

# Application and Assessment of Extension of Time Claim: Findings of Case Studies Conducted in Malaysia

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## Abstract:

It is a common phenomenon for construction projects to have applications for extension of time. Many problems are encountered in practice in the application and preparation of extension of time claims. A study was conducted to identify the main problems encountered in the application and assessment of extension of time claim in selected construction projects in Malaysia. Three (3) case studies have been used to investigate the extension of time issues. Findings from the study revealed that local contractors usually fail to comply with the contract procedural requirements to submit timely notification of delay and have difficulty in demonstrating their entitlement for extension of time. The main problem faced by contract administrators is that contractors tend to "inflate" their extension of time entitlement with the intention to maximise their claims. Adherence to the agreed procedure in preparing and evaluating of delay claims and the implementation of a set of agreed standardised delay analysis may help to minimize the frequency and impact of such problems.

*Key words: construction claims, assessment, contractors, extension of time, validity*

## Introduction

In any construction contract, the contractor has the legal obligation to complete a project by the date for completion or within the date for completion. However, delays always disrupt the performance of contractor's work. A delay may be caused either by the contractor or employer, or events for which neither party is at fault (or commonly known as neutral events). The general principle in law is that the contractor will not be entitled to claim for extension of time or loss and expense if the delaying event is caused by his own fault. In this regard, Williams (2003) categorised delays into excusable/compensatable, excusable/non-compensatable and non-excusable/non-compensatable. Generally, the

contractor will only be excused and entitled for extension of time if the delay is caused by the employer or neutral events. Excusable delays that may allow recovery of both time and money are normally delay caused by the employer such as delay in giving possession of site, delay in giving instructions, drawings, variation, etc. In contrast, excusable delays that may allow solely on extension of time are delays not caused by either party or neutral events such as strikes, force majeure, inclement weather, etc. Most construction contracts specifically list the excusable delay for which extension of time and, loss and expense can be granted.

Extension of time is a very important provision in any construction contract. This provision affects the extent of contractor's

liability to pay for liquidated damages if there is a delay to the completion of works. If the provision is clearly drafted it will also provide the contract administrator with the power to extend the time for completion due to an act of prevention by the employer. For instance, in the case of *Thamesa Designs Sdn. Bhd. v. Kuching Hotels Sdn. Bhd.* (1993) 3 MLJ 25, it was held that if the contract administrator has no power to extend the date for completion due to an act of prevention by the employer, the time for completion will be at large and the employer lost his right to enforce the liquidated damages provisions.

Claims by contractors for extension of time are almost inevitable in any construction project. Much effort has been put in by contractors, sub-contractors, contract administrators, professional consultants and employers in proving entitlement or assessing extension of time on construction projects (Turner and Turner 1999). For example, when there is a delay to progress of work in a construction project, it may or may not have an effect on the project completion date. According to Adrian (1988), where a delay to progress does not affect the critical path, the completion date of a project will not be affected.

While the general principle is that a contractor should be given more time to complete a project for delays on critical path which are beyond the contractor's control, there have been many problems encountered in practice with regard to the application and preparation of extension of time claim by contractors and analysis of claims and proof of entitlement by contract administrators (Pickavance 2000, Bramble and Callahan 1992).

This paper presents findings of a study aimed to identify common problems encountered in the application of extension of time by contractors and to assess contractor's claim by the contract administrator in construction projects in the Malaysian construction industry. It does not

cover the topic of entitlement for loss and/or expense as a result of extension of time granted in a project.

## Literature Review

Most standard forms of construction contracts require the contractor to provide notice for application of extension of time. The common problem encountered is where a contractor fails to serve a notice of delay although the contract stipulates that it is a condition precedent to the contractor's entitlement to extension of time. The topic of condition precedent is discussed at length by Pickavance (2000). In such instance, is the contract administrator still obliged to evaluate and/or grant an extension of time to the contractor? If a contract stipulates that serving of notice by the contractor is a condition precedent to extension of time, a strict interpretation of such clauses will mean that the contractor will lose his right to extension of time should he fail to serve a delay notice to the employer.

