Africa, etc) and adopted in the United States, it remains fundamentally different from construction contract practices on the continent of Europe, and elsewhere, where the powers of the contract supervisor, if any,[3] are more attenuated and the employer's (herein and in the Conditions called 'employer(s)') authority is commensurately greater.

The occasion of a new, fourth edition in 1987[4] and publication of an official FIDIC Guide to the Use of the Conditions (the 'FIDIC Guide') in 1989 make it an opportune time, now that the fourth edition is entering into wide use, to review again the matter of contractor's claims under this form of contract.[5]

Like the English contract conditions from which they derive, the Conditions confer important claim rights on the contractor. More than thirty different clauses provide that the contractor may, in specified circumstances, be entitled to claim from the employer additional money or an extension of time for completion of the works, or both, if conditions change or differ from those existing or reasonably foreseeable at the date of tender.

Unlike a fixed price contract, the Conditions allow, indeed they invite, claims from the contractor in specified circumstances when unexpected events, such as unforeseeable site conditions, occur. As the Conditions entitle the contractor to claim in specifically defined situations, an employer should be able to obtain lower bid prices by using the Conditions than a fixed price form of contract. On the other hand, when using the Conditions, the employer must also be prepared to set aside a reserve, or have other resources, to pay for increases in the initial contract price that are likely to arise as the result of contractor's claims.

In addition to claims *by* the contractor, the Conditions also contain numerous clauses under which the employer may assert claims *against* the contractor. However, the employer's position is fundamentally different from that of the contractor. The contractor undertakes to execute, complete and (after completion) remedy defects in the works whereas the employer undertakes to pay the contractor therefor. As the contract paymaster, the employer may satisfy his claims, if any, by set offs against, or reductions in, the amounts due or to become due to the contractor. On the other hand, the contractor must notify his claims to the engineer and comply with defined procedures, if he is to recover what may be due to him.

The contractor may assert two basic types of claims against the employer. He may claim additional compensation or an extension of time by virtue of a clause in the Conditions. Alternatively, the contractor may claim additional compensation based upon the municipal law which governs the contract, eg a

Christopher R Seppala was Chairman of the Subcommittee on the FIDIC (Civil Engineering) Conditions of Contract of the SBL's Committee T (International Construction Contracts), from 1985 to 1989. In 1991 he became a member of FIDIC's Civil Engineering Contracts Committee. The views expressed herein are those of the author and do not necessarily reflect those of any other person or organisation.

claim for breach of contract for which the Conditions do not themselves provide a remedy.[6] This article will address only the first type of claim, that is, based on a clause of the Conditions, but not the second type of claim, based in law, the nature and availability of which may vary, depending upon the law which governs the contract.

As a general rule, during the performance of the works it will be in the contractor's interest to claim under one or more clauses of the Conditions whenever this is feasible. A claim based on a particular clause is readily susceptible to evaluation by the engineer (the engineer will be unable to evaluate a claim based in law without legal advice) and hence be eligible for interim payment.[7] Consequently, it is ordinarily preferable to refrain from asserting claims based in law except in exceptional circumstances, eg international arbitration.[8]

Three of the major claim areas under the Conditions are the following:

- unforeseen physical obstructions or conditions (clause 12);
- variations or changes in the works (clauses 51 and 52); and
- delays (clause 44 and others).

The discussion in Section II ('The contractor's major claims') will concentrate primarily on these three types of claims. Brief reference will nevertheless be made in Section III ('Other claims', to be published next month) to the other types of claims available to the contractor under the Conditions, and in Section IV ('Claim procedures and disputes', also to be published next month) to the new procedures for the notification of claims and for the settlement of disputes.

Before considering the major claim areas, however, it is necessary to describe the special role of the engineer under the fourth edition of the Conditions.

I Role of the engineer

When an employer plans the execution of a civil engineering project to be let out for international competitive bidding, he will often seek to appoint a consulting engineer to advise him and to act on his behalf. The employer will ordinarily then enter into an agreement with such engineer whereby the engineer will agree, among other things, to prepare initial studies and a feasibility report and, assuming the employer decides to proceed with the project, to prepare the tender and contract documents including drawings, specifications and a bill of quantities. The engineer will often further agree that, once the construction contract is signed, he will, on his employer's behalf, supervise the execution of the works by the contractor.[9]

The engineer is not a party to the construction contract, although the employer's agreement with the engineer will refer generally to the construction contract to be entered into later between the employer and the contractor. However, the effect of incorporating the Conditions into the construction contract to be signed is to confer a distinct function on the engineer: he becomes the administrator of the contract and, for this purpose, is accorded important powers and duties which extend beyond a pure agency relationship with the employer. The powers and duties which the Conditions confer include, among others, the following: to issue further drawings, including 'execution drawings' (that is, drawings that may be used in the final execution of construction work);[10] to certify the value of work for purposes of interim and final payment to the contractor;[11] to instruct 'variations' in the works[12] or 'suspensions' in the execution of the works;[13] to issue taking-over certificates;[14] to decide the contractor's claims for additional monies or for extensions of time;[15] and, finally, to decide disputes, if any, between the contractor and the employer subject, however, to both the employer's and the contractor's rights, if dissatisfied with the engineer's decision, to refer the matter to international arbitration.[16]

In performing these various administrative duties, the engineer is regarded as having a dual role. On the one hand, he acts as the agent of the employer in supervising construction and in ensuring that the contractor executes the works properly in accordance with the terms of the construction contract. On the other hand, in performing certain other administrative functions and, in particular, when exercising discretion accorded to him under the contract (eg in deciding the contractor's claims for additional payment or extensions of time, or in settling disputes), the engineer is required to act impartially. Whereas under prior editions his duty to act impartially was only implied, under the fourth edition of the Conditions it is an express requirement. Clause 2.6 provides, in part, as follows:

> 'Wherever, under the Contract, the Engineer is required to exercise his discretion by:
> (a) giving his decision, opinion or consent, or
> (b) expressing his satisfaction or approval, or
> (c) determining value, or
> (d) otherwise taking action that may affect the rights and obligations of the Employer or the Contractor
> he shall exercise such discretion impartially within the terms of the Contract and having regard to all the circumstances.'

