Delivered by Ir Lim Eng Chong at a seminar on the drafting of building and engineering contracts on 27-04-06

MANAGEMENT OF ENGINEERING CONTRACTS

1. NEGOTIATION, DRAFTING, AND REVIEW OF ENGINEERING CONTRACTS

There are features of engineering contracts which will be present in every contract and these are what a person involved at pre-award stage will invariably be involved in. Whilst involvement at pre-award (or tender stage) will often emphasize the commercial aspect, there will always be involvement by the purely contracts people and sometimes the commercial aspect will be dependent on contractual considerations such as for example when a contract has a very tight completion schedule, consideration of the rate of liquidated damages and the stringency of extension of time requirements come in.

The following are factors which need to be taken into account when negotiating construction contracts:

1.1 Time for completion

This is important because a very short construction period may be unrealistic and contractors often price in an allowance for liquidated damages, especially when there are a lot of trades involved requiring a lot of coordination and leaving room for delays arising from failure in coordination and/or under performance especially by nominated sub-contractors.

1.2 Rate and limit of liquidated damages ("LAD")

1.2.1 This is tied with the issue of the time for completion. This is particularly important when the works involved carries a high risk element such as for example when the works is considerably outside the norm of the contractor or (especially important nowadays) the work is done overseas.

Thus for example a contract with a rate of LAD of say 0.05% of the contract sum will reach maximum after 150 days if the maximum LAD is set at 7.5% of the contract sum and delays in excess of 5 months are not uncommon. One always needs to contemplate the unthinkable as lawyers and contracts administrators.

1.2.2 Tied up to this issue is whether there are any sectional completions and the applicable rates of LAD. The more sectional completions there are, the greater the risk of imposition of LAD and the greater is the LAD likely to be.

1.3 Payment terms

This will include the following considerations:

a) Period for certification by Architect or Engineer (A/E) after submission of progress claim by contractor
b) Period for honouring payment certificate
c) Minimum value of works done and materials supplied for 1st payment certification
d) Minimum value of each subsequent progress claim (as a general rule it should not be more than say 60% of the contract sum/no. of months) as a high amount may cause cashflow problems especially if there are any periods in the programme when low value works need to be carried out (such as in a highway project where the earthworks which need to be carried out first is comparatively of lowe value)
e) Rate of retention – whilst the norm is 10% of progress payments upto a maximum of 5% of contract sum, this is only a norm and an owner is at liberty to set any rate it wishes
f) Release of retention upon certification of practical completion?
g) Any payment for materials on site and what is the rate?
h) It may be necessary to request that for example the contractor's casting or fabrication yard be considered as a part of the site to entitle the contractor for payment

1.4 Security requirements

The standard is the provision of "irrevocable on demand without contestation" bank guarantee for 5% of the contract sum but the following variations have been encountered:

a) Insurance guarantees are sometimes acceptable and these are cheaper
b) Is the owner prepared to accept a corporate guarantee especially if the parent co. of the contractor is publicly listed?

c) Sometimes the guarantee is for 10% especially if the works are M&E or process engineering in nature

d) Sometimes the guarantor is given an opportunity to make good on the contractor's default

e) A corporate guarantee is sometimes required on top of the performance guarantee especially when the works are of a specialist nature and termination and engagement of a new contractor is likely to be time consuming

1.5 Insurance requirements

The more stringent the requirements of insurance coverage, the better it is for the contractor as it means that whilst the less the risk to be borne by the contractor, the contractor will not be at a disadvantage in pricing for it as all his competitors will be pricing for it!

Amongst the factors to consider when considering insurance cover are the following:

a) Deductibles in respect of each category of risk – i.e. 3rd party damage, fire damage, subsidence and loss of support, etc

b) Whether design for rectification works is covered

c) Whether there are any other existing property belonging to the employer which does not form part of the works within the site or adjacent to it as the normal CAR insurance without the necessary extension does not cover for damage

d) Maximum in respect of each incident – RM 1.00 million is the norm but this may not be adequate for particularly hazardous works such as over an existing highway

e) Any risks peculiar to a project such as the use or installation of expensive equipment. See if the equipment used has its own coverage.

