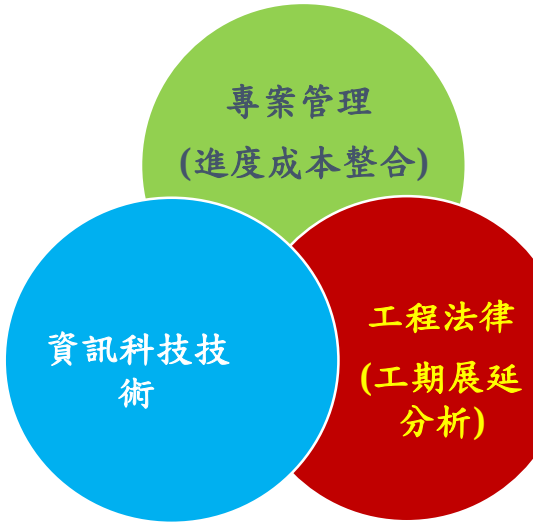
國際工程契約爭端解決之研究

范素玲博士

LINE: @den3789g

Email:fansuling@gms.tku.edu.tw



現職：臺馬數位科技國際中心主任、淡江大學工程法律研究發展中心主任、淡江大學土木系副教授、工程爭議鑑定人、工程爭議調解顧問、中華民國仲裁協會仲裁人、工程爭議審議/裁決委員、桃園地方法院工程專業咨詢委員、桃園地方法院調解委員

經歷：印度Veltech University訪問學者、澳洲Curtin University訪問學者、行政院公共工程委員會助理、第四屆台灣工程法學會秘書長、第五屆台灣工程法學會理事、第十二屆營建管理協會技術發展委員會主任委員、第十三屆環境發展促進委員會委員

得獎：2009淡江大學優良導師獎、2011至2017年淡江之光獎、淡江大學105學年度傑出研究教師

LINE: @den3789g

London Court of International Arbitration

Malaysia’ s Kuala Lumpur Regional Centre for Arbitration

Dubai International Arbitration Centre

工程契約的爭端解決之機制

1. 談判（negotiation）
2. 斡旋（good office）
3. 調停（mediation）
4. 調解（conciliation）
5. 爭端裁決委員會Dispute Adjudication Board（DAB）
6. 仲裁(Arbitration)

SOCIETY OF CONSTRUCTION LAW DELAY AND DISRUPTION PROTOCOL

2nd edition
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Content

(a) Core Principles: a summary of the 22 Core Principles;

(b) Guidance Part A: an overview of delay, disruption and acceleration concepts;

(c) Guidance Part B: guidance on each of the 22 Core Principles;

(d) Guidance Part C: guidance on other financial heads of claim that often arise in the context of delay and disruption;

(e) Appendix A: definitions and glossary for both defined terms in the Protocol and terms commonly used in relation to delay and disruption; and

(f) Appendix B: lists of the typical records within each of the six categories of records relevant to delay and disruption identified in the guidance to Core Principle 1.

1.Programmer and records

- Programme should be updated to record
  - Actual progress
  - Variations
  - changes of logic
  - methods and sequences
  - mitigation or acceleration measures
  - EOTs granted

Records

- Programme records
- Progress records
- Resource records
- Costs records
- Correspondence and administration records
- Contract and tender documents

2.Purpose of EOT

- It is often incorrectly thought that an entitlement to an EOT automatically carries with it an entitlement to compensation for prolongation costs during the period of the EOT.

3.Contractual procedural requirements

- The Contractor should comply with the contractual procedural requirements relating to notices, particulars and substantiation in relation to delay events. However, whatever the contract says, the Contractor should give notice to the CA of any Employer Delays as soon as possible.
- The CA should also notify the Contractor as early as possible of any Employer Delays of which it is aware.

4. Do not ‘wait and see’ regarding impact of delay events (contemporaneous analysis)

- The parties should attempt so far as possible to deal with the time impact of Employer Risk Events as the work proceeds (both in terms of EOT and compensation).
- Applications for an EOT should be made and dealt with as close in time as possible to the delay event that gives rise to the application.
- A ‘wait and see’ approach to assessing EOT is discouraged.
- The Contractor potentially will be entitled to an EOT only for those events or causes of delay in respect of which the Employer has assumed risk and responsibility (called in the Protocol Employer Risk Events) that impact the critical path.

5. Procedure for granting EOT

- A properly drafted EOT clause will contain general wording to allow an EOT to be granted in respect of acts (or omissions) of prevention or breach of contract by the Employer. Such wording is needed because the English courts have held that wording such as ‘any other special circumstances’ does not cover breaches by the Employer. Such an EOT clause should also explain the consequences of the Contractor’s failure to comply with any procedural requirements in applying for an EOT.