Another innovation in the fourth edition is that, before deciding whether the contractor may be entitled to additional money or an extension of time, the engineer is expressly required to consult with both parties to the contract. Thus, in most clauses which entitle the contractor in specified circumstances to claim additional money or an extension of time, or both, there is an express provision for 'due consultation with the Employer and the Contractor' before the engineer may act.[17]

While the engineer is now formally obliged to consult the employer and the contractor, the employer may not instruct the engineer as to the position he should adopt. If the employer gives such an instruction, he may be in breach of contract;[18] if the engineer accepts it, he would, at least under English law, be guilty of 'misconduct' as would be an arbitrator who failed to act impartially. Even if a contractor's claim, or a dispute, calls into question the conduct of the employer, or of the engineer himself (eg an alleged error in the engineer's design), the engineer is required, under English law at least, to decide it independently and without bias.[19]

Doubtless it is a 'somewhat naive fiction'[20] to expect a person in the engineer's position to perform his administrative functions with the independence which is theoretically required, especially when a claim calls into question his own conduct. Nevertheless, the efficient functioning of the procedures for the settlement of contractors' claims hinges on the engineer's faithful performance of his impartial role. As one engineer has written:

> 'The efficiency of the system written into the FIDIC Contract for settling all claims and solving all disputes relies heavily on the one hand upon strict compliance by the Contractor with the proper drill for making claims combined with, on the other hand, strict compliance by the Engineer, in an impartial way, with *the proper drill for settling claims*' (emphasis added).[21]

As all claims of the contractor must be submitted to the engineer (and as all communications from the employer to the contractor are expected to pass through the engineer),[22] the engineer is for all purposes, save international arbitration, the highest adjudicator of right and claims under the contract.

International arbitration is the ultimate recourse against a decision of the engineer.[23] However, a contractor will ordinarily not proceed to arbitration except as a last resort and where the sums in dispute are large. Even then, a contractor will usually be reluctant to commence arbitration while work is ongoing and the employer is continuing to make regular, if (in the contractor's view) insufficient, payments. Apart from its undesirability from a commercial standpoint, arbitration may also place his bonds[24] and retention monies, if any,[25] at risk. Moreover, if the contractor has one claim he wishes submit to arbitration, he will usually have others, and, if so, will ordinarily wish, if attempts at amicable settlement fail, to assert them all together in a single proceeding, after the issuance of the taking-over certificate[26] when their total number can be ascertained and their exact amounts calculated. Consequently, in the usual case, the contractor will refrain from commencing arbitration until after the works have been completed.

For these reasons, among others, when a project is let out on the basis of the Conditions, the identity of the person chosen to act as the engineer is critical to an evaluation of the risks of the project by the contractor and, in particular, the likelihood, that his claims will be evaluated fairly and settled promptly, without arbitration.[27] This assumes, of course, employer who will have the integrity and ability to permit the engineer to perform his contractual role.

II The contractor's major claims

(A) Unforeseeable physical obstructions or conditions (clause 12)

A major risk in any civil engineering project is that the contractor may, during the course of construction, encounter physical obstructions or conditions at the site which were not forseeable and which delay his work or cause an increase in his costs. For example, ground conditions may be substantially harder or softer than anticipated, permafrost or subsurface water may be discovered where none was foreseen or good foundation rock may be found only at a substantially lower depth than had been expected.

In the invitation for tenders, the employer will usually have provided prospective tenderers with information as to the site and its surroundings.[28] During the tender period, the contractor will ordinarily have carried out a site inspection and performed other investigations for purposes of preparing his tender. Nevertheless, in the case of any major project, despite the good faith efforts of the parties, it is not unlikely that the contractor will encounter unanticipated conditions which delay his work or increase his costs, or both.

Who should be made to bear the consequences of such delay or increase in costs?

The traditional rule of law, in the common law countries at least, has been that, regardless of the difficulties he may encounter, the contractor must carry out the works at the agreed price.[29] Subject to some qualification (as discussed below), this basic principle is maintained in the Conditions. Under them, the contractor is generally responsible for designing (to the extent provided for by the contract), completing, and remedying any defects in the works for the contract price.[30] If unforeseen events occur during construction which cause increased costs or delays, or both, these are ordinarily assumed to have been allowed for in his tender price.[31]

In the United Kingdom and the USA, however, strict adherence to this principle has often not been felt to be in the long-run interests of employers. If the entire risk of unforeseeable events were placed on contractors, then, in order to stay in business, contractors could be expected to establish a reserve in their bids for each and every contingency which might arise, leading inevitably to higher bid prices. Employers would have to pay these higher bid prices, as contract prices, whether the contingencies against which the reserves had been allocated materialised or not. This practice, it was felt, would be more costly for employers in the long run, and result in less accurate bidding, than if they undertook themselves to bear the risk of unforeseeable events and, thus, only paid for them if, and to the extent that, they should actually arise. Accordingly, as an exception to the above principle, contracts in the United Kingdom and the USA often make the employer bear the risk of specified unforeseeable events.[32]

The Conditions give effect to this exception in sub-clause 12.2 by providing that, if certain defined contingencies arise which delay the work or cause the contractor increased costs, he may claim an extension of time or additional compensation.

Sub-clause 12.2 provides as follows:

'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 and 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. On receipt of such notice, the Engineer shall, if in his opinion such obstructions or conditions could not have been reasonably foreseen by an experienced contractor, after due consultation with the Employer and the Contractor, determine:

(a) any extension of time to which the Contractor is entitled under Clause 44, and

(b) the amount of any costs which may have been incurred by the Contractor by reason of such obstructions or conditions having been encountered, which shall be added to the Contract Price,

and shall notify the Contractor accordingly, with a copy to the Employer. Such determination shall take account of any instruction which the Engineer may issue to the Contractor in connection therewith, and any proper and reasonable measures acceptable to the Engineer which the Contractor may take in the absence of specific instructions from the Engineer.'

The policy to relieve the contractor of financial responsibility for certain unforeseeable risks is also embodied in other clauses.[33]

The policy of the contract in this respect is not even-handed. Under these clauses, the contractor is entitled to additional costs or an extension of time, or both, when in specified circumstances he encounters conditions that are worse than were foreseeable. Yet no clauses in the contract entitle the employer to recover any portion of the contract price or to an earlier completion date, or both, when the contractor encounters conditions that are better than were foreseeable. In theory, howevr, each is equally as likely to occur and the unforeseeable favourable conditions may balance out against the unforeseeable unfavourable ones. There is therefore no occasion to give an over-generous interpretation to such clauses that favour the contractor in the contract.