Usually, construction contracts require the contractor to notify the employer or contract administrator of delays which are likely to affect the completion date as soon as the delays occur or within a reasonable time. The contractor is required to apply for an extension of time and prepare the relevant supporting documentation to be submitted to the contract administrator for evaluation. While this may appear to be a straight-forward procedural requirement, there have been various problems identified as follow (Turner & Turner 1999, Pickavance 2000):

- a) Whether a notice of claim by the contractor is a notice precedent to entitlement to extension of time;
- b) The effect of the contract administrator's failure to grant extension of time for employer's default;
- c) The effect of the contractor's failure to serve a proper notice of delay;

- d) Non-agreement as to the cause and effect of delays;
- e) Non-agreement on updated master programme which forms the basis of establishing entitlement to extension of time; and
- f) Sufficiency of supporting information provided by contractor.

The common problem in the construction industry is that contractors do not sufficiently understand their obligations under the notice provisions. As a result of the contractor's failure to adhere to specific notice procedures there have been many disputes arising from non-giving of notice or late notification. A change in project requirement may be caused by the employer's acts of prevention, for example, late possession of site or variation instructions by employer giving rise to delays. The contractor's argument in such a case would be that where the delays are caused by "acts of prevention" by the employer, it would be unfair to expect the contractor to raise a notification of delay so as to safeguard the contractor's entitlement to extension of time for such acts of prevention are beyond the contractor's control (Robinson, et.al. 1996). The employer should not be allowed to benefit from his own "default". In such circumstances, even if the contract administrator has not received a timely notice, he must consider whether an excusable event has occurred.

The rationale for the contractor to raise a notice of delay is to allow the employer and contract administrator to know of the events that have affected or is likely to affect the contractor's progress of work. Even if the contract administrator has knowledge of the circumstances giving rise to an entitlement to an extension of time, without the contractor's advice, he may be ignorant of the impact on the contractor's progress of work. Timely notification of delays or potential delays will allow sufficient time for the contract administrator to find ways to minimise or overcome any delaying

events. Because of the importance of timely notice by contractor in allowing the contract administrator sufficient time to mitigate any delaying events, most standard forms of construction contracts require the contractor to submit a notice of delay within a reasonable time.

In *London Borough of Merton v. Stanley Hugh Leach Ltd* (1985) 32 BLR 51, Vinelott J. was asked to consider what would constitute a "written notice" within the meaning of clause 23 of JCT form 1963. While taking the view that the question of whether any particular document was or was not a "written notice" was clearly a question of fact, the court accepted the arbitrator's view that:

- a) A notice must be in writing;
- b) It must specify a cause of delay;
- c) The progress of the Works must already have been affected; and
- d) It need not take any special form of words provided it is sufficiently precise to put the contract administrator on notice of the delay.

The contractor is generally required to provide certain relevant details in his notice of claim including identifying relevant events giving rise to delays, the date and time of delay, the cause of delay and its duration, and the impact on progress of work (O'Brien, 1976). Non-provision of such information may result in late granting of extension of time or even rejection of the contractor's extension of time claim. The contractor is required to identify each delaying event and the anticipated effect of each event on the completion date rather than to submit a global claim for delays due to many events. If the contractor's record keeping is poor, as in many cases, he may not be able to substantiate each delay but only able to submit a global claim. Dispute will most often arise since the employer is inclined to reject the contractor's claim even if the employer recognises that the contractor has a valid reason for delay.

Some contract administrators are of the view that submission of a well documented extension of time claim is a condition precedent to the contract administrator's obligation to grant an extension of time. If the contractor fails to submit relevant details to the contract administrator then the latter is not obliged to evaluate the contractor's claim or at the very least delays in granting an extension of time until the relevant information has been submitted. Contractors often view this as a delaying tactic by the contract administrator or even accusing the contract administrator of not carrying out his impartial duty to evaluate for the contractor's entitlement to extension of time especially where delays are caused by the employer. This problem is addressed by the Malaysian PAM 1998 form which stipulates that even if the contractor fails to submit relevant details, it is the architect's duty to form his own opinion and grant a 'fair and reasonable' extension of time to the contractor.

Comprehensive records to prove the entitlement to extension of time must support a valid claim. Too often, contractors are able to show that something went wrong on a project but unable to prove the time loss as a result of a particular problem mainly because there is a lack of records to identify the exact cause of the problem (Powell-Smith & Sims, 1989). Good contemporary record keeping by the contractor helps avoid confusion and assist in reaching agreements by defining facts, roles and responsibilities of the parties. In practice, it is far too often in Malaysia that contractors tend to under-value the importance of good record keeping. Poor quality project documentation reduces the chance of getting an extension of time claim of being approved by the contract administrator and increases the likelihood of a dispute (Collier, 2001). While contractors who do not keep good site records may have saved some administration cost, poor project documentation presents serious difficulties in identifying causes of delays especially where the employer causes the delays. In

such instances, the contractor's right to extension of time as well as loss and/or expense is being compromised. Eventually, the contractor may end up spending a lot more expenses in defending his rights and substantiating his claims.