1.6 Extension of time ("EOT") provisions

Whilst any causes of delay attributable to the employer will entitle the contractor to an EOT whether or not the contract allows an EOT in respect of the cause (in fact if the cause is not included it will be better for the contractor as time becomes at large in

such a situation), neutral causes of delay if recognized as a grounds for EOT is of benefit to the contractor and these include:

a) Exceptionally inclement weather (recognized in JKR 203 Form)
b) Strikes and lockouts
c) Nationwide shortage of required construction materials
d) Widespread labour shortage

Another factor to take into account is the length of the notice period and the stringency of the requirement. Does the contract require that notice is a condition precedent to entitlement to EOT?

1.7 Staged site handover provisions

Some contracts provide for handover of the site to the contractor in stages. An owner will need to include such a provision if it expects land acquisition to take a while and a contractor tendering for such a project will have to be aware of such a clause so that it can plan and price for it accordingly.

1.8 Engagement of nominated sub-contractors ("NSC")

Main contractors often have to enter into sub-contractors to be nominated by the employer especially in building projects. Sometimes the number of NSCs can be quite substantial and run to about ten or more. The author has actually been involved in the tender for a project wherein the main contractor's scope accounts for only 30% of the contract sum with the balance being made up of prime cost sums for the engagement of NSCs.

The bigger the number of NSCs the greater the risk posed to the contractor as the contractor undertakes the risk of NSCs default in return for being paid a sum (currently priced by most tenderers at 1.5% to 2% of the prime cost sums.

The contractor should look out for whether and to what extent it can object to the nomination of a NSC.

It is good practice to get a main contractor involved in the tender process prior to nomination of NSC.

1.9 Termination provisions

Contractors should be on the lookout for any unusual bases for determination of its employment under the contract. One cannot really object to fair bases for determination but the author has come across clients who will insist on including failure to station named persons at site as a basis for determination. Doubtless, such a determination can be successfully challenged in court/arbitration but it is better to avoid such clauses.

The other factor to consider is the procedure for determination in particular the period given for redressing any defaults especially curable defaults such as failure to comply with an A/E's instruction.

The employer's rights following determination is another issue to look into. An employer may want for example to enjoy the benefit of the assignment of sub-contracts the contractor may have entered into and to utilize the contractor's plant and machinery to finish the works but these are detrimental (especially the latter) to the contractor's interests. Contracts also often provide that there shall be no payments made after determination and this will also in respect of payments already certified but not due on the date of determination.

2. CONSTRUCTION STAGE

A contractor's obligations are often to construct to complete on time (including any EOT entitlement), within the contract sum (with payment for variations if entitled), and in compliance with the specifications and drawings(as may be amended by A/E's instructions).

2.1 Completion on time

To ensure this a contractor has to plan, programme, and monitor his works to take into account the following:

a. Lead times to procure materials and/or engage sub-contractors. Specialist items especially if they are imported need to be particularly watched. It is important that the exact scope be developed before engagement of sub-

contractors rather than to say that the sub-contractor's obligations are back-to-back.

b. The planning of temporary works – these can be quite substantial and can make or break a project. For example a dam project can require the construction of quite big cofferdams which require hundreds of thousand cu m of fill.

c. Constant and close monitoring of progress – if progress is slipping, the cause needs to be identified and corrective measures taken to arrest the delays.

d. The timely provision of details by the A/E – whilst the contractor is entitled to EOT if there are delays, timely provision of details will avoid the rigmarole of applying and sometimes fighting for EOT and payment for loss and expense.

e. Decisions by A/E on materials to be used – construction contracts often leave decisions on materials to be made while the works are being carried out

f. Appointment of NSCs

g. Authorities' approvals – the consultants are ultimately responsible for this but most contracts require the contractor to liaise with the authorities. This will include for example providing manufacturers' catalogues to satisfy compliance with authorities' requirements.