To claim under sub-clause 12.2, the contractor must establish that

(a) he has encountered physical obstructions or physical conditions, other than climatic conditions on the site;[34]

(b) these could not have been reasonably foreseen by an experienced contractor;

(c) they entitle him to an extension of

time under clause 44 or additional cost or both; and

(d) he has given notice of such physical obstructions or physical conditions 'forthwith' to the engineer, with a copy to the employer.[35]

Each of the four above requirements will now be examined.

(a) 'Physical obstructions' or 'physical conditions'

All prior editions of the Conditions and, indeed, the ICE conditions, refer in clause 12 to 'physical conditions . . . or artificial obstructions' whereas the current edition of the Conditions refers to '*physical* obstructions or physical conditions' (emphasis added). Under the earlier editions it had been arguable, upon the basis of the reference to '*artificial* obstructions' (emphasis added), that the event giving rise to the claim need not be physical (that is, materially existing) but could extend to such other phenomena as port congestion, shortages of raw materials, interference with access to the site due to the presence of another contractor, changes in laws or regulations which cause interference with the contractor's work and inflation.[36] The change from 'artificial' to 'physical' obstructions appears to remove the basis for this argument in the fourth edition.[37]

The term 'physical conditions' is so broad that it cannot be defined with precision. In English practice, at least, it is acknowledged to include such matters as unexpected ground conditions, geological faults and changes in water tables.[38] The term 'physical obstructions', while possibly a narrower and, to some extent, overlapping term, appears to refer specifically to tangible impediments to the contractor's work such as underground sewers, man-holes and foundations.

(b) Not reasonably foreseeable by an experienced contractor

Assuming that there are such 'physical obstructions' or 'physical conditions' as defined above, when are they (1) not reasonably foreseeable (2) by an experienced contractor?

(1) Foreseeability

The foreseeability of a particular event will be determined by reference to the following points.[39]

(i) The data on hydrological and subsurface conditions, if any, made available by the employer in the tender documents pursuant to sub-clause 11.1, first sentence.[40]

(ii) The information that should have been discovered as the result of what the contractor is deemed to have done during the tender period, in particular, pursuant to sub-clause 11.1, second sentence which provides as follows:

'The Contractor shall be deemed to have inspected and examined the Site and its surroundings and information available in connection therewith and to have satisfied himself (so far as is practicable, having regard to considerations of cost and time) before submitting his Tender, as to:
a) the form and nature thereof, including the sub-surface conditions,
b) the hydrological and climatic conditions,
c) the extent and nature of work and materials necessary for the execution and completion of the Works and the remedying of any defects therein, and
d) the means of access to the Site and the accommodation he may require and, in general, shall be deemed to have obtained all necessary information, subject as above-mentioned, as to risks, contingencies and all other circumstances which may influence or affect his Tender.'

The scope of this investigation is determined by the bracketed words 'so far as is practicable, having regard to considerations of cost and time'. Thus, if the time allowed for the preparation of tenders is short, an extensive investigation may not be 'practicable'.[41] Similarly, a contractor is not required to incur substantial costs in preparing to tender for a project which he has no assurance of being awarded. This, too, would not be 'practicable'. Thus, the circumstances of the invitation to tender will be important to the determination of the extent of the information which the contractor is deemed to have obtained under sub-clause 11.1, second sentence.

(iii) The nature and extent of the works to be required by the contract. For example, where the contractor plans to build a pier out into a lake during seasonal low water level periods and, due to conditions off the site, the water levels fail to fall in accordance with published historical data in the tender documents, the change in water levels may, in that context, be an unforeseeable physical condition; but this would not be the case if the contractor had planned to build the pier by a method of construction not dependent on changes in seasonal water levels.

(iv) General civil engineering knowledge (see (2) infra).

It results from the foregoing that, in order to prove that a 'physical obstruction or physical condition' was unforeseeable within the meaning of sub-clause 12.2 the contractor must demonstrate that at the date of tender, notwithstanding the four points mentioned above, such obstruction or condition could not reasonably have been foreseen by an experienced contractor.

(2) Experienced contractor

The requirement of foreseeability is determined not by what the above data or information ((1) (i), (ii) and (iii)) would have revealed to a layman, but by what such data or information would have revealed to an 'experienced contractor', that is, an experienced civil engineering works contractor. Thus, the fact that some physical obstruction or physical condition may have escaped the notice of the employer would not entitle the contractor to claim if an experienced contractor could reasonably have foreseen it.[42]

(c) Entitlement to an extension of time or additional cost, or both

The 'physical obstruction' or 'physical condition' must have delayed the contractor's work on the critical path for construction (that is, had the effect of delaying completion) or caused additional cost, or both. 'Cost' is defined to include all expenditure, whether on or off the site, including overheads 'but does not include any allowance for profit'.[43]

(d) Notice to the engineer with a copy to the employer

The contractor is required to give notice to the engineer, with a copy to the employer, 'forthwith' upon encountering unforeseeable adverse physical conditions or obstructions.[44] Such notice enables the engineer to make an immediate inspection and examination of the physical condition or obstruction encountered to determine whether it could have been reasonably foreseen by an experienced contractor.

In addition, by virtue of clause 53 (to be dealt with next month in Section IV ('Claim procedures and disputes')) the contractor must give a notice of intention to claim to the engineer with a copy to the employer within 28 days after having encountered an adverse physical obstruction or condition. There appears to be no reason why the notices under clauses 12 and 53 may not be given by the same document so long as the requirements of both clauses are satisfied. By virtue of sub-clause 53.2, after encountering an adverse physical

obstruction or condition the contractor should ensure that all contemporary records necessary to support his claim are kept.

Any 'instruction' issued by the engineer under sub-clause 12.2 (see quotation of sub-clause 12.2 above) may in some circumstances provide the contractor with an additional basis for a claim, independent of clause 12. For example, such an 'instruction', if given in writing, may arguably be an instruction for a suspension under sub-clause 40.1, or (if requiring work beyond that necessary to overcome the physical condition or obstruction) a variation under clause 51, or entitle the contractor to an extension of time under clause 44. If the instruction constitutes a variation increasing the quantity of any work, then the contractor would be entitled to profit on the extra work.[45] Therefore, when an 'instruction' is or may have been given under sub-clause 12.2, the contractor should, where appropriate, consider his rights under these clauses, among others, as well as clause 12.