Both the Malaysian PAM 1998 and CIDB 2000 forms require the contractor to give a notice of delay within a reasonable time of the event giving rise to delay and to provide such details and particulars as are necessary to assist the contract administrator in making his decision. When submitting an extension of time claim, the contractor should identify details regarding the event, including information on: the delaying event, when the date the event took place, material circumstances giving rise to the delay, the duration of delay, and its impact on progress of work

While PAM 1998 and CIDB 2000 contain expressed provisions requiring the contractor to submit detailed particulars of their delay claims, the Malaysian PWD 203A and IEM 1989 are silent with regards to this obligation. This leaves room for disputes whereby the contractor will argue that he has no obligation to submit any details but that the contract administrator is under a duty to grant a 'fair and reasonable' extension of time.

The contract administrator is only required to ascertain whether the cause stated by the contractor in the notice is a relevant event and whether as a result of the relevant event the completion of the works is likely to be delayed. While it appears that the burden of proving entitlement to extension of time rests with the contractor, contractors have often argued that the contract administrator also has a duty to grant a 'fair and reasonable' extension of time notwithstanding insufficient information submitted by the contractor in particular where delays are caused by employer's default (Adrian, 1988).

Due to aforementioned reasons, it is anticipated that the problems encountered in the application and assessment of

extension of time claim may also cause delay to the completion of project. A survey conducted by Faridi and El-Sayegh (2005) shows that apart from preparation and approval of drawings, inadequate early planning of the project and slowness of the owner's decision making process which have been ranked high by the Contractors and Consultants, lack of communication and co-ordination between the parties involved in construction, conflict between the contractor and consultant, lack of data in estimating the activity duration and resources and inadequate progress review have also been identified as causes of project delay.

According to Ng, et al. (2004), the results obtained by using the delay analysis techniques will depend on the amount of information, time and resources available for the analysis. Therefore, contractor's proper record keeping and timely application are essential to enable the contract administrator in providing the necessary level of feedback on the application of extension of time. It has been suggested that in assessing the extension time claim 'the most important aspect of the work is to bring some transparency into the somewhat neglected aspect of uncertainties surrounding the planning process, providing a better understanding of the issues involved and, hopefully, a basis for negotiation and improved interdisciplinary relations' (Ng, et al. 2004).

## **Methodology**

According to Yin (1984), the type of research methodology to be adopted by a researcher depends on the type of research question posed, the extent of control a researcher has over actual behavioural events and the degree of focus on existing against historical events. The case study method was selected as it provides real information required to understand the underlying causes and effects of the topic under study. According to Patton (1987), 'case studies become particularly useful where one needs to

understand some particular problem or situation in great depth, and where one can identify cases rich in information'. Most of the research questions are "what" (exploratory) and "how" (explanatory) questions. For instance, what are the common problems encountered by contracting parties in dealing with extensions of time issue and, how contractors and contract administrators apply and assess the extension of time claim, respectively.

A case study will generate empirical data through investigation on contemporary phenomena within its real-life context, referred to as "reality" (White 2000). As the intention of this research work is to examine the current extensions of time issues in construction industry, case studies would enable the research to look at the whole situation and observe the inter-relationship of parameters during the claims process.

According to Yin (1984), in case studies, triangulation could be conducted by using multiple sources of data. The need for triangulation arises from the ethical need to confirm the validity of the research process. Thus, this study used multiple sources of evidence consisting of relevant correspondences, work programme, other relevant project documents, and structured interviews with relevant parties for the selected projects. Such evidence would enable the researcher to scrutinise and address a broader range of current extensions of time issues. Subsequent interviews with relevant project personnel were conducted to validate the case study findings.

## ***Targeted Case Studies***

Case studies are generalizable to theoretical proposition and not to populations or universes. A case study does not represent a 'sample', and the researchers' goal is to expand and generalize theories (analytical generalization) and not to enumerate frequencies (statistical generalization) (Yin 1984). Three (3) case studies have been selected for analysis and evaluation.