2.2 Construction to within budget and quality

a. This is the basis for avoiding the need for a contractor to have to concoct and submit spurious claims, i.e. to carefully plan and monitor the project budget. However, once the budget has been finalized, it is best to stick to it and this means also avoiding the temptation to engage sub-contractors at rates lower than the budgeted figures. The author has actually encountered projects being delayed because the main contractor tried to squeeze every sen in negotiating with potential sub-contractors. Also, if the sub-contractors' rates are poor, the sub-contractors will cut corners and skimp on the quality. A reliable sub-contractor with reasonable rates is more likely to deliver than one who has poor rates no matter how much the latter is policed!

b. The breakdown of sub-contracts into trades is one way of reducing construction costs as by avoiding bigger or even "total sub" arrangements, an additional layer of costs and profits can be avoided. However this requires the contractor to have site personnel

with the necessary experience and some plant and machinery. This is why in these tough times contractors without the political connections who are able to survive are those who are more "hands on".

c. To ensure that it keeps to budget, it is also necessary that a contractor is thoroughly aware of what it is required to deliver at tender stage. Especially in contracts where the exact requirements are spread through many documents, it is necessary to properly scrutinize the exact intention with regard to specified products before accepting a tender. It is not uncommon for the stipulation in the Drawings to be overridden by the more stringent requirements of the "particular Specification" which ranks higher in the order of priority of the documents.

d. Proper documentation especially of materials and machinery utilization ensures that there is no pilferage and that resources are efficiently utilized.

3. PROJECT DOCUMENTATION

In order to be able to assert its contractual entitlement careful documentation needs to be kept and proper notifications given. In this respect the construction and contracts departments need to be in constant touch so that any new drawings requiring additional expense can be picked up and identified for notification.

In this respect, it is common for variations to be effected via the issuance of revised drawings in the course of construction. It is not uncommon for initial construction drawings to be labeled revision "0" and by the time the project is completed the drawing is revision "9" or "10".

Whilst it happens, amendments to the contractor's obligations are less often effected by means of amendments to the specifications.

3.1 Notices of contractors' entitlement

There are essentially three categories of claims which a contractor will want to pursue, i.e:

a. Extension of time for completion

b. Loss and expense suffered as a result of delay and disruption to the works

c. Varied rates as a result of additional works being instructed for which there is no rate in the Bills of Quantities or Schedule of Rates which are directly applicable

In all cases in which a contractor wishes to assert its contractual entitlement, it will be required to give the requisite notices and preferably within the set time frames. Thus for example under Clause 44 of the IEM Form if a contractor wishes to be paid for loss and expense arising out a delay caused by factors for which the employer is responsible, the contractor must give notice within 30 days of the delay first occurring. Failure to give notice within the stipulated time frame may prejudice the contractor's right especially if an employer can demonstrate that it has been prejudiced by the delay. This is on the basis that an employer will often wish to consider its exposure and may wish to require the keeping and submission of contemporaneous records. Any failure to be notified within the necessary time frame is likely to prejudice the employer and hence also deprive the contractor of its right[1]

The notices should contain only such information as to demonstrate the circumstances which lead to the contractor's entitlement and nothing more. The details can come later when substantiating the quantum of its entitlement and when asked for. Thus for example Clause 24.1(iii) of the PAM Form states that the Architect or the Quantity Surveyor will request the Contractor to submit information to substantiate its claim and Clause 44 of the IEM Form requires the Contractor to only submit an estimate of the loss and expense.

The notices should also state the Clause of the contract which confers on the contractor the right for a particular claim. This is based on the fact that failure to do so will arguably deny the A/E from being properly able to assess the basis of the contractor's entitlement.

3.2 Records

In order to justify and substantiate its claims a contractor must produce the necessary records. This is based on the principle of the law of evidence that the party which assets must prove.