The fact that the engineer may after due consultation with the employer and the contractor, deny that the alleged adverse physical obstructions or conditions were unforeseeable, or that any 'instruction' he has given entitles the contractor to compensation or an extension of time under clauses 12, 40.1, 51 and 44, among others, is, in the last resort, legally irrelevant as generally all of the engineer's decisions may be opened up, reviewed and revised in international arbitration.[46] The award of the arbitrators, who must ordinarily decide in law,[47] will be conclusive on these questions.

(B) Variations (clauses 51 and 52)

After the signature of a construction contract, circumstances often occur which make it necessary or advisable for the employer or the engineer to make changes in the scope or nature of the work as defined in the drawings (which, at the date of contract, will typically be relatively generalised), specifications and other contract documents upon which tenders were based. For example: the original design or specifications may prove inadequate; the employer's initial programme or budget for the project may change; natural events, or wholly unforeseen conditions,[48] may occur which necessitate changes in the scope or nature of the works. For these reasons the employer or the engineer may wish to modify the works as defined in the contract documents.

How is such a change to be effected? The works will have been defined, at least in a generalised way, in the contract which the parties have signed. Consequently, a change therein (as distinct from, for example, further definition or amplification of the generalised contract drawings) could ordinarily only be affected by mutual agreement of the parties. However, the contractor may be unwilling to provide his consent at an acceptable price or at all. As he would be executing the main contract works and be in possession of the site, he would be in a position of strength in such a situation.

To avoid the need for renegotiations with the contractor each time a change becomes necessary or desirable, with the difficulties and delays this might entail, construction contracts in the United Kingdom and the USA ordinarily contain a provision authorising the employer or, more often, his agent, an engineer or architect, to change the works during the course of construction.[49]

(a) Engineer's power to change the works

In common with Anglo-American practice, the engineer, acting as the employer's agent, is authorised by clause 51 of the Conditions to change, or 'vary', the works (not the contract); the contractor must comply with the engineer's instructions in this respect, as in all other matters concerning the works.[50]

Under the Conditions, the engineer's power to change the works is extremely wide. Sub-clause 51.1 provides as follows:

> 'The Engineer shall make any variation of the form, quality or quantity of the Works or any part thereof that may, in his opinion, be necessary and for that purpose, or if for, any other reason it shall, in his opinion, be appropriate, he shall have the authority to instruct the Contractor to do and the Contractor shall do any of the following:
> (a) increase or decrease the quantity of any work included in the Contract,
> (b) omit any such work (but not if the omitted work is to be carried out by the Employer or by another contractor),
> (c) change the character or quality or kind of any such work,
> (d) change the levels, lines, position and dimensions of any part of the Works,
> (e) execute additional work of any kind necessary for the completion of the Works,
> (f) change any specified sequence or timing of construction of any part of the Works.
>
> No such variation shall in any way vitiate or invalidate the Contract, but the effect, if any, of all such variations shall be valued in accordance with Clause 52. Provided that where the issue of an instruction to vary the Works is necessitated by some default of or breach of contract by the Contractor or for which he is responsible, any additional cost attributable to such default shall be borne by the Contractor.'

This sub-clause incorporates two significant amendments as compared to the third edition. First, in paragraph (b) the following words have been added: '(but not if the omitted work is to be carried out by the Employer or by another contractor)'. This merely incorporates into the contract the law in many countries, namely, that the employer or his agent may not instruct a variation of omission and then do the omitted work himself or cause it to be done by another contractor. This would be a breach of contract.[51] Second, by the addition of paragraph (f) any change instructed by the engineer in 'any specified sequence or timing of construction' (eg specified in the invitation to tender documents) will be a variation. The invitation to tender documents may require all or part of the works to be carried out in a certain sequence. In preparing his tender, the contractor will be expected to have drawn up his work programme and developed his methods of work, at the tender stage, in conformity with any sequence specified in the invitation to tender documents. If the engineer later instructs a change in such sequence this will be a variation. Paragraph (f) now makes this clear.

However, the engineer's power to change the works is not unlimited. While in the case of a contract to build a hotel, for example, the engineer may have the power under sub-clause 51.1 to instruct the contractor to add a garage or parking lot, under the common law, he would not have power under clause 51 to order him to build a second hotel. The engineer's power to order extras is held, by implication, to be limited to the type and value of the works under the contract. If the engineer instructs the execution of additional work beyond these limits, such work will not be governed by the terms of the contract.[52]

The power to instruct variations is also limited in time. If extra work is ordered after the contract work is completed (eg, during the defects liability period, which is normally a period of one year after completion), this may also be outside the contract.[53]

(b) Two types of variations

From the contractor's point of view, the Conditions contemplate two types of variation orders in relation to extra or additional work:

Type 1: the engineer orders the contractor to do work, involving a variation in fact, which the engineer acknowledges to involve a variation; and

Type 2: the engineer orders the contractor to do work, involving a variation in fact, which the engineer does not acknowledge to involve a variation.

Clauses 51 and 52 purport by their terms to deal only with the first type of change (type 1). They are drafted on the assumption that the engineer will — unfailingly — recognise and order a variation of the works whenever it is required. They do not contemplate that he could instruct extra or additional work and yet not acknowledge it to involve a variation entitling the contractor to additional payment.

However, for reasons which will be explained below, the engineer's determination of whether or not his own instruction constitutes a variation is not final and binding on the contractor.[54] Consequently, there is, in effect, a second type of variation, that is, an order by the engineer to do work, involving a variation in fact, which the engineer does not acknowledge to involve a variation (type 2).[55]

While a type 2 variation, being contentious, is more pertinent to the subject of contractor's claims, the discussion below will begin with type 1 as it is the one dealt with explicitly in clauses 51 and 52 and as the elements of a type 2 variation are basically the same as for type 1.

(1) Variation acknowledged by the engineer

(i) Requirement of an order in writing:
Sub-clause 51.2 requires that a variation be instructed by the engineer. It provides in part:

> 'The Contractor shall not make any such variation without an instruction of the Engineer'

and, pursuant to sub-clause 2.5, instructions of the engineer must be in writing. As a consequence, a written instruction from the engineer is ordinarily a condition precedent to payment for extra work as a variation.