6.Effect of delay

- The practice of some CAs of waiting to see what the full effect an Employer Risk Event has on the works before dealing with the Contractor's application for EOT is discouraged.
- If the Contractor is entitled to an EOT it should receive it, and the CA should not wait to see if the Contractor actually needs the EOT, in order not to be liable for liquidated damages.

7. Incremental review of EOT

- Where the full effect of an Employer Risk Event cannot be predicted with certainty at the time of initial assessment by the CA, the CA should grant an EOT for the then predictable effect.
- The EOT should be considered by the CA at intervals as the actual impact of the Employer Risk Event unfolds and the EOT increased (but not decreased, unless there are express contract terms permitting this) if appropriate.

8.Float as it relates to time

- The ‘ownership’ of float causes particular arguments in disputes over entitlement to an EOT.
- Under the type of contract that is silent or ambiguous about float, uncertainty exists and disputes are likely to follow.
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9. Identification of float

- The identification of float is greatly assisted where there is a properly prepared and regularly updated programme, the Accepted/Updated Programmes

10. Concurrent delay – effect on entitlement to EOT

- True concurrent delay is the occurrence of two or more delay events at the same time, one an Employer Risk Event, the other a Contractor Risk Event, and the effects of which are felt at the same time.
- For concurrent delay to exist, each of the Employer Risk Event and the Contractor Risk Event must be an effective cause of Delay to Completion (i.e. the delays must both affect the critical path).
- Where Contractor Delay to Completion occurs or has an effect concurrently with Employer Delay to Completion, the Contractor's concurrent delay should not reduce any EOT due.

Example

- aContractor Risk Event will result in five weeks Contractor Delay to Completion, delaying the contract completion date from 21 January to 25 February.
- Independently and a few weeks later, a variation is instructed on behalf of the Employer which, in the absence of the preceding Contractor Delay to Completion, would result in Employer Delay to Completion from 1 February to 14 February.
- older English appeal court cases (no doubt predating critical path analysis)：if the failure to complete the works is due in part to the fault of both the Employer and the Contractor, liquidated damages will not be payable.
- lower level English court： the Employer Delay will not result in the works being completed later than would otherwise have been the case because the works were already going to be delayed by a greater period because of the Contractor Delay to Completion. → **the only effective cause of the Delay to Completion is the Contractor Risk Event.**

11.Analysis time-distant from the delay event

- Employer Delay to Completion does not exonerate the Contractor for all its delays prior to that Employer Delay to Completion occurring.

Method of Analysis	Analysis Type	Critical Path Determined	Delay Impact Determined	Requires
Impacted As-Planned Analysis	Cause & Effect	Prospectively	Prospectively	• Logic linked baseline programme. • A selection of delay events to be modelled.
Time Impact Analysis	Cause & Effect	Contemporaneously	Prospectively	• Logic linked baseline programme. • Update programmes or progress information with which to update the baseline programme. • A selection of delay events to be modelled.
Time Slice Windows Analysis	Effect & Cause	Contemporaneously	Retrospectively	• Logic linked baseline programme. • Update programmes or progress information with which to update the baseline programme.
As-Planned versus As-Built Windows Analysis	Effect & Cause	Contemporaneously	Retrospectively	• Baseline programme. • As-built data.
Retrospective Longest Path Analysis	Effect & Cause	Retrospectively	Retrospectively	• Baseline Programme. • As-built programme.
Collapsed As-Built Analysis	Cause & Effect	Retrospectively	Retrospectively	• Logic linked as-built programme. • A selection of delay events to be modelled.

12.Link between EOT and compensation

Entitlement to an EOT does not automatically lead to entitlement to compensation (and vice versa).

- some kinds of delay events which are at the risk of the Employer so far as time for completion is concerned carry no entitlement to compensation for prolongation;
- delay resulting from adverse weather conditions being the most common example.
- They are sometimes misleadingly called ‘neutral events’; in fact, they are only neutral in the sense that one party bears the time risk and the other party bears the cost risk.
- The Protocol calls them ‘non-compensable Employer Risk Events’

13.Early completion as it relates to compensation

- If as a result of an Employer Delay, the Contractor is prevented from completing the works by the Contractor's planned completion date (being a date earlier than the contract completion date), the Contractor should in principle be entitled to be paid the costs directly caused by the Employer Delay, notwithstanding that there is no delay to the contract completion date (and therefore no entitlement to an EOT).
- However, this outcome will ensue only if at the time they enter into the contract, the Employer is aware of the Contractor's intention to complete the works prior to the contract completion date, and that intention is realistic and achievable.