It is pertinent in this respect to note that there are in essence three broad categories of records, i.e:

a. To substantiate the delay especially (as varied rates can be determined by a comparison of drawings) such as for example prove that a particular item of

[1] See *Jennings Construction Ltd v Birt* [1987] 8 NSWLR 18.

work had actually commenced when an instruction requiring abortive works is instructed, thus causing delay;

b. Records of the contractor's actual resources which are idling, or which are utilized to carry out additional works; and

c. Records of agreements with sub-contractors to vary rates. These in turn may require the contractor to demand from his sub-contractor the records of their resources but these are not always possible such as for example the sub-contractor in turn subs the works out on piece works rates.

Employers are entitled to demand that their contractors keep and provide records on a regular basis so that they may be verified and contractors are required to provide them. In the absence of records, the A/E or even an arbitrator is entitled to make his own assumption but these assumptions have to be fair and based on the contract.

4. POST CONSTRUCTION

4.1 Dispute resolution

The time when the parties actually sit down to negotiate the actual entitlements of the contractor is at accounts finalization stage as it often happens that contractor's entitlement for varied rates rarely get fully settled during the course of construction. This may be because the attention is focused on the construction and partly because the owner's interest is served in doing so.

At final account stage the parties will either agree the contractor's entitlement or they may fail to reach agreement. In the latter case, it will be necessary for the parties to resort to formal dispute resolution procedure, normally as set out in the contract to resolve their differences.

Some contracts actually require the parties to have actually referred a dispute to negotiation for a set timeframe by the senior management of their companies before any party may actually bring the matter to arbitration and failure to do so would bar the right to arbitration.

There are essentially three methods of formal dispute resolution, i.e:

4.1.1 *Mediation*

This is a non-binding means of dispute resolution in which the parties are forced to sit down often but not necessarily at a contractually mandated forum and negotiate before they agree that they are unable to resolve their differences and resort to a final and legally binding avenue. The approach here is intended to be non-confrontational as opposed to our legal system which is based on that of the English common law which is confrontational.

In this, the parties sit down and present their respective viewpoints, with a facilitator involved in the case of mediation. It is only after there is either a breakdown or failure to reach agreement within a preset time frame that one of the parties may seek a legal recourse. In the case of contracts with this provision in Malaysia, the parties may choose to dispense with the requirement and proceed straight to arbitration / litigation. For example, Clause 23.1 of the PAM Form states that a dispute may be referred to mediation with the agreement of both parties whilst the IEM Form omits mention of mediation altogether.

Major organizations in Malaysia involved in litigation or construction have their respective panels of mediators, for example the Bar and the Construction Industry Development Board.

However, it is noted that mediation has yet to gain acceptance in Malaysia probably due to cultural factors.

4.1.2 *Adjudication*

This is now mandated by law in the UK. The adjudicator has the mandate to make binding decisions pending final decision pending arbitration which may be commenced only after the issuance of the CPC. The identity of the adjudicator is agreed to at time of signing of contract. The adjudicator is required to visit the site regularly and speak to both parties.

The advantages of this are as follows:

- It prevents injustice especially to the contractual subordinate especially where the contractual superior is trying to take advantage of his stronger position such as for

example where he imposes LAD eventhough the delay was caused by him in the first place;

- It forces the parties to take records at an early stage and take stock of their contractual position. In other words, it forces discipline onto the parties; and
- The parties may be able to see their positions more objectively after seeing the findings of a neutral party; and
- Instead of having one resolution of a big dispute (and often after the irrecoverable deterioration of the relationship of the parties)

In fact, the number of disputes in the UK which are referred for resolution by arbitration has now been reduced tremendously following the implementation of this requirement.

The disadvantages of adjudication are that the parties have to go through the mechanics of resolving a dispute twice and hence the additional cost involved

4.1.3 *Arbitration*

Arbitration is a means of dispute resolution to which the parties to a contract must agree in the contract entered into. If the contract between the parties does not include an agreement to refer any disputes to arbitration, then disagreements will have to be agreed to by the courts. However, there is nothing to prevent in such a situation the parties reaching agreement to refer the dispute to arbitration when a dispute actually arises. The following are the peculiar features of arbitrations:

- The parties usually get to agree on identity of the arbitrator, but often when the parties cannot agree, either the contract will state that the arbitrator is to be appointed by a person such as for example the director of the Regional Centre for Arbitration, the President of the IEM, or even the President of the Federation of Malaysian Manufacturers. If the contract is silent, then upon the application by one of the parties, the arbitrator will be appointed by a competent court.
- As such the arbitrator is usually someone who is conversant with the subject matter of the dispute. There was actually a case of a judge who successfully advised the parties in a suit to refer their dispute on the supply of piles to refer

their dispute to arbitration because he felt that an arbitrator is better able to understand the issues involved

- An arbitration is a private hearing. As such there is no "washing of dirty linen in public"
- You have to pay for the arbitrator to listen to the dispute. The fee ranges from RM 2,000 to RM 4,000 per day depending on the standing of the arbitrator. The different professional bodies have their respective scales of fees. The services of the judge comes for free
- The rules of evidence in an arbitration are less formal, and the parties may agree on their own rules. This follows from the fact that the Evidence Act 1952 is not applicable to arbitrations. However, the general principles of evidence law remain applicable and fundamental rules such as the requirement that the party who alleges must prove will remain applicable.

Apart from the above, the procedure at arbitrations are almost identical to those in an action heard by the courts. For example the steps in litigation, i.e. submission of statement of claim, defence and counter claim, reply and defence to counter claim, summons for directions, close of pleadings, discovery, and requests for further and better particulars are exactly followed in arbitration. Once an award has been made by an arbitrator, it may be registered with the High Court following which it has the same status as an award by the High Court itself. Bear in mind the fact that the dispute can be as simple as whether a certain fabric supplied is compliant with that which a merchant has contracted to supply.

Once an arbitrator has been appointed, he cannot be removed save with an order of the High Court. Such an order will be given only in the most limited of circumstances.

Arbitrations in Malaysia are regulated by the Arbitration Act 2005 and any requirements in contracts for disputes to be resolved to arbitration in Malaysia will be subject to the Arbitration Act unless the arbitration agreement stipulates otherwise. For example an arbitration agreement may (and they quite often do) require that an arbitration is to be held at the Kuala Lumpur Regional Centre for Arbitration and be

subject to its rules in which case then the Arbitration Act will not apply to such an arbitration.

4.2 Contractor's liability for defects

All forms of contracts contain provisions which make the contractor liable for defects which appear during a period of time (referred to as the defects liability period or "DLP"), normally ranging from one to two years. During this period the A/E shall notify to the contractor any "defect, imperfection, shrinkage, or any other fault whatsoever which may appear and which are due to materials or goods or workmanship not in accordance" (IEM Conditions Clause 45) with the contract and the contractor shall rectify the same within such reasonable time as may be stipulated in such notice.

The A/E is entitled to issue such notifications/instructions for up to 14 days from the expiry of the DLP (Clause 45(b) and Clause 15.3 of the IEM/PAM Forms respectively) and under the IEM Form (Clause 45(b)) the contractor is obliged to rectify all defects not alter than 3 months from the expiry of the DLP.

In practice the A/E will prepare a list of defects for the contractor to work through them and have individual defects signed off (normally by the end user such as house purchasers in the case of the PAM Form). This list or schedule is in fact recognized in Clause 45(b) of the IEM Form.

It has to be borne in mind that under most contract forms, 7.5% of the contract sum will be held by the employer during the defects liability period (2.5% retention and 5% bond) and the release of both are conditional upon the issuance of the certificate of making good defects under IEM Form (Clauses 47(f)(iii) and 37(d)). As such there is great incentive for a contractor to rectify defects within the DLP.

Once the DLP has expired, the contractor's liability for defects is only in respect of those defects which were not discernible at construction stage upon reasonable inspection by the A/E's site representative[2]

[2] Compare and contrast the cases *Gray v TP Bennett & Son* 43 Building Law Reports [1987] 63, *William Hill Organisation Ltd v Bernard Sunley & Sons Ltd* 22 Building Law Reports [1982] 1, and *Muldoon v Pringle* 9 R. (Ct. of Sess.) 915