However, sub-clause 2.5 does not require the written instruction to be in any particular form. For example, a signed drawing of the engineer or the minutes of a meeting with him, which he signs, may suffice. The instruction may also initially be given orally by the engineer, if he confirms it in writing either before or after the carrying out of the instruction,[56] eg by the engineer's interim certificate authorising payment for varied work.

However, the engineer's oral instruction need not be confirmed in writing by the engineer himself. If, within seven days of the oral instruction, the contractor confirms it in writing to the engineer and such confirmation is not contradicted in writing within seven days by the engineer, then the oral instruction is deemed to be an instruction of the engineer.[57] Thus, a confirming letter from the contractor to the engineer may, in appropriate circumstances, be sufficient to satisfy the requirement of an instruction.

(ii) Valuation:
Clause 52 establishes the principle that extra work is to be valued on the basis of the rates and prices set out in the contract if, in the opinion of the engineer, the same shall be applicable. If the contract does not contain rates and prices applicable to the varied work, then this clause provides that, as a general rule, the rates and prices in the contract shall be used as the basis for valuation so far as may be reasonable, failing which, after due consultation by the engineer with the employer and the contractor, suitable rates and prices shall be agreed upon between the engineer and the contractor. In the event of disagreement, the engineer shall fix such rates or prices as are appropriate, in his opinion, and shall notify the contractor accordingly, with a copy to the employer.[58]

The rates and prices, which will ordinarily be set out in the bill of quantities included as part of the contract, will ordinarily include profit. For this reason, it is advantageous for the contractor to claim under clauses 51 and 52 rather than under clauses which award only 'cost' and hence exclude profit, eg clause 12.

Extra work instructed by the engineer may, if it prevents the contractor from completing the works or any section thereof by the agreed time for completion, also entitle the contractor to claim an extension of time[59] and financial compensation for being obliged to work longer than foreseen by the contract.

(iii) Requirement of notice:
It is a condition to any variation claim that, within 14 days of the date of the instruction and, other than in the case of omitted work, before the commencement of the varied work, the contractor will have given written notice to the engineer of the contractor's intention to claim extra payment or a varied rate or price.[60] Failure to comply with this notice requirement will bar a claim based on clauses 51 or 52. This notice requirement is in addition to the requirement in clause 53 to give notices and keep contemporary records, mentioned earlier.

(2) Variation not acknowledged by the engineer

Clause 67 ('Settlement of Disputes'), which provides for the settlement of disputes ultimately by international arbitration, provides in sub-clause 67.3 in part that, in the event of arbitration: 'The said arbitrator/s shall have full power to open up, review and revise any decision, opinion, instruction, determination, certificate or valuation of the Engineer.'

It follows that whenever the engineer issues an instruction to the contractor, which the contractor considers to constitute a variation but which the engineer refuses to acknowledge to be such, the engineer's instruction (like his other decisions or opinions) is subject to being opened up, reviewed and revised in the event of an arbitration. By clause 67, the arbitrators are made the final interpreters of the contract. They will determine whether or not the engineer's instruction was a variation (or will, at the employer's request, determine whether an instruction interpreted by the engineer to be a variation was in fact not one). If the arbitrators determine that, upon a true construction of the contract, the work instructed by the engineer fell outside the original scope of the work and thus constituted a variation in fact, the contractor will be entitled to payment for the work upon the same basis as if the engineer had originally acknowledged it to be a variation under clause 51.[61]

Where the contractor requests a variation to be instructed, but the engineer refuses and extra work is in fact involved, there may be a question whether the contractor can claim on the basis of clause 51, inasmuch as there will exist no instruction in writing from the engineer. However, under English law, where there is a broad arbitration clause (as in the case of clause 67 of the Conditions), arbitrators can, in such circumstances, award payment despite the absence of a written instruction.[62]

In practice, if the arbitrators determine that the work concerned fell outside the original scope of the contractor's work, there will often be a letter or other written communication from the engineer, or a document signed by the engineer or an uncontradicted written confirmation by the contractor of an

oral instruction of the engineer, which is susceptible to interpretation as the necessary written instruction.

Nevertheless, whenever there is a difference of opinion with the engineer over whether an instruction constitutes a variation, the contractor should notify the engineer promptly of his intention to claim, pursuant to sub-clause 52.2 (and clause 53), as well as identify the additional work alleged to have been done (and keep contemporary records to support his claim pursuant to sub-clause 53.2).

A practical difficulty with a claim for a variation not acknowledged by the engineer is that the value of the claim, together with all other claims in dispute, may be insufficient to justify the expense and the time of going to arbitration to have the engineer's views rectified (assuming such claims are not settled beforehand either by the engineer under sub-clause 67.1 or amicably under sub-clause 67.2). This difficulty inheres in all claims not accepted by the engineer and reinforces the importance for a FIDIC-based contract to be administered by an impartial engineer and undertaken with an employer respectful of the engineer's role.

(c) Delays (clause 44 and others)

In the United Kingdom and the USA, a contractor is ordinarily required to complete a construction contract within a fixed period of time, after the expiration of which he will become liable to the employer for liquidated damages for delay. Similarly, the Conditions[63] provide that the whole of the works and, if applicable, any section of the works required to be completed within a particular time, be completed within the relevant times stated in the contract, failing which the contractor will become liable for liquidated damages for each day or part of a day of delay for the whole of the works or the relevant section thereof.[64]

Nevertheless, it is commonplace, especially in international construction, for events to occur which disturb or disrupt the contractor's work and prevent him from completing the whole of the works or a section thereof, by the dates fixed therefore in the contract.[65] These events may be caused by the employer (eg delay in giving possession of the site), or someone for whose acts he is responsible (eg the engineer if he delays in issuing drawings), by the contractor, or someone for whose acts he is responsible (eg a subcontractor or supplier of the contractor), or by matters or persons for which or whom neither party is responsible (eg weather conditions, natural events, war or other acts of third parties).

Where the completion of the works or any section thereof is delayed by events or circumstances not caused by the contractor or someone for whose acts he is responsible, the contractor may be entitled to two types of relief: (a) an extension of time for the completion of the works, or any section thereof, or both, thereby postponing the dates as from which the contractor would otherwise be liable for liquidated damages, or (b) compensation for the additional costs he may incur owing to the disruption of his programme and/or the additional time he will have to work on the site, or both (a) and (b).