The subjects of case studies were completed construction projects in Kuala Lumpur utilising different standard forms of contract. The projects were selected based on the willingness of the contractors to share information. A balanced representation was thought to be obtained by using three different projects, each with a different form of contract. One project used the Malaysian Institute of Architects (MIA or PAM) 1998 form of contract, the second used the Institution of Engineers Malaysia (IEM) 1989 form, and the third used the Public Works Department (PWD) 203A form. In general, PAM 1998 form of contract is used for building projects, IEM form is used for engineering projects, while PWD form is mainly used for building as well as engineering projects. Therefore, the types of construction projects used for the case studies cover the building and engineering projects as can be deduced from the detailed background of the case studies. To overcome the obsolescence issue the selected projects should be beyond the year 1995.

All three case studies were based on information obtained from project documents including extracts of relevant records such as contract documents, notice of delay, work programme, correspondence and records relating to extension of time issues, minutes of meetings, progress reports, rainfall records and other data furnished by the relevant companies. The case studies and analysis are presented to highlight both the legal and technical aspects of claims submitted by contractors, validity of the grounds claimed, sufficiency of the methods used in arriving at the number of days claimed and the methods which contract administrators used in evaluating contractors' claims as recommended by Egglestone (1997) in the process of applying and evaluating extension of time.

### **Case Study No. 1**

This case study was on the construction of 3 blocks of 16-storey apartments that used the PAM 1998 form of contract. The original date

for completion as stipulated in the contract was 18<sup>th</sup> October 2002. The Contractor claimed an extension of time on the grounds of late start, late issuance of instructions by Engineer, variation works and unsuitability of designed piles. The Contractor submitted the notice of delay on 19<sup>th</sup> July 2001 for items summarised in Table 1. The Contractor had provided test reports, minutes of meetings, fax transmittals, instructions and other relevant documents, such as contract documents, original work programme and updated work programme in the application for an extension of time.

### **Case Study No. 2**

This second case study is on a sewerage project that used the IEM 1989 form of contract. The Contractor's claims for extension of time were mostly related to infrastructure works. The date for completion as stipulated in the contract was 20<sup>th</sup> May 2000. The Contractor claims were based on his entitlement on the grounds of delay of work caused by objections from adjacent land owners, objections from residents and the business community, variation works, inability to secure materials due to reasons beyond the contractor's control and poor soil condition on site. The chronology of events is summarised in Table 2.

It is noted that the extended completion date remained on 3<sup>rd</sup> January 2002 and the last extension of time application was to be determined by the Engineer. This case study focuses on events leading up to delay on the last extended completion date. The Contractor's claims are summarised in Table 3. The Contractor claimed for an extension of time totalling 92 days (after taking into consideration of concurrent delays) from the last extended date of completion, i.e. 3<sup>rd</sup> January 2002 to 5<sup>th</sup> April 2002.

The Contractor had provided documents and information in the application for extension of time including: the relevant clauses from the conditions of contract, letters from consultants regarding

background and synopsis of the relevant events and the Engineer's Instructions on temporary connection of existing force main to newly laid mild steel pipe, construction of receiving pit at pumping station, reinstatement of damaged property during pipe jacking works and removal of temporary connection.

### **Case Study No. 3**

The third case study is on the construction of a 10-storey administration building. The date for completion was stipulated to be 5<sup>th</sup> August 2000. The Contractor had claimed for an extension of time by reasons of exceptionally inclement weather, variation works, and financial cash flow problem as a result of economic crisis in Asia and non-payment by the Public Works Department (PWD) on the "agreed" variation works.

Prior to the application of extension of time No. 2, the Contractor had submitted an application for extension of time No.1 in June 2000 on the grounds of force majeure haze, (suspension of works upon environmental impact analysis) and exceptionally inclement weather (from 6<sup>th</sup> May 1997 to 31<sup>st</sup> March 2000). In the application for extension of time No.1, the Contractor highlighted that the total delay was 11½ months but that he only applied for 9 months extension of time. An extension of time of 9 months had been subsequently granted by PWD thus extending the completion date from 5<sup>th</sup> August 2000 to 5<sup>th</sup> May 2001. The Contractor issued a notice of delay and application for extension of time no. 2 on 26<sup>th</sup> April 2001 without supplying any relevant supporting documents. Upon request from PWD, the Contractor submitted a brief report on application of extension of time no. 2 on 15<sup>th</sup> May 2001. Contractor's claim for extension of time no. 2 is summarized in Table 4. Based on Table 4, the Contractor claimed that the project could be delayed up to a total of 24 ½ months. By implementing various mitigating measures, the Contractor applied for a total of 16

months of extension of time, bringing the completion date from 5<sup>th</sup> May 2001 to 5<sup>th</sup> September 2002.

In the application for the extension of time the Contractor had provided information based on the project method statement, original as planned programme, as-built programme, rainfall records (daily rainfall records from 1998 to 2001 from Meteorological Department), haze records, details of Government instruction to cease works during periods of haze, relevant correspondence and minutes of meetings, correspondence relating to delays in supply and sources of alternative materials, copies of instructions issued, progress reports and relevant drawings.

### **Analysis and Discussions**

The following discussion of the case studies will focus on the following aspects:

- a) Admissibility of contractor's claim – to observe whether there is any contractual provisions entitling the contractor to claim
- b) Validity of the grounds claimed by contractor – to observe whether the grounds for claim are justifiable
- c) Sufficiency of contractor's claim – to observe whether substantiation submitted by contractor is enough to prove the contractor's entitlement
- d) Substantiality of contract administrator's assessment – to observe whether contract administrator is able to provide valid reasons for his decision

#### *Admissibility of contractor's claim*

It is the Contractor's obligation to notify the Contract Administrator of any delay events as stipulated in the conditions of contract (see Table 5). The central issue is whether the Contractor's late notification will affect his entitlement to extension of time. One of the Contractor's arguments is that the notification requirement is not so stringent where the delay is caused by the Employer's

default or even caused by neutral events. It is argued that the Contractor should be entitled to extension of time based on the equitable principle that an Employer should not benefit from his own default in preventing the Contractor from meeting the project's deadline. The worst occasion is found in Case Study No.3 where the Contractor made an application for extension of time no.2 on 26<sup>th</sup> April 2001, 10 days before the imposition of liquidated damages on the Contractor by the Employer. Nevertheless, in all three (3) case studies, the Architect/Engineer/Superintendent Officer (S.O.) proceeded to evaluate the Contractors' submissions.

#### *Validity of the grounds claimed by contractor*

In Case Study No.1, the Contractor claimed that the late start of the project was due to the request to study and evaluate proposals by the Architect to use a proprietary pre-cast system in lieu of conventional construction method to save cost and time. It is legitimate to rely on Clause 23.7(v) of PAM 1998 provided that there is an Architect's instruction and it falls specifically under any one of the Clause 23.7(v) which states '*compliance with Architect's instructions under Clauses 1.2, 11.2, 21.1 or 21.4*'. Many of the claims in Case Study No.1 is based on Clause 23.7(vi) for delay due to late receipt of instruction from the Engineer. However, Clause 23.7(vi) stipulates a governing procedure that must be complied with before reliance can be made on this clause. It requires that there must be a specific application made by the Contractor before he can succeed in claiming. For example, the Contractor contended that he had applied for an instruction on 23<sup>rd</sup> November 2000 and has taken this date as the date from which the delay began.

The issue then is whether the Contractor's letter dated 23<sup>rd</sup> November 2000 can be considered as "a specific application" required by Clause 23.7(vi). The Contractor's letter dated 23<sup>rd</sup> November 2000 did not appear to have specifically applied for an

instruction from the Engineer. Such letter appears to be as mere notification. However, the Contractor's letter dated 27<sup>th</sup> December 2000, which clearly expressed a specific application and can be considered to be a proper request in compliance with the requirement of Clause 23.7(vi). Though the Contractor has the entitlement to claim, defence is available to the Employer on procedural grounds to challenge the Contractor's entitlement to extension of time.

Another issue in Case Study No.1 is the Contractor's claim that the designed pile foundations for Block C were inadequate resulting in numerous piles being broken or unset. Due to this circumstance, the Engineer had instructed for additional piles to be driven which amounted to a variation to the contract. If this was the case, the Contractor would be entitled to claim for extension of time. However, there was a dispute on this issue when the Engineer contended that it was not a variation, as the broken piles or unset piles were caused by the Contractor's failure to exercise due care and to adopt appropriate driving techniques suitable for the type of soil encountered.

In Case Study No.2, objections from lot owners, residents and business community had prevented the Contractor from commencing pipe jacking works on the date stated in the work programme. This hindrance is considered to be beyond the Contractor's control. Based on Clause 38(b)(i) and Clause 43(g) of the IEM 1989 form of contract, the ground upon which the Contractor based their claim is valid. The Contractor is also entitled for extension of time under Clause 43(e) of IEM 1989 form of contract for variation works. Delay was caused in the process of obtaining the appropriate coupling and T-joint size due to the uncertainty of the diameter of the force main. The basis of this claim was that time was required to source and obtain the coupling and T-joint from any supplier. This delay event would have given the Contractor the entitlement for an extension of time under Clause 43(j) of IEM 1989 form of contract for



inability to secure materials as are essential to the proper carrying out of the works due to reason beyond the contractor's control and which he could not reasonably have foreseen at tender stage. However, Clause 47(j) of IEM was deleted in the signed copy of the conditions of contract and there is no other provision in the contract, which allows the Engineer to grant extension of time caused by such event. As such, time for completion will be at large.

In Case Study No.3, the Contractor had claimed for extension of time on the ground of Clause 43(b) of PWD 203A form of contract: *"by reasons of any exceptionally inclement weather"*. This is a relevant event for which the Contractor is entitled to extension of time if he is able to demonstrate that this has caused delay to project completion. The Contractor had also claimed for an extension of time on the ground of Clause 43(e) of PWD 203A standard form of conditions of contract: *"by reason of S.O.'s instructions issued under clause 5 hereof, provided that such instructions are not issued due to any default or breach of contract by the Contractor or any sub-contractor nominated or otherwise"*. In this instance, the Contractor referred to the S.O.'s instruction for variation work found in Clause 5(a)(i) of PWD 203A standard form of contract. This is a relevant event for which the Contractor is entitled to extension of time if he is able to demonstrate that this has caused delay to project completion.

On the other hand, there is no valid ground for the contractor to claim for extension of time as a result of financial cash flow problem or non-payment by the Employer. Two basic remedies are available to the contractor – (1) determination of the contract, and (2) referring the dispute to arbitration. Unlike other standard forms of contract (PAM 1998 and IEM 1989), there is no contractual right in PWD 203A form for a Contractor to determinate the contract where there is a breach of contract by the Employer. However, this shall not stop the Contractor from claiming for damages under common

law and for the Contractor to determinate the contract if the breach is so significant so as to go to the root of the contract. Should the contractor decides to go for arbitration, Clause 54 of PWD 203A form of contract states that the Contractor must first invoke Clause 54 by referring any dispute arising from the contract to the S.O. for a decision.

If the S.O. fails to give a decision within 45 days, then the Contractor may proceed to refer the dispute to arbitration. However, the Contractor had done neither of the above. Cash flow problem caused by fallen of Malaysian Ringgit value and non-payment of agreed variation works are not valid grounds for claiming extension of time. There is therefore no contractual ground for the Contractor to claim for extension of time for cash flow problem.

#### *Sufficiency of contractor's claim*

In Case Study No.1, if the Contractor is to argue that the late start of the project had caused delay, by relying on Clause 23.7(v) of PAM 1998 form of contract, there must first be an instruction issued by the Architect. For the instruction to be valid and effective, it must be issued in writing or confirmed by the Contractor in writing pursuant to Clause 2.5. An examination of the Contractor's supporting documents showed that there was no correspondence from the Architect requesting the Contractor to evaluate proposals to use a proprietary system. There may be verbal communication exchanged instead. Such verbal communication may only be mere proposal and may not amount to a valid instruction under the contract. In the absence of any written document relating to the issue, the case would be one's word against the other, where the discovery of evidence relating to the statement could only be made by way of examination and cross-examination of witnesses.

It is doubtful whether the late receipt of notice as alleged by the Contractor really affected the progress of the works. Even though the Contractor had provided relevant supporting information, he did not submit

any justification for additional time caused by this event to show the cause and effect of this delay event. However, for delay event no.4 & 5, the Contractor had submitted relevant information including minutes of site meeting, work programme, site records and geo-technical engineer's report. Based on these, the information submitted was sufficient to support the claim for delay event no. 4 & 5.

In Case Study No.2, it is found that the Contractor's supporting documents did not provide sufficient information as the details and calculation of the number of delay days claimed are not known. The Contractor may find it difficult to carry out a proper delay analysis based on Critical Path Method to demonstrate the impact that each delay event has on the completion date. However the inability to demonstrate these impacts does not mean that the Contractor is not entitled for any extension of time due to events due to the Employer's default. Only PAM 1998 form of contract requires the contractor to submit details and particulars of expected effect of delay, the estimated length of delay and extension of time required. IEM 1989 and PWD 203A forms of contract do not contain express provision requiring the contractor to submit such particulars.

As for Case Study No.3, the weather records from the Meteorological