Negotiation, Administration & Management of EPC Contract for Engineers, Technical Professionals & Contractors

2-DAY COURSE

ORGANISED BY

LEE KWOK WENG & CO

Tel.: 65366260; Fax: 62451762
Email: leekwokwengco@gmail.com

Trainer : LEE KWOK WENG

ALPHA CONSULTING ENGINEERS PTE LTD
03 OCT 2014
LIBRARY

Negotiation, Administration & Management of EPC Contract for Engineers, Technical Professionals & Contractors

TRAINER: LEE KWOK WENG; LLB (Hons), LLM, B.Eng(Mech), MSc(Eng), FIES, MMIS, MSIArb, Barrister, Advocate & Solicitor, Accredited Mediator & Arbitrator

I. Introduction

1. Features of EPC contract

- Engineering, Procurement and Construction (EPC) contract is often used by the private sector to undertake construction works on large scale and complex infrastructure projects and is a common form of contracting arrangement within the construction, oil & gas, energy, power, mining and in fact all kinds of industries

- under an EPC contract a single Contractor offers all the elements of the engineering (viz. design), procurement and construction activities and broadly takes responsibility for any defect in the construction, design or performance of the works

- the Contractor is obliged to deliver a complete facility to the Employer (or Developer or Owner of the project) who need only "turn a key" to start operating the facility i.e. the Contractor agrees to deliver the keys of a commissioned project to the Employer for an agreed amount, something akin to a builder handing over the keys of a flat to the purchaser

2. Overview of contract law

- simply defined, a contract is a mutual agreement, given for consideration, between two or more people, capable of contracting, for a lawful purpose; mutual agreement means that each party to the agreement understands the material terms of the agreement

- it is not only an agreement which binds the parties, sometimes it signifies a relationship between parties or a document containing the details of an agreement

- there are four elements for a valid simple contract, viz. offer & acceptance, consideration, intention to create legal relations & capacity and are precisely defined in all law text

Formation & terms of an EPC contract

- in general, just like any simple contract, there is no specific formality in entering an EPC contract; however, in an EPC contract often an offer is made by the Contractor but based on terms and conditions spelt out by the Employer's Consultants for Employer to accept

- also, the word "contract" in an EPC contract is defined specifically as to what are to be included in the contract and typically comprises the standard terms & appendices, the specifications, drawings, schedule of rates (if any), the tender, letter of acceptance, agreement and such other letters and documents as the parties may expressly identify in writing and agree as forming part of the contract

- every contract must have terms which refer to the actual contents of a contract, which can be expressly incorporated into the contract (express terms) or they may be implied into the contract either by statute, common law or custom (implied terms), which are contents not stated in the contract but are assumed to be in and formed part of the contract)

3. EPC Contracting Structures

- there are different types of EPC contracting structures and the Employer or project owner has to carefully select on the basis of assigning the risks, responsibility and related penalties

- the traditional contracting structures include Lump Sum and Bills of Quantities

©copyright 10/2012 Lee Kwok Weng

Lump Sum Contract

- under such a contracting structure the Contractor must deliver a complete facility for a guaranteed or fixed price by a guaranteed or fixed completion date and he must perform to the specified level and failure to comply with any requirement will usually result in the contractor incurring heavy monetary liabilities

- the Contractor will be held responsible for any defect in the construction, design or performance of the works and the dilemma faced by the Contractor is worsen by the increasing construction insurance in the tightening insurance market, exposing the Contractor's risks substantially

- often there is no cost fluctuation clause to take into account any price or cost escalation of materials, manpower, equipment rental, etc and/or exchange rate oscillation and the Contractor bears all the risks of such cost escalations although there can be exception, a notable example of which is Singapore's Public Sector Standard Conditions of Contract [PSSCOC] (Design & Build) [which is akin to EPC contract except it is for the public sector]
- the advantages are that the Employer is assured of the final price and detailed verification and measurement of works can be minimized

- also in such contract, been a one whole integrated package there is a complete clearly defined single point of responsibility as the Contractor has un-divided responsibility in design and construction and he can fully employ his expertise, experience and resources in construction methods

- as such the whole schedule can be cut down and perhaps lesser stress for the Employer because the Contractor and his various managers are running the show

- there are a few disadvantages, one is that the scope of work (specifications and drawings) must be clearly defined and the Employer has to be certain and fixed as regards his requirements prior to tender since bidding happens before the engineering is complete, otherwise is difficult for the Employer to identify what the work exactly is

- another disadvantage is that the Employer's ability to control the project is low

- also, since the Contractor holds greater responsibility, it is essential to ensure that he (the Contractor) has the right qualification and aptitude for the job

Bills of Quantities Contract

- sometimes referred to as Item Rate contract, is typically used in civil engineering and building projects where scope of work (specifications and drawings) is clearly defined and the Employer does the design (or engineering) in-house or by outside consultants

- measured quantities are provided by Employer and Contractor who need not have large financial capability, inserts his prices for the various trades

- the pros of such contracting structure include lower cost of tendering for contractors as Employer bears bulk of preparation required, balance apportionment of risks, valuation of variation is easily carried out and Contractor established prices on same basis

- the flip side include higher cost of preparation of tender for Employer, payment according to measure and value principle means greater demand for on-site verification

non-traditional contracting structures

- the non-traditional contracting structures include Management Contracting, Public-Private Partnerships (PPP) & Spiral Contracting

Management Contracting

©copyright 10/2012 Lee Kwok Weng

acting as PM.