(a) Extension of time

Sub-clause 44.1 specifies the circumstances in which the engineer may, either on his own initiative[66] or at the request of the contractor, but after consultation with the employer (and the contractor), grant the contractor an extension of time for the completion of the works, or any section or part thereof.[67] The grounds which may justify such an extension are set forth in broad terms:

> 'In the event of
> (a) the amount or nature of extra or additional work, or
> (b) any cause of delay referred to in these 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 of or breach of contract by the Contractor or for which he is responsible,
> being such as fairly to entitle the Contractor to an extension of the Time for Completion of the Works, or any Section or part thereof, the Engineer shall, after due consultation with the Employer and the Contractor, determine the amount of such extension and shall notify the Contractor accordingly, with a copy to the Employer.'

The circumstances that justify an extension include:

(a) 'the amount or nature of extra or additional work' which would include a variation or an exceptional increase in actual quantities over estimated quantities;

(b) 'any cause of delay referred to in these Conditions' which would include, among other things, the causes of delay referred to in sub-clause 6.4 (delay in issue of drawings or instructions), sub-clause 12.2 (adverse physical obstructions or conditions), clause 20 (loss or damage to the works), sub-clause 40.2 (suspensions), sub-clause 42.2 (failure to give possession of site), sub-clause 51.1 (variations) and 65 (special risks); some, though not all, of these clauses or sub-clauses refer expressly to clause 44;

(c) 'exceptionally adverse climatic conditions', which would include such climatic conditions whether on or off the site;

(d) 'any delay, impediment or prevention by the employer', though new, is a ground that has always been available as a matter of law, as it is ordinarily a breach of contract for one party to delay, impede or prevent the performance of a contract by the other; and

(e) 'other special circumstances which may occur' which would include, in certain cases, acts of the engineer for which the employer is responsible which are not referred to in the Conditions (and thus covered by clause (b) supra) and other matters not otherwise listed for which neither party is responsible.

As in other claims' clauses, the engineer has an obligation to consult with the employer and the contractor before determining the amount of any extension (see Section I ('Role of the engineer'), supra).

The notice provisions, which are much more complex than in prior editions, are the subject of two new sub-clauses, 44.2 and 44.3. Sub-clause 44.2 provides as follows:

> 'Provided that the Engineer is not bound to make any determination unless the Contractor has
> (a) within 28 days after such event has first arisen notified the Engineer with a copy to the Employer, and
> (b) within 28 days, or such other reasonable time as may be agreed by the Engineer, after such notification submitted to the Engineer detailed particulars of any extension of time to which he may consider himself entitled in order that such submission may be investigated at the time.'

Where the event giving rise to the extension has a continuing effect, such that it is not practicable for the contractor to submit detailed particulars within the period of 28 days referred to in sub-clause 44.2(b), sub-clause 44.3 provides that the contractor must submit interim particulars at intervals of not more than 28 days and final particulars within 28 days of the end of the effects resulting from the event.

As can be seen from this clause, in the absence of a determination by the engineer to grant an extension of time on his own initiative (after due

consultation with the employer), the contractor must ordinarily, in order to be entitled to such an extension:

(1) demonstrate that one of the circumstances described in sub-clause 44.1 has occurred;

(2) within 28 days of such circumstance give notice thereof to the engineer with a copy to the employer; and

(3) within 28 days of such notice, or such other reasonable time as may be agreed by the engineer, submit detailed particulars of the extension of time requested to the engineer; or, instead,

(4) where the circumstance has a continuing effect such that it is not practicable for the contractor to submit detailed particulars within 28 days, have submitted to the engineer interim particulars at intervals of not more than 28 days and final particulars within 28 days of the end of the effects of such circumstance.

While the contractor should ordinarily comply with the notice provisions in sub-clauses 44.2 and 44.3, this is not an absolute requirement. Clause 44 indicates that the engineer has discretion to determine a time extension even if the contractor has failed to request it (see the words in sub-clause 44.2 '(p)rovided that the Engineer is *not bound to make any determination . . .*' emphasis added).

In making his determination on a request for an extension of time, the engineer is bound (after due consultation with the employer and the contractor) to act impartially, as required by sub-clause 2.6. However, as with other actions of the engineer, such determination can be challenged by either party and, where appropriate, opened up, reviewed and revised in arbitration pursuant to clause 67.

(b) Compensation for the extension of time

A determination that the contractor is entitled to an extension of time under clause 44 does not imply that the contractor is entitled to additional payment. Although an extension of time will relieve the contractor from liability for liquidated damages for the period of the extension, any claim for additional payment must be justified under other clauses or in law.

While clause 44 purports to deal comprehensively with extensions of time for delays, no single clause purports to deal comprehensively with additional payment for delays. However, certain clauses entitle the contractor to recover additional costs for delays in specific situations including, among others, the following: sub-clause 6.4 (delays in issue of drawings or instructions); sub-clause 12.2 (adverse physical obstructions or conditions); sub-clause 40.2 (suspension of work by the engineer); and sub-clause 42.2 (delay by the employer in giving possession of the site). Moreover, other clauses provide that the contractor is entitled to be compensated for extra work, eg, work resulting from a variation instructed under clause 51. Upon the basis of clauses entitling the contractor to compensation for extra work, the contractor may fairly contend that if such work delayed completion of the works or a section thereof, the cost and lost profit attributable to such delay should be compensated to the contractor.[68]

Absent a clause providing for additional payment for a particular type of delay, the contractor may seek to recover costs for such delay on the basis of applicable law. Under almost all legal systems, a party may recover compensation for a delay to his performance caused by the other party (clearly now covered by sub-clause 44.1(d)) or by someone for whose acts the other party is responsible. It is less clear to what extent the contractor can recover compensation for delays caused by matters or parties for which neither the employer nor the contractor is responsible. This will depend on the terms of each contract (as the Conditions are only a standard form, they will ordinarily have been amended or supplemented before use), applicable law and the facts of each case.

To be continued

Foonotes

1 The prior edition of the Conditions, namely the third edition dated March 1977, was based closely on the fourth (1955) and fifth (1973) editions of the ICE Conditions. While the fourth edition is a stage further removed from its English antecedents, commentaries on those editions of the ICE Conditions remain instructive for the interpretation of the fourth edition of the Conditions. The current edition of the ICE Conditions is the sixth edition, published in 1991.