14.Concurrent delay – effect on entitlement to compensation for prolongation

- Where Employer Delay to Completion and Contractor Delay to Completion are concurrent and, as a result of that delay the Contractor incurs additional costs, then the Contractor should only recover compensation if it is able to separate the additional costs caused by the Employer Delay from those caused by the Contractor Delay.
- If it would have incurred the additional costs in any event as a result of Contractor Delay, the Contractor will not be entitled to recover those additional costs.

15. Mitigation of delay and mitigation of loss

The Contractor has a general duty to mitigate the effect on its works of Employer Risk Events. Subject to express contract wording or agreement to the contrary, the duty to mitigate does not extend to requiring the Contractor to add extra resources or to work outside its planned working hours. The Contractor's duty to mitigate its loss has two aspects: first, the Contractor must take reasonable steps to minimise its loss; and secondly, the Contractor must not take unreasonable steps that increase its loss.

廠商有降低業主所造成遲延之義務，但該義務不包括要求廠商於原預訂外增加額外資源或工作時間

16.Acceleration

- Where the contract provides for acceleration, payment for the acceleration should be based on the terms of the contract.
- Where the contract does not provide for acceleration but the Contractor and the Employer agree that accelerative measures should be undertaken, the basis of payment should be agreed before the acceleration is commenced.
- Contracting parties should seek to agree on the records to be kept when acceleration measures are employed.
- Where the Contractor is considering implementing acceleration measures to avoid the risk of liquidated damages as a result of not receiving an EOT that it considers is due, and then pursuing a constructive acceleration claim, the Contractor should first take steps to have the dispute or difference about entitlement to an EOT resolved in accordance with the contract dispute resolution provisions.

- Just because the Contractor implements measures to recover Employer Delay does not necessarily mean that the full costs of those measures were caused by the Employer Delay.
- For example, the addition of a second labour gang may permit the relevant work activities to be completed in a shorter period of time but, overall, the Contractor may have incurred the costs of the same number of man-hours as it planned to do.
- Of course, the Contractor may incur higher rates in engaging the two labour gangs later in time because of the Employer Delay.
- Any such incremental costs therefore should be compared with prolongation costs that would otherwise have arisen to identify whether those incremental costs are reasonable.
- Further, any resulting crowding of labour may lead to loss of productivity which could then form the basis of a disruption claim.

17.Global claims

- The not uncommon practice of contractors making composite or global claims without attempting to substantiate cause and effect is discouraged by the Protocol, despite an apparent trend for the courts to take a more lenient approach when considering global claims.

18.Disruption claims

- Compensation may be recovered for disruption only to the extent that the contract permits or there is an available cause of action at law.
- The objective of a disruption analysis is to demonstrate the loss of productivity and hence additional loss and expense over and above that which would have been incurred were it not for the disruption events for which the Employer is responsible.

19.Valuation of variations

- Where practicable, the total likely effect of variations should be pre-agreed between the Employer/CA and the Contractor to arrive at, if possible, a fixed price of a variation, to include not only the direct costs (labour, plant and materials) but also the time-related and disruption costs, an agreed EOT and the necessary revisions to the programmer.

Methods of disruption analysis

Set out below is an explanation of each of the following more common methods:

Productivity-based methods	Cost-based methods
1. Project-specific studies:	**1. Estimated v incurred labour**
(a) Measured mile analysis	**2. Estimated v used cost**
(b) Earned value analysis	
(c) Programme analysis	
(d) Work or trade sampling	
(e) System dynamics modelling	
2. Project-comparison studies	
3. Industry studies	

20. Basis of calculation of compensation for prolongation

- Unless expressly provided for otherwise in the contract, compensation for prolongation should not be paid for anything other than work actually done, time actually taken up or loss and/or expense actually suffered.
- In other words, the compensation for prolongation caused other than by variations is based on the actual additional cost incurred by the Contractor.
- The objective is to put the Contractor in the same financial position it would have been if the Employer Risk Event had not occurred.
- If the prolongation is caused by a variation, then it is recommended that the compensation for prolongation should be agreed as soon as possible after completion of the variation and where practicable included in the valuation of the variation.

21.Relevance of tender allowances

- The tender allowances have limited relevance to the evaluation of the cost of prolongation and disruption caused by breach of contract or any other cause that requires the evaluation of additional costs.
- Under these circumstances recoverable compensation requires the ascertainment of the actual cost of remaining on site for the additional time.
- Notwithstanding the advice of the Protocol, there is nothing to prevent the use of the tender allowances as a rough guide for the agreement of prolongation costs or for checking the recovery of prolongation costs through the value of varied work, if that is what the parties for convenience wish to do

22. Period for evaluation of compensation

- Once it is established that compensation for prolongation is due, the evaluation of the sum due is made by reference to the period when the effect of the Employer Risk Event was felt, not by reference to the extended period at the end of the contract.