- or Engineering, Procurement and Construction Management (EPCM) contract is a professional services contract where the Employer engages the Contractor, who is often a specialist firm to manage the entire project from concept to design, construction and commissioning

- the management Contractor has under him specialist design consultants and contractors in various fields and he is paid a fee based on the value of the work managed by him

- the Contractor acts as the Employer's agent and on behalf of the Employer, creates direct contractual relationships between the Employer and the suppliers and trade contractors and as such, he will not usually take full responsibility for care of the project works or for the ultimate cost to the Employer of the project nor for delivering the completed project by an overall completion date
- the primary advantage under such contracting structure is that Employer is relieved of direct involvement in the project and one disadvantage is that the Employer has to be very clear and firm on its requirements for the project as changes during progress may be difficult and costly

Public-Private Partnerships (PPP)
- such contracting structure is actually a collaborations where public and private sectors bring their complementary skills to a project, with different levels of involvement and responsibility, for the sake of providing public services

Spiral Contracting
- this is actually a cost-risk balanced contracting method where a desired capability is identified but end-state requirements are not known at the programme initiation

- requirements are refined through demonstration and risk management with continuous user feedback and payments are made at key milestones to encourage continuous R&D to achieve desired outcomes

- such contract can be structured into multiple stages which can be exercised as options when the preceding stage proves successful though the contract should not be extended indefinitely

II. Financing Of EPC Contract & Its Bankability

1. Introduction

- project financing is a common feature especially for long term big infrastructure and industrial projects like, oil & gas, civil engineering works, etc and are normally based upon the projected cash flows of the project and as such the lender (or more often than not syndicated lenders) will have to determine the bankability of the project or its contract

- bankability usually refer to a project or a contract's suitability for project financing and a bankable project or contract is basically a project or contract which lenders are prepared to finance, usually with equity from the project sponsors or owners and often the risk allocation between the Contractor and the project owners or sponsors satisfies the lenders

- for example in an EPC Lump Sum contract where it is typical that all design development and construction risks are passed to the Contractor, the Employer (or owner or sponsor of the project) acquires a "bankable" turnkey project and, at least theoretically, pays a premium for the assumption of risk by the Contractor

- it used to be that lenders were often rather flexible as to what constitutes a bankable project and banks were often ready to participate in project financing especially of infrastructure projects, but in view of the tumultuous economical situations both in the States and Euro-zone in recent years, lenders have already tighten their requirements and take a more conservative approach to financing for infrastructure projects

©copyright 10/2012 Lee Kwok Weng

2. **Assessing Bankability**
   - in assessing a project's bankability Lenders will look at a range of factors such as:

   ⇨ the practice of other similar recent transactions
   ⇨ risks affecting the project such as political risk, interest rate, inflation, currency risk, etc
   ⇨ the risk appetite and attitude of the lenders involved
   ⇨ insurance coverage and other risk mitigation strategies
   ⇨ the risk profile of the project and how these risks are allocated under the project documents such as the construction contract, supply agreement, operation & maintenance agreement, etc

   ⇨ the creditworthiness and reputation of the project owners or sponsors as well as the proposed Contractor

   - further, Lenders will also assess the contract as a whole and likely to pay attention to the following:

   ⇨ ~~the in assessing~~ completion date
   ⇨ the fixed completion price
   ⇨ whether there is no or limited technology risk
   ⇨ liquidated damages for both delay and performance
   ⇨ security from the contractor and/or its parent
   ⇨ caps on liability
   ⇨ restrictions on the contractor to claim extensions of time & additional costs.

3. **Criteria For Bankability**
   - the pertinent criteria include the financials such as viability & profitability of the project including potential revenue, sales, net profits, working capital management, trade creditors & debtors

   - quality of assets such as plant, equipment, technology, equity position like shareholding, dividend policy to be adopted, debt serviceability, etc

   - management team and their skills including leadership & business judgment, management integrity, succession plans

   - market risk such as market growth, business operating environment industry outlook, possible changes to laws & regulations and environmental issues

   - bargaining power with customers like the number of customers, their spending power, relationship with customers, control of prices & payment terms

   - market share, level of competition and availability of substitutes or alternative products

4. **Lender's concerns under EPC contracts & contractual issues**
   - just like any loan, a lender (or lenders) under the EPC contracts are concern over a number of issues and the pertinent ones include the project profitability and its cash flow which links to the re-payment risk of the owners or sponsors of the EPC project

   - associated with the repayment risk, the lender will definitely have to consider that normally in case of payment default, his only recourse may well be confined to the project assets and it will unlikely that he has any recourse against the owner or sponsor

   - the provision of guarantee by the project owner(s) or sponsor (s)

   - credit worthiness of the project owner's customers

©copyright 10/2012 Lee Kwok Weng

- another related issue is the contract terms of the EPC contract that the owner or sponsor has with his Contractor that may permit the lender's effective exercise of remedies
- termination clauses and intervening rights in the EPC contract as well as provision for compensation for losses suffered

- possibility of direct agreement with other stakeholders in the project, specifying the lender rights or extending contractual rights to lender (though a remote possibility) for contracts between the project owner or sponsor and other stakeholders to overcome the privity of contract

III. Identifying, Allocating & Sharing of Risks Based on EPC Contract Type

1. Types of risks

- risk, which is inherent with every project especially EPC projects, generally means the occurrence of an event that has consequences for, or impacts on a project

- The following types of risks are likely in EPC contracts:
  - ⇨ financial risks
  - ⇨ legal risks
  - ⇨ political risks (including expropriation or nationalization risk), defined by some experts like Messrs Comeaux & Kinsella as *the risk that the laws of a country will unexpectedly change to the investor's detriment after the investor has (in vested) capital in the country, thereby reducing the value of the individual's investment*
  - ⇨ foreign exchange control & repatriation of profits risks
  - ⇨ social & cultural risks
  - ⇨ environmental risks
  - ⇨ communication risks
  - ⇨ geographical risks
  - ⇨ construction risks
  - ⇨ technological risks
  - ⇨ demand/product risks
  - ⇨ completion risk
  - ⇨ supply risk
  - ⇨ force majeure risk

- some of these risks are inter-connected such as social, environmental, financial construction & completion risks since it is not uncommon that EPC infrastructure projects have an important impact on local communities and their quality of life

- such impact on the society can also result in resistance from local interest groups & civil societies, probably causing delay in project implementation, increase the cost of the project or undermine its viability

- one suggestion by experts is to use such risks drivers as checklist in risk identification stage through the following possible means:
  - o clear and objective needs by having in place a procurement policy, issuing design brief and proper management of project scope through clear specifications