2 See Section I ('Role of the Engineer'), infra.

3 For example, in France, the powers of the *maitre d'oeuvre*.

4 The exact title of the fourth edition is Conditions of Contract for Works of Civil Engineering Construction. The term '(International)', which appeared in the title of earlier editions, has been deleted as, according to the Forward, the Conditions, 'subject to minor modifications, are also suitable for use on domestic contracts'. The current version of the new edition is described as 'Fourth Edition 1987 Reprinted 1988 with editorial amendments'.

The fourth edition of the Conditions was prepared by the *Fédération Internationale des Ingénieurs-Conseils* ('FIDIC'), which has its headquarters in Lausanne, Switzerland. During the preparation of the new edition, according to the Foreward thereto, FIDIC received suggestions and comments from the European International Contractors, as 'mandatory' of the Confederation of International Contractors Associations 'with participation of Associated General Contractors of America. The principal commentary on the new edition is FIDIC's 'Guide to the use of FIDIC Conditions of Contract for Works of Civil Engineering Construction — Fourth Edition' published by FIDIC in 1989 (the 'FIDIC Guide').

FIDIC also prepares and publishes 'Conditions of Contract for Electrical and Mechanical Works', the current edition of which is the third edition published in 1987. These conditions, which are published with yellow covers, are commonly referred to as the 'yellow book' whereas the Conditions (for civil works), which are published with red covers, are commonly referred to as the 'red book'.

5 The author has previously published an article dealing with contractor's claims under the third edition of the Conditions; see Seppala, 'Contractor's Claims under the FIDIC International Civil Engineering Contract' 14 International Business Lawyer 179 (1986).

6 The Conditions provide remedies for some of the common breach situations. Thus sub-clause 42.2, dealing with a failure of the employer to give possession of the site, provides a remedy for what would otherwise be a breach of contract by the employer.

7 While clause 53 ('Procedure for Claims') contemplates claims being made on purely legal grounds (eg breach of contract), clause 60 does not make clear provision for their payment. Thus, while clause 53.1 refers to claims being made 'pursuant to any clause of these conditions *or otherwise*' (emphasis added), clause 60 does not provide for payments other than under the terms of the Contract, see sub-clause 60.1 referring to 'any other sum to which the Contractor may be entitled *under* the Contract' (emphasis added).

8 See clause 67. The wording of clause 67 is broad enough to encompass the settlement, whether by the engineer or by arbitrators, of a claim based in law.

9 See FIDIC, Client/Consultant Model Services Agreement, Parts I and II, published by FIDIC, Lausanne, Switzerland in 1990.

10 Sub-clause 7.1.

11 Clause 60.

12 Clause 51.

13 Clause 40.

14 Clause 48.

15 The relevant clauses are referred to in Section II ('The contractor's major claims') and Section III ('Other claims'), *infra*.

16 Clause 67.

17 See, eg sub-clause 12.2 (adverse physical obstructions or conditions), clause 44 (extension of time for completion) and sub-clause 53.5 (payment of claims). How much consultation is 'due' will depend, it is suggested here, on the circumstances of each case including the imperative to avoid delay in the execution of the works.

18 By interfering with the engineer's duty to exercise his discretion impartially under sub-clause 2.6.

19 Under English law, the fact that the engineer may be no more than an employee of the state or public authority which is the employer under the contract, as is often the case today internationally, does not change this principle: 'Just as the contractor has accepted the engineer as a "judge" so must the local authority who employ(s) him and he must not allow himself to be influenced by the fact that he is also the servant of the authority' (J B Wikeley, Municipal Engineering Law and Administration (C R Books Ltd, London 1964)

at 29.

20 James J Myers, 'Finality of Decisions of Design Professionals Where the Contract Provides the Decisions Will be Final', 2 The International Construction Law Review ('ICLR') 319, 327 (1985).

21 Glyn P Jones, *A New Approach to the International Civil Engineering Contract* (The Construction Press Ltd, Lancaster 1979) ('Jones'), at 183.

22 FIDIC Guide (*supra* note 4) at 38.

23 See clause 67.

24 Assuming, as will usually be the case, that the bonds are of the 'first demand' type. See clause 10.

25 See sub-clause 60.2 (a).

26 See sub-clause 48.1.

27 The identity of the person originally appointed to act as the engineer is even more important under the fourth edition than previously, as the employer is no longer free to replace him; compare clause 1.1 (a) (iv) of the fourth edition with clause 1(c) of the third.

28 Under sub-clause 11.1, first sentence, the contractor is responsible for his own interpretation of such information. On the other hand, under the last sentence of the same sub-clause, the contractor is 'deemed' to have based his tender on the data made available by the employer (as well as on his own inspection and examination of the site) and he may, therefore, be able to claim against the employer if such data prove incorrect and if, as a consequence, he suffers additional cost or delay, or both.

29 I N Duncan Wallace, *The International Civil Engineering Contract* (Sweet & Maxwell London 1974 and Supp 1980), at 11.

30 Unless 'legally or physically impossible', see clauses 8 and 13.

31 See sub-clause 11.1, second sentence, and sub-clause 12.1.

32 This is the case, for example, in the English ICE Conditions, fifth (and now in the sixth) edition, and in US federal procurement contracts. See, for US practice, Justin Sweet, Legal Aspects of Architecture, Engineering and the Construction Process (West Publishing, St Paul, Minn, 4th Edn, 1989) at 564-65.

33 See, eg sub-clauses 20.3 and 20.4 (the contractor may claim for damage to the works attributable to 'Employer's risks') and clause 65 (the contractor may claim for damage to the works, as well as for specified losses, attributable to 'special risks'). The contractor may also claim for an extension of time for unforeseeable risks (eg 'other special circumstances which may occur') under clause 44.

34 According to the FIDIC Notes on Documents for Civil Engineering Contracts (FIDIC, Lausanne, 1977) at 20, climatic conditions on the site were excluded, for the first time in the third edition, because '. . . it is always difficult to assess whether such conditions could or could not have been foreseen by an experienced contractor'. However, while the contractor may not claim for costs in such case, he may claim an extension of time for 'exceptionally adverse climatic conditions' under clause 44.

35 According to Mr Duncan-Wallace, a failure to give prompt notice under the different wording of this clause in the third edition would not necessarily bar the claim. Duncan Wallace, *supra*, note 29, at 42. However, under the new edition the contractor is required, whenever he intends to claim additional payment, to comply with the more rigorous procedure for claims laid down by clause 53. See Section IV ('Claim Procedures and Disputes'), infra.

36 See the author's 'Contractor's Claims under the FIDIC International Civil Engineering Contract' *supra* note 5.

37 Where the 'physical obstruction' or 'physical condition' causes damage to the works itself, arguably the contractor's claim should be based on clause 20, not clause 12, as clause 20 is specifically concerned with damages to the works attributable to 'Employer's risks' including, among other things, 'any operation of the forces of nature against which an experienced contractor could not reasonably have been expected to take precautions' (sub-clause 20.4(h)).

38 C K Haswell and D S de Silva, *Civil Engineering Contracts — Practice and Procedure*, Butterworth & Co Ltd, London 1982), at 176-77.

39 See Jack Cottington and Robert Akenhead, *Site Investigation and The Law* (Thomas Telford Ltd, London 1984), at 17-27 and 97-98.

40 Contrary to international practice, there is no purported exclusion or limitation of the employer's liability for information supplied to the contractor by the employer.

41 What will constitute reasonable time such as to permit a reasonable extensive site investigation will vary with the nature, location and extent of each project. In general, eight to ten weeks' time for a substantial international project would appear short. However, four to six months' time may be reasonable. For an English engineer's view of the time adequate for the preparation of tenders, see A C Twort, *Civil Engineering: Supervision and Management* (Edward Arnold, London, 2nd Edit 1972), at 27.

42 If such physical obstruction or condition should have been foreseen by the engineer (eg in the invitation for tender documents), but it was not, this failure may assist the contractor to establish that such physical obstruction or condition could not have been reasonably foreseen by an experienced contractor.

43 Clause 1.1(g)(i). In theory, as mentioned earlier, a contractor is as likely to encounter physical conditions that are more favourable, as he is to encounter physical conditions that are less favourable, than those that he could reasonably have foreseen. As, among other things, the employer will not share in any 'windfall' to the contractor when the contractor encounters more favourable conditions, clause 12 understandably limits the contractor's recovery to an extension of time and/or costs incurred, excluding profit, when he encounters less favourable conditions.

44 Such notice should comply with the conditions for notices in clause 68. See also sub-clause 1.5.

45 Clause 52.

46 Sub-clause 67.3. See also under this section II ('The contractor's major claims'), sub-section (B) — Variations (Clauses 51 and 52), sub-paragraph (b)(2) — Variation not acknowledged by the engineer, infra.

47 Under the Rules of Arbitration of the International Chamber of Commerce which, under clause 67 of the Conditions, are the usual arbitration rules, arbitrators are required to decide in law unless the parties have agreed to give them the powers of *amiables compositeurs*; see Article 13(4) of such Rules.

48 See, eg sub-clause 12.2 (adverse physical obstructions or conditions), sub-clause 20.4 (employer's risks) and clause 65 (special risks).

49 *Hudson's Building and Engineering Contracts* (Sweet & Maxwell, London, 10th Edit, 1970, 1st Supp 1979 ('Hudson's')) at 506; Sweet, supra note 32, at 454.

50 See clause 13.

51 For English law, see Hudson's, supra, note 49 at 557.

52 Hudson's supra, note 49 at 549. See also Colin Turpin, *Government Procurement and Contracts* (Longman, Harlow, Essex 1989), at 188-89.

53 Ibid, at 551. Thus, the contractor could refuse to execute such work unless an amendment to the construction contract or a new contract were concluded by the parties.

54 Nor is such determination final and binding on the employer. See under this Section III ('The contractor's major claims'), sub-section (B) — Variations (clauses 51 and 52), sub-paragraph (b)(2) — Variation not acknowledged by the engineer, infra. The fact that the engineer may have ordered certain work to be done as a variation will not bind the employer if, upon a true construction of the contract (as decided, ultimately, by international arbitration), it was included in the original scope of the work.

55 However the engineer may view an instruction (eg whether as a 'variation' or not) and whether or not the contractor agrees with the engineer's view of it, the contractor must comply with such instruction if it touches or concerns the works and is not legally or physically impossible to execute. See sub-clause 13.1.

56 Sub-clause 2.5.

57 Ibid.

58 A different rule applies if the nature or amount of any varied work relative to the nature or amount of the whole of the works or to any part thereof is such that, in the opinion of the engineer, the rate or price contained in the contract is inappropriate or inapplicable. See sub-clause 52.2.

59 Sub-clause 44.1 refers to 'extra or additional work' as a ground which may justify an extension of time. See under this Section III ('The contractor's major claims'), sub-section (C) — Delays (clause 44 and others), infra.

60 Sub-clause 52.2 and sub-clause 1.5. The notice should comply with sub-clause 68.2.

61 The contractor would also be entitled to be compensated for his damages as the result of the delay in payment for the variation.

62 Hudson's, supra, note 49, at 541.

63 Clause 43.

64 Clause 47.

65 Delays may also often occur which are not on the critical path of construction activity and which, therefore, would not necessarily delay completion of the works or a section thereof. While these may disrupt the contractor's work programme and, if attributable to the employer, justify a claim (eg for loss of productivity), discussion here will be limited to claims for events which delay the time for completion of the whole of the works or any section thereof.

66 An extension of time for execution of work may be advantageous not only for the contractor, but also for the employer. If the delay was due to an act of the employer or of a party for whom the employer is responsible, the employer's right to liquidated damages for delay on the basis of clause 47 may, under English law, disappear if the extension of time for execution of work had not been granted to the contractor. It is this consideration, in fact, rather than solicitude for the contractor, which, under English practice, caused inclusion of a contractual provision empowering the engineer to grant an extension of time for execution of work. See Hudson's, supra, note 49, at 624.

67 A change in this clause effected by the fourth edition is that an extension of time may be granted for any section or part of the works, not only the whole of the works as before. No time for completion of a 'part' of the works (as opposed to the whole or a section) is referred to in sub-clause 43.1. The intention appears to have been that where the execution of the works or a section was unavoidably delayed, the virtually unhindered but a small, although important, part of the whole of the works or a section was unavoidably delayed the engineer

should be entitled to accord an extension of time for that part only and leave unaffected the contractor's obligation to complete the rest by the due date.

68 Delays may cause the contractor to suffer a wide variety of damage, eg extended on- and off-site overhead costs, losses in productivity, increased costs due to inflation during the extension period and, where the contractor is nevertheless instructed to complete by the original time for completion, and hence to accelerate his work, acceleration costs.