OTHER FINANCIAL HEADS OF CLAIM

- Claims for payment of interest
  - Time to run: There are often arguments as to the date on which interest on a Contractor's claim should start to run.
  - Statutory interest on debts /contract

OTHER FINANCIAL HEADS OF CLAIM

- Head office overheads and profit
  - Head office overheads can be sub-divided into: ‘dedicated overheads’ which through careful record keeping can be attributed to the specific Employer Delay; and ‘unabsorbed overheads’ (such as rent and some salaries) which are incurred by a Contractor regardless of its volume of work. These costs, if demonstrated, may be recoverable under the contract or, alternatively, may be claimed as damages for a breach of contract.
  - Regarding the lost opportunity to earn profit, this is generally not recoverable under the standard forms. Instead, Contractors typically frame their claim for the lost opportunity to earn profit as a claim for damages for breach of contract.

OTHER FINANCIAL HEADS OF CLAIM

- Claim preparation costs
  - .The Contractor should not be entitled to additional costs for the preparation of that information,
  - unless it can show that it has been put to additional cost as a result of the unreasonable actions or inactions of the CA in dealing with the Contractor's claim.
  - Similarly, unreasonable actions or inactions by the Contractor in prosecuting its claim should entitle the Employer to recover its costs. The Protocol may be used as a guide as to what is reasonable or unreasonable.

一元租金方案

http://www.constructionlaw.tku.edu.tw/1dollar/

一元租金方案

資格：臺灣個人或公司法人擬至馬來西亞成立辦公室可填寫下表經本中心送英國雷丁大學馬來西亞分校同意即可以僅繳交水電管理費外，享有一元租金方案。

公司名稱(個人填姓名) *

負責人姓名(個人填同上) *

聯絡人姓名(個人填同上) *

簡介(在馬來西亞預定業務內容)

淡江大學工程法律研究發展中心

- 本中心於2010年8月於淡江大學正式成立，為校級中心。
- 司法院全國性鑑定機構。
- 主任：淡江大學土木系范素玲博士
- 工程技術鑑定委員會主委：台灣世曦股份有限公司前董事長、行政院工程會前副主任委員、中央大學前工學院院長李建中博士。
- 法律諮詢委員會主委：政大前法學院院長黃立博士擔任。

LINE: @den3789g

臺馬數位科技國際中心
Taiwan-Malaysia
Digital Technology International Centre (DiTIC)

- 本中心於2017年11月1日於英國雷丁大學馬來西亞分校(University of Reading Malaysia, UoRM)成立
- 以BIM API、VR、AR與大數據、專案管理為研究核心，不以BIM API、VR、AR與大數據、專案管理為侷限；
- 以淡江大學出發，不以淡江大學為範圍
- 邀請台灣、馬來西亞以及南向國家各大學、各教授、各產業、各政府機關共同參與
- 致力成為臺馬與臺灣及各南向國家間科技研究、人才培育與技術發展之雙向交流核心前哨站。

LINE: @den3789g

服務項目1~工程技術鑑定報告、專家意見書及工程法律顧問諮詢

- 接受各級法院、仲裁協會囑託之工程技術鑑定或機關、產業界委託之專家意見書或顧問諮詢服務。

服務項目2~BIM API、VR、AR、AI、Big Data、專案管理、工程法律委託案

- 本中心組成團隊接受各界委託提供專案管理、工程法律及資訊技術服務。

LINE: @den3789g

服務項目3~教育訓練課程與國際交流活動

- 不定期開辦專題課程、產業專班、學分班與國際交流活動。

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LINE: @den3789g

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LINE: @den3789g

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LINE: @den3789g

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- 徵才

臺馬食衣住行育樂

由「臺馬數位科技國際中心」與「淡江大學工程法律研究發展中心」共同合作，不定期提供各項科研資訊。

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資訊分享

歡迎提供臺馬食衣住行育樂等生活資訊，經審核後版主將貼文在本頁面供網友參考

填表人 *

性別 *

- 先生
- 女士

電話 *

LINE: @den3789g

會員平台7-徵才

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徵才

徵求軟體工程師/研究員

一、工作地點：淡江大學台北校園（捷運東門站步行三至五分鐘）

二、條件：
1.程式語言或軟體：（以下之一）
熟悉Microsoft .Net C# 或 Python 或Unity
2.專長：（以下之一）
AI(Deep learning)、AR、VR、大數據

三、意者請填寫： https://goo.gl/forms/qFOy1K7dl2MptU2U2

四、填寫表單後請加line通知 (Line ID：tina517619)

LINE: @den3789g