  - o effective procurement viz. selection of good contractors & consultants through clear evaluation criteria, apportionment of risk & liability and management of people

  - o effective contract management using scheduling, management of cost and quality control

  - o effective contingency management for unforeseen situations by providing for variations & contingencies and extension of time in the contract

©copyright 10/2012 Lee Kwok Weng

- once risks have been identified, appropriate risk control measures should be established to lessen or avoid the impact of a risk on the project viz. react to the risk, i.e. wait for it to occur before taking any action or proactive, i.e. establish plans & an infrastructure

2. Contractor risks – risk allocation to contractors

- how much risks is divided between the Employer and the Contractor is a choice of the Employer in deciding on the type of contract, bearing in mind of course on the cost impact

- once the form of contract to be employed has been decided, the Employer will need to pay special attention to the following in risk allocation to contractors:

  (a) Duration of Project
  it is not uncommon that Employer may believe or has been advised an idealistically short period for the design & construction of his project so that his development will have better return. It is to be noted that unrealistic period of design & construction whether too long or too short will never be good for Employer because in such instances the tender prices will usually be on the high side.

  (b) Liquidated Damages
  similarly, the amount of liquidated damages (LD) shall also be inserted based on the damages calculated; unreasonably high or low amount will definitely affect the cost of Employer's development; further as will be discussed later, unreasonably high LD in common law jurisdiction may render the LD clause illegal

  (c) Defect Liability Period
  the common period of 12 months is usually taken but it all depends on the Employer

  (d) Period for Honouring Certificate
  a period of 21 days is quite common here

  (e) Retention Sum
  5% of the contract sum is quite fair

- as mentioned earlier, for lump sum EPC contract, all the risks are practically borne by the Contractor and in fact, where the liquidated damages are not capped, the possible risks faced by the Contractor can be open ended

- for engineering construction contracts this is often effected through standard form of contract such as FIDIC (Federation Internationale desIngenieurs Conseils) Conditions Of Contract For EPC/Turnkey Projects, popularly known as The Silver Book

- for example, clause 4.12 stipulates that the Contractor is to accept "*total responsibility for having foreseen all difficulties and costs of successfully completing the Works*" i.e. the risk of unforeseen ground conditions is placed completely on the Contractor

- payment of liquidated damages in the event of a delay in performing the project works is provided in clause 8.7 and as mentioned, if there is no cap for such liability, the risk can be very high indeed

- yet another risk borne solely by the Contractor is meeting performance criteria since a reduction in the contract price to account for the failure of equipment supplied to perform as guaranteed per clause 9.4

©copyright 10/2012 Lee Kwok Weng

- adding to such risks to be borne solely by the Contractor are testing, commissioning and certification requirements since any breach of such requirements will incur financial penalties on the Contractor
- others include the Contractor's obligations to remedy defects in the works (per clause 11) during the defects liability period (DLP) as well as the length of the DLP

- the discretion of the Employer to order variations in the scope of work (per clause 13) as well as modification in the contract price and schedule as a result of a change in laws affecting the works under clause 13.7

- the responsibility for the care of the works lies squarely on the Contractor (per clauses 17.2, 17.3 & 17.4) and indemnity obligations on the Contractor (see clause 17.1) which are normal as well as the right of the Employer to suspend and/or terminate the contract (*clauses 15 and* 16)

- another usual risk that is passed on to the Contractor is the indemnity provided by the Contractor, which will be discussed later

- thus in a typical EPC contract, all the risks associated with completion & performance of the project are placed completely on the shoulders of the Contractor

- the reason behind this is that in many EPC projects the Lenders rely heavily on the certainty of the project costs and schedule and as such the Lenders want to ensure that the number of possibilities for the Contractor to claim extra costs or extra time to perform the works should be limited

3. Employer risks and obligations

- one possible risk faced by the Employer is that by "pushing' all responsibilities and risks to the Contractor, the Employer ends up paying a premium for his project

- accordingly, the Employer should consider assuming some of the risks if in a position to control or manage them i.e. not just allocate all the risks to the Contractor but share the risks and certainly and ultimately the rewards as well

- another possible risk faced by the Employer is infringement of others' intellectual property rights

- delay in completion, commissioning, handing over the project by the Contractor are also possible risks as well as failure or incomplete procurement of necessary permits and licenses by the Contractor, where applicable

- where there involves a transfer of technology i.e. the transfer or furnishing of technical information and skills necessary for the construction, operation, maintenance and repair of the project works yet the Contractor failed to or did not adequately provide or transfer technical know-how and information by plans, models , etc and/or failure to secure or not securing completely, the assignment & licensing of intellectual property rights

4. Alleviating internal risk arising from adversarial project team relationship

- as discussed earlier, since in a typical EPC contract, all risks including the risks of performance, care for the project works & completion are borne solely by the Contractor, it is inevitable that an adversarial project team relationship between the Employer & the Contractor will arise

- if it is not carefully manage, may result in conflicts, disputes and claims and escalating into legal proceedings through the court or arbitration and counter legal proceedings resulting in a no win situation and worse still a lose-lose spiral

©copyright 10/2012 Lee Kwok Weng

- but this does not mean that it have to be so as both parties can and should put in some efforts to avoid or perhaps contain such adversarial relationship between the parties
- one way to minimise if not avoid an adversarial relationship is re-allocation of risks on a fairer basis
- improve inter-personal skills
- encourage open effective communication
- enhance team spirit & advocate that administering the project is about team work
- conduct team building exercises
- partnering arrangement, though one should be mindful of legal implications such as confidentiality issues and inference of partnership or agency

5. **Managing risks through fairer and more effective allocation of risks**
   - as mentioned, risks are often inevitable and for the sake of long term amicable & harmonious business & working relationship, both the Employer and the Contractor should pull all stops to manage them together, though admittedly, it is easier said than done
   - Employer should seriously consider sharing the risk with the Contractor where it is fair &/or outside both parties' control such as for example, the use of extension of time where there is delay due to events beyond the Contractor's control or caused by the Employer, which will be discussed later
   - another example is the provision in the contract to enable the Contractor to recover loss and expense incurred by him arising as a result of the regular progress and/or completion of the project having been disrupted, prolonged or otherwise materially affected by certain events beyond the Contractor's control or caused by the Employer as illustrated by clause 22 of PSSCOC (Design & Build) [which is akin to EPC contract except it is for the private sector]
   - the risk of spiraling cost of project or construction materials which are beyond the Contractor's control can be managed by using a fairer term in the contract, which could be an effective allocation of risk, such as fluctuation cost clause in clause 33 of PSSCOC (Design & Build)
   - yet another way is to transfer the risks to third parties through insurance
   - capping of liquidated damages is yet another way
   - or perhaps use motivation towards managing the risks like for example as practiced by building construction industries here, bonuses for good safety records

IV. EPC Contract Risk Management and Mitigation Strategies

- risks are inherent in projects and one must bite the bullet and deal with it not through "fire-fighting" but rather first identify the possible risks as mentioned above
- the next step is to distinguish risks that are acceptable as against those that are non-acceptable; acceptable risks are tolerable if they occur and will not stop the project; e.g. something occurs that impacts on tasks not on the critical path
- non-acceptable risks are "show stoppers" such as something happening that slows or stops tasks on the critical path of a project or even de-rail the entire project and no effort should be spared in managing and mitigating such risks

©copyright 10/2012 Lee Kwok Weng

- a risk response plan should be drawn up and should include adoption of risk strategies and a checklist as what needs to be done, who is doing it, and when it should be completed
- the possible general strategies include the following:

⇨ wherever possible, avoid the risk by doing something to remove that particular unacceptable risk; a good example is where a project materials supplier is found to be unreliable, it time to switch to another alternative

⇨ where the risk is unavoidable, the next logical step is to try to mitigate it by taking some positive steps to lessen the impact or chance of the risk occurring; for example, where project materials are procured from foreign suppliers based on a fluctuating currency rate which is unavoidable, then one mitigating step is to hedge it

⇨ another alternative in mitigation is to seek insurance coverage though it will also come with it expenses in terms of premiums

⇨ another often used strategy is to push the impact of the risk away by transferring it to someone else and make him responsible by using indemnity clauses in the contract such as Employer seeking indemnity from the Contractor, the latter from sub-contractors, suppliers, etc

⇨ obviously, where effect of the risk is small or has little impact so that it is not worth the effort to do anything, then accept the risk

- looking at some specific risks such as the risk of non-performance or performance not up to mark or delay or related project completion problem of a massive EPC project such as integrated resort project by a single Contractor, a possible strategy employed by the Owner is to split the project into parts or phases and engage multiple contractors

- Contractor encountering problems with project materials supply could mitigate such resulting list by sourcing alternative suppliers early

- to contain any possible technology or process risk arising from the project, the Employer will have to avoid it where possible, by changing to an alternative design or if not, mitigate by having robust testing and inspection before acceptance or handing over by the Contractor

- risk from NGO activists such as environmental protection or green movement or even affected members of the society who may disrupt the project to make their point and the Employer as well the Contractor will have to take mitigating steps to look beyond the project that they are involved in and ensure that they have in place corporate social responsibility policies

- Employer may face handover risk if in the unlikely event that the Contractor default in the handover of the project works at the end of the project term or if the Contractor deviates from the required quality or performance level of the project and to mitigate this, the EPC contract should provide for legal redress

- coordination issues can arise if there are the project staff comprises people from different countries, speaking different languages or having cultural differences resulting in communication issues

- liquidated damages, to be discussed under the next topic

- risk can also arise from intellectual property (IP) issues relating to IP ownership as well as infringement of others' IP rights and will be discussed under the next topic

V. Legal & Other Pertinent/Specific Issues in EPC Contracts

©copyright 10/2012 Lee Kwok Weng

- as EPC projects are typical large, long term, complex, involving multiple parties, requiring financing, guarantees of loan repayment, work performance, etc it is not surprising that a number of issues specific to EPC contracts can arise, and these include competency of the Owner of the projects, the degree & level of control over the Contractor, Owner's priorities, contractors as well as owner's risk appetite and Owner's duty to investigate a bidder's promises

- Owner will have to consider his level of competency with both design, construction or even operation of the facilities or the project that he is embarking on including his organisation's strengths & weaknesses, e.g. an Owner with more construction &/or construction management experience can afford to choose a contractual framework than a typical type of EPC contract according to his own comfort and competency

- the relative degree of control that the Owner wishes to exert or as determined by his corporate culture, over the project work or does he prefer the turnkey type of arrangement where the responsibility and risks of the project are passed to the Contractor

- as regards the Owner's priorities of for example, ensuring the project are kept within a budget, maintaining the schedule of project work and establishing & maintaining quality, the Owner will have to reflect these in his contracting strategy as well as insert in some of the specific terms of the EPC contract

- by way of an example, if it is essential for the Owner to stay within his budget and the project must be completed on time, then the contract should impose compensation by way of LD or set forth a reward on early completion or even both for the Contractor

- the EPC contractors as well as the Owner's risk appetite or tolerance for risk is another specific issue and in this regard, it is important to determine the industries' appetite for various forms of risk as well as the risk drivers may be that are associated with those forms of contract, e.g. where EPC contractors are prepare to shoulder more risks for certain EPC project, then a generally risk-adverse Owner may well be advised to offload more risk through his proposed pricing arrangements and other contractual terms

- one important point to remember as discussed previously, is that perhaps, an efficient and effective EPC contract should recognize that the parties' allocation of risks and rewards must be a proper reflection of the participants' appetite for risk and quest for reward and parties must be made aware of this early into their contract negotiation otherwise it may result in misunderstanding &/or unnecessary conflict that affects the parties long term relationship, which is essential in carrying an EPC project

- it is not uncommon for EPC project, that tender documents will allow the Owner to inspect the equipment, plants, etc prior to award of the contract and a likely issue here is whether the Owner has a duty to enquire whether a bidder is capable of meeting the Owner's requirements or investigate a bidder's promise that he (the bidder) can actually meet the Owner's specific requirement or specification; in an interesting 2007 Canadian case, *Double N Earthmovers Ltd. v. Edmonton City*, the Supreme Court ruled that the Owner has no such duty

commencement and completion

- these dates are often important to both the Employer and the Contractor as they have financial impact on both parties and a typical EPC contract will normally provide for recourse should there be a delay in either or both; for some projects, they could be necessitated by weather viz. monsoon season, etc

design defect

- any design defect will have an impact on the project and/or may cause delay and as such, it is rather standard to stipulate that the project, system, etc must be adequately designed and the facilities, equipment, etc provided by the Contractor must be fit for their purpose contract

 ©copyright 10/2012 Lee Kwok Weng

other defects

- like any standard form contract , EPC contract will usually provide for the Contractor to search for the cause of defects &/or the defects which appear at any time from commencement of the project works to the end of Defects Liability Period, e.g. clause 18 of PSSCOC Design & Build

- the cost of search will be borne by Contractor if the defect is responsible by him, however if the defect is not responsible by the Contractor but the necessity of the search is caused by Contractor or arises from Contractor's fault, the Contractor is still responsible for the cost

- if any defect which is, in the opinion of the Contract Administrator (CA) [who acts on behalf of the Employer], impractical or inconvenient to rectify, the CA shall ascertain the diminution in the value of the Works recoverable by Employer.

- this allow the Contractor to cure any defect &/or shrinkage arising from his works and in a sense an agreed form of remedy rather than the Employer having to resort to legal action

- in order that the Employer's contractual rights are not affected by such agreed remedy, it is important that a clause be inserted into the contract to ensure that this is so viz. *the provisions of ...(the defect remedying clauses such as clause 18.1 to 18.4) shall not derogate in any way whatsoever from the Contractor's liability under the Contract or otherwise for defective work at common law*

guarantee

- a guarantee is basically a promise to answer for the debt, default or miscarriage of another and, if that person fails to meet the obligation

- in EPC project, performance guarantee (or performance bond) is usually used and it is by way of a contractual document under whereby a third party (usually an insurance company, hence sometimes referred to as insurance bond) guarantees the fulfillment by the Contractor of the contract

- even though such contract of guarantee is collateral to the main EPC contract the general principles governing the validity and enforcement of contracts of guarantee, the release of the sureties and the general obligations of the parties apply

- sometimes in addition to the performance bond, a parent or parent company guarantee is also used

exculpatory clauses

- exculpatory clauses are inserted by the Owner to absolve him of any blame or liability as a result of any wrongdoing or any action (or lack of action) performed in the course of executing the terms of the EPC contract such as a term in the contract disclaiming liability for the accuracy of site condition and subsurface information presented in the tender &/or contract documents or in geotechnical data made available to the contractor

- by way of illustration, a clause could read, " *The Contractor is deemed to have visited the Site while preparing the tender to ascertain for himself the extent of the work involved and the nature of the working conditions and make himself thoroughly acquainted with any site restrictions, obstructions and all other details and no extra payment, extension of time, right to damages or any other concession consequent upon misinterpretation or lack of knowledge will be considered* "
- another example, " *The accuracy of geotechnical data shown on these drawings is not guaranteed and it is not to be construed as part of the plans stipulating design & construction requirements of the project. It is the tenderer's responsibility to inquire with the Employer whether additional information is available, to make arrangements to review the same prior*

©copyright 10/2012 Lee Kwok Weng

to tendering, to conduct whatever site investigation or testing that may be required and to make his own judgment as to all subsurface conditions "

- on the other hand, the Contractor encountering such an exculpatory clause must consider inclusion of some contingencies in its tender, a pre-bid letter to the Employer requesting all site information available to the Employer or a thorough site inspection which goes beyond the normal "sight" inspection

change of law and stabilisation clauses

- the laws in any country can be changed by the government of the day and accordingly, it is typical of most contracts including EPC contract to expressly provide for compliance by the Contractor of any law (including of course change of law)

- an illustration of this is found in clause 7.1 of PSSCOC (Design & Build), " *The Contractor shall comply with and give notices required by any law, regulation or by-law, or by any public authority or public service company, relating to the Works or, in the case of a public authority or public service company, with whose systems the same are or will be connected. The Contractor shall pay and indemnify the Employer against any fees or charges imposed by law, regulation or by-law, or by any public authority or public service company in respect of the Works* "

- but it would be a different ball game if the change of law is for all intent and purpose amounts to expropriation by the host government or acts of nationalization or raising of taxes (which a sovereign government is endowed to exercise) or demanding more of the cake in clear defiance of the terms of the agreement, and these are likely to occur in energy & mining projects such as petroleum, gas, coal, etc especially in the wake of soaring prices of these commodities

- for example, in February 2007 the Government of Venezuela announced a draft bill that would increase the State's interest in four Orinoco heavy oil projects from the previous levels of 30 to 49% to 60%, thereby effecting state control of such operations (as reported by FT.com 2007)

- accordingly, it will be in the interest of international oil & gas companies when it establishes an investment in a foreign country is to minimize such political risks in the foreign country during the duration (which is typically long term) of international petroleum investment contracts, in such a manner that no changes or agreed changes with flexibility will occur in the agreement in the future after the date of signature of the agreement

- in fact these changes, are often viewed as a nightmare by any international oil & gas company, may lead to additional obligations for such company or deprivation of its investments and expected future revenues from investments

- the affected party must respond by using a contractual tool to manage such political risks and it come in the form of stabilisation clause, which seek to limit the regulatory power of the host country in the fields stipulated in the clause and basically preserve the fiscal regime in the oil & oil production sharing contract (as well as other energy & mining projects) for the duration of these long-term contracts
- such clause usually provides that if any regulatory changes are introduced that will alter the landscape of their original contractual intent, the parties have an obligation to renegotiate to restore the equilibrium, which provide some comfort to parties in international energy contracts as most international arbitral decisions seemed to validate such clauses
- however, there appears to be no consistency in the arbitral decisions when it come to assessing compensation for the violation of stabilisation clauses since like other contractual breaches, arbitral tribunals often take different routes to come to a decision

use of electronic communication

©copyright 10/2012 Lee Kwok Weng

- there are no legal bars to the creation of contracts by electronic communications and in general the use of electronic communication; in fact, our laws by the Electronic Transaction Act is generally permissive of e-commerce as set out in part II of the Act such as S 11:
"*(1) For the avoidance of doubt, it is declared that in the context of the formation of contracts, unless otherwise agreed by the parties, an offer and the acceptance of an offer may be expressed by means of electronic records.*

(2) Where an electronic record is used in the formation of a contract, that contract shall not be denied validity or enforceability on the sole ground that an electronic record was used for that purpose "

- Further, S 12 clarifies the effectiveness between parties:
" *As between the originator and the addressee of an electronic record, a declaration of intent or other statement shall not be denied legal effect, validity or enforceability solely on the ground that it is in the form of an electronic record* "

- of greater concern is establishing that a contract has been entered into and defining what the terms of the contract are and which country's law governed and where to resolve in the event of a dispute arising. However it is unlikely that this will have a significant impact on EPC contracts since these should be covered by contractual provisions and for contracts to be in writing and to be authenticated by the signatures of the parties

- further, given the ease with which documents & identity can be manipulated in an electronic environment, security, compliance with security requirements as well as authenticity can be major legal issues and appropriate measures shall be taken to prevent unauthorized electronic communications or someone adopting another person's identity

VI. Some Key Points In Administration Of An EPC Contract

setting a realistic completion time

- it is not uncommon that Consultants will advise an idealistically short completion time of the project for Employer to believe that his development will have better return; however, unrealistic completion time whether too long or too short will never be good for Employer because in such instances the tender prices will usually be on the high side and hence it is important to set a realistic completion time

termination

- EPC contract usually provides that the Employer terminate the contract without incurring any liability and yet can claim damages against the Contractor if the Contractor commits some wrongs or defaults specifically stated (often termed as Termination for Default or default clause)

- an illustration of this is found in clause 31.1 of PSSCOC (Design & Build) and the defaults stated there include the Contractor has abandoned the contract, has, without reasonable cause, failed to commence the project works in accordance with the contract, etc

- the Employer is also allowed to terminate the employment of the Contractor without cause viz. without any default on the part of the Contractor but to be fair to the Contractor, such clause also provides the certainty of the liability of the Employer (i.e. payments due to the Contractor) as stipulated by clause 31.4 of PSSCOC (Design & Build)

extension of time

- although a typical EPC contract explicitly states that the Contractor shall complete the project within the agreed time for completion, certain events (often beyond the Contactor's control) can occur, which may cause delay to the completion

©copyright 10/2012 Lee Kwok Weng

- in such circumstances, the Employer, often through his contract administrator may prospectively or retrospectively grant the Contractor an extension of time (EOT) for delay caused to the project notwithstanding due diligence and mitigation of delay on the part of the Contractor but often it is not automatically granted as the Contractor has to strictly comply with written procedures

- the events under which an EOT may be granted are often restrictive and include such events like force majeure, exceptionally adverse weather conditions, industrial action affecting any of the trades employed upon the project, instruction for a variation, fire, storm, lightning, high winds, earthquake or flooding, etc (see for example clause 14.2 of PSSCOC (Design & Build))

force majeure

- EPC contract usually provides that neither party shall be held liable for the failure or delay in the performance of any of its obligations due to a force majeure

- a force majeure normally refers to an act, omission or circumstance which that party could not reasonably have exercised control over, including, but not limited to, acts of God, acts of governments, strikes, lockouts, war, earthquakes or other natural disasters
- to minimise disputes, it is helpful to clearly define a force majeure event wherever possible as in the case of Shell Singapore, when there was disruption to supplies to its customer caused by a major fire in its Palau Bukom refinery as contra the case of *NCC v LTA* where a dispute arose as to whether the ban of export of sand & granite chips by the Indonesian government is a force majeure event

liquidated damages amounts – trigger points

- liquidated damages (LD) is a pre-estimate of losses suffered by the Employer due to the Contractor's delay and he therefore sought to be so compensated; it can a double edged sword but of more concern is that there is a triggering point if LD amount is too high to become punitive and in common law jurisdiction, the Employer may not be entitled in law to recover LD

- to contain this possible risk, a provision similar to clause 16.3 of PSSCOC (Design & Build) [which is akin to EPC contract except it is for the private sector] can be inserted, viz. "*In the event that the Employer for whatever reason shall not be entitled in law to recover liquidated damages, the Employer shall remain entitled to recover such loss, expense, costs or damages as he would have been entitled under common law as if the provisions in this Clause relating to the payment of liquidated damages had not formed part of the Contract*"

indemnities

- indemnities are used basically to transfer the risks to another party viz. Employer to Contractor to sub-contractor, supplier, etc

- an example of such clauses, which are common in EPC contracts are illustrated by clause 26.1 of PSSCOC (Design & Build) viz. "*The Contractor shall be liable for and shall indemnify the Employer against any loss, expense, costs, damages, liability or claim whatsoever in respect of personal injury to or the death of any person whomsoever arising out of or in the course of or by reason of the carrying out of the Works, unless the same is shown to be due solely to any negligent or wilful act of the Employer or of any person for whom the Employer is responsible*"

insurance

- insurance is basically employed to hedge against the risk of an uncertain loss arising from occurrence of an event and in EPC contracts, insurance is used to transfer risks to a third party viz. an insurance company in exchange for payment of an agreed sum of money, the premium

©copyright 10/2012 Lee Kwok Weng

- sometimes insurance coverage for certain risk is taken as it is mandated by law, see clause 27.1 of PSSCOC (Design & Build)

intellectual property

- intellectual property (IP) usually refers to any patent, trademark, service mark, trade name, copyright, etc whether or not registered or registrable & IP Rights refers to rights to such IP

- it is important to state clearly in an EPC contract the ownership of any IP and also no infringement of a third party's IP rights as well as indemnity against any claim for IP infringement by third parties

- by way of illustration, it can be drafted as follows:

" The Contractor shall be liable for, and shall indemnify, defend and hold harmless COY its officers, employees and directors against any and all Claims in respect of a claim by a third party that the Works or System infringe third party Intellectual Property Rights. "

drafting issues – sample clauses

- some pertinent clauses which set out the parties' rights, obligations, deliverables dispute resolution and other provisions include:

⇨ Time & Delay (e.g. clause 3.8 of PSSCOC [Design & Build])
⇨ Warranties (e.g. Contractor's warranty of design per cl6.1 PSSCOC D & B)
⇨ Indemnities(as discussed earlier)
⇨ Severability e.g. *Any provision of this Agreement prohibited by or is unlawful or unenforceable under any applicable law shall, to the extent required by such law, be severed from this Agreement and rendered ineffective so far as is possible without affecting the legality, validity and enforceability of the remaining provisions of this Agreement*

⇨ Non- waiver (see clause 2.8 of PSSCOC D & B)
⇨ Deduction & set-off (see clause 36.1 of PSSCOC D & B)
⇨ Intellectual Property Ownership & Rights (see clause 3.6 of PSSCOC D & B)
⇨ Confidentiality (see clause 3.7 of PSSCOC D & B)
⇨ Governing Law (see clause 37 of PSSCOC D & B)
⇨ Alternative dispute resolution such as Mediation and Arbitration (see clause 35 of PSSCOC D & B)

managing claims relating to delay

- in EPC projects like most long term complex projects, it is not uncommon to encounter delay and claims by either party of the contract as a usual consequence

- as discussed, one way for the Employer is to insert liquidated damages to recover loss or rather pre-estimate of the losses incurred as a result of the delay by the Contractor

- however, where the delay is not due to the Contractor's fault or due to events beyond his control and delay occurs despite the Contractor's due diligence and mitigation of delay or due to events which are the responsibility of the Employer (& his agents), then to best manage the Contractor's likely claim, it is usual to grant a reasonable extension of time to the Contractor

- in fact as established in the case of *Peak Construction (Liverpool) Ltd v McKinney Foundation Ltd*, an Employer, if without such grounds inserted in his Contract and he has in fact caused delay to the completion of contract, will no longer be able to rely on the Liquidated Damages clause any more

©copyright 10/2012 Lee Kwok Weng

VII. EPC Contract Negotiation

1. Why Negotiate And Negotiating Strategies & Tactics

- negotiation is generally inexpensive and could maintain relationships and therefore should be the first step to resolve disputes

- but the setback is negotiation could prove to fail after a long and protracted period of discussion because it is usually not binding, and the informality will permit negotiation to raise surprise issues or irrelevant points too
- one suggestion therefore is to establishing a timetable which limit the duration of the discussion and/or setting an agenda to limit the points in discussion and outlaw time-wasting discussion on irrelevant issues

- some suggested strategies and tactics in negotiation include:

⇨ apply Sun Tze's art of warfare viz. know the other side's weakness
⇨ lowball, by going for the lowest possible
⇨ pinpoint the need - determine what is the least the other party wants
⇨ challenge, put the other party on the defensive in an effort to win some concessions
⇨ defer - patience pays, take a break to re-evaluate position
⇨ split the difference by reaching the mid-point between offer and counter-proposal

2. Pitfalls to avoid

- viewing negotiation as confrontational; matter of attitudes & approaches as these will set tone since if one is confrontational, then expect fight for sure

- trying to win at all costs by treating negotiation as a contest; a win-lose could also be lose-lose

- negotiation is not about becoming a champion and collecting the scalp of the opposite side as a trophy!

- becoming emotional and that would lessen one's ability to channel negotiating behaviour in constructive ways

- not trying to understand the other person(s) from opposite side and it is the usual case that if don't know, unable to negotiate properly

- focusing on personalities, not issues; human tendency to focus on how difficult or obnoxious the other person seems so that negotiation may become impossible, hence it is imperative that one should stick to issues involved in the negotiation

3. Renegotiation Of Contracts

⇨ EPC contracts are most often used for infrastructure, energy & natural resources type of projects and are of long term and come with much complexities as well as risks

⇨ as such, unforeseen situations are likely to happen, breaking the economic equilibrium of the contracting parties, even destroying the contractual relationships between them

⇨ accordingly renegotiation clause is common in such contracts, and such clause provides a legal mechanism for the parties to adjust the contract terms and restore the economic equilibrium set up when the contract was entered by the parties

⇨ but what are the terms that need to by re-negotiated? Obviously the price, but it could also be the scope of work, specifications of equipment, the duration, etc

⇨ unfortunately not all renegotiation goes smoothly, and often disputes over the negotiation process make the renegotiation between parties deadlock, or fail with the consequence of

©copyright 10/2012 Lee Kwok Weng

contract termination. Therefore, a third party solution is needed such as alternative dispute resolution or arbitration

⇨ when an independent third party is required, the parties must define the role of the mediator or arbitrator in disputes over the renegotiation clause and how should the tribunal function to achieve the economic equilibrium of the contractual parties

VIII. Termination Of EPC Contract And Related Legal Issues

1. Terminating An EPC Contract

- a contract can be terminated as follows:

⇨ where there occurs a breach of a condition or a default clause (though the injured party may elect to affirm the contract instead) and is sometimes referred to as termination with cause

⇨ by a contractual provision in the contract such as occurrence of a certain event

⇨ or by a provision in a contract which allows it to be terminated by either of the contracting parties at any one time giving the requisite notice of termination or payment in lieu of the notice and sometimes, this is referred to as termination without cause e.g. as found most employment contract

⇨ sometimes only one party is allowed to terminate without cause and without the need to give any reason, such as the right of an Employer to do so, which is very common in most engineering, building or construction (EBC) contracts as illustrated by clause 31.4 in PSSCOC D & B

⇨ some contracts such as any typical tenancy, there is no "escape" clause i.e. termination clause to allow either or both parties to terminate; but that does not mean the parties cannot terminate since if the contractual parties agrees to do so, they can still get out of the contract by way of a separate termination agreement to end their original contract

⇨ by novation (i.e. change of party) or by way of assignment

2. Dealing With Post Termination

- the effects of termination of employment of Contractor for default are the same as most other long term standard contracts and include *inter alia* the use of Contractor's equipment on site and no payment to Contractor if any, till the whole Works is completed as illustrated by Clause 3 1.2 of PSSCOC D & B

- further, it is common to stipulate that the Contractor will still be responsible for the amount of Liquidated Damages that the Employer is entitled under the Contract for the delay in completion of the project works as the project works would have been completed by him based on the certificate issued by the Contract Administrator although the project works will now be completed by the Employer or Employer's appointed contractor

- accordingly, the Contractor must take note of these in his pricing

IX. Managing Claims & Disputes

1. How Claims & Disputes May Arise

- some possible reasons though not exhaustive:

⇨ defective works/poor workmanship

⇨ works not following the specifications and/or drawings

⇨ delay in completion caused by reasons beyond the contractor's control viz inclement weather, strikes, etc

⇨ extra works &/or variation in works without instruction or disputable instruction

©copyright 10/2012 Lee Kwok Weng

⇨ as built drawings
⇨ conflicting final measurement of works

- another possible claim is claim for loss and expenses incurred by the Contractor and this can be stipulated in a provision in the contract to allow the Contractor to claim provided certain strict procedures are complied with as illustrated by clauses 22 & 23 of PSSCOC D & B

2. Some Key Pointers In Managing Claims & Disputes

- it is most essential to keep good records and proper documentation in order to ensure successful claims negotiation

- a claim must be presented in such a way that it is not too cluttered with information and details and yet not too thin with facts

- hence it shall be in such a manner that people can and will read the claim in details and the claim is easily referable within the document

- a well presented claim document will usually be divided into a few sections and each one of which will have its own part to play in the overall presentation and a suggested format is:

⇨ Introduction & Statement of Claim (a summary)
⇨ Basis of Claim & Details of Claim (for establishing quantum)
⇨ Appendices

- the burden of proving any given claim rests with the claimant as it is based on the principle that he who alleges must prove, though in practice it is not easy to prove but the claimant will be able to take care comfortably of his claim if the claim is properly documented with good records which are reasonably correct.

3. Documentation

- vital contemporaneous supporting evidence to any claim might include the following:

⇨ Tender and Contract Document
⇨ Construction Drawings
⇨ Correspondence & Photographs
⇨ Minutes, Site Memo, Daily Records
⇨ Monthly Reports, Day Works Records
⇨ Instructions & Variation Orders
⇨ Purchase Orders, Payment to Suppliers, Invoices, etc

- if all these records are available, claims will be easily documented and claims which are documented with these records will be considered as proper and adequate because such records are being kept at the time the relevant work was executed

X. Case Study

- we will look at two quite recent EPC cases involved in two jurisdictions viz. *American Municipal Inc v Bechtel Power Corp* in Ohio, USA and Singapore's Court of Appeal case, *Tan Juay Pah v Kimly Construction Pte Ltd and others*

I. *American Municipal Inc. (AMP) and Bechtel Power Corp.(Bechtel)*

Case Summary

1. American Municipal Inc. (AMP), an Ohio nonprofit electricity cooperative is the owner and operator of electric facilities.

2. Between 2007 and 2008, AMP, commissioned feasibility studies for a coal plant and eventually led to the development of a 1,000 MW AMP Generating Station. After a tendering

 ©copyright 10/2012 Lee Kwok Weng

process involving several different EPC contractors, Bechtel was successfully chosen as the project contractor in 2008.

3. From November 2008 to December 2009, Bechtel sent AMP monthly progress reports, which included inter alia, cost estimates for the project. AMP alleged that Bechtel represented that the expected EPC cost from the original cost estimate was sound and reliable during these monthly reports spanning from November 2008 to September 2009.

4. In May 2009, due to declining costs of energy, AMP told Bechtel it was reconsidering the project, but Bechtel offered a lower price and AMP decided to keep the project going. On May 5, 2009, Bechtel met with AMP and updated elements of its price, reporting that the estimated cost had declined by $157 million. As a result, AMP's members, during a meeting on May 28, 2009, decided to move forward with the result.

5. However at that time, AMP signed various project contracts with power plant system suppliers, including Hitachi and Powerspan.

6. In October 2009, Bechtel advised AMP that the EPC cost for the project would be more than $1 billion higher than Bechtel's original estimates. In November 2009, Bechtel suggested possible cost reductions that could result in an estimated price that remained $846 million more than Bechtel's initial estimates. Based on these numbers, AMP canceled the project and terminated the contracts with Bechtel and other vendors.

7. In 2011, AMP filed suit against Bechtel in the Federal Court in Columbus, Ohio on three claims: for alleged breach of the EPC contract, for gross negligence and for breach of fiduciary duty. All three claims totaled damages of not less than $97 million.

8. As to the breach of contract claim, Bechtel rebutted that its liability should be limited to $500,000, the contractual limitation of liability appropriate to the stage of the contract performance, at the time the project was cancelled.

9. However, AMP claimed that Bechtel improperly under estimated the cost of its services on a coal-fired power plant by more than $1 billion and argued that the limitation of liability clause cannot be enforced if it proves that Bechtel acted willfully or wantonly recklessly, or with gross negligence.

10. Judge Michael Watson agreed with AMP and rejected Bechtel's position that because the contract had a limitation of liability condition, it could not be held liable in excess of $500,000.

11. Judge Watson also ruled that AMP had failed to identify actual damages separate from the breach of contract claim and had failed to state a proper claim in their claim nos. 2 & 3. Therefore, Watson dismissed AMP's second & third claims but kept the breach of contract claim, as well as $97 million in damages from Bechtel.

II. *Tan Juay Pah v Kimly Construction Pte Ltd and others*

©copyright 10/2012 Lee Kwok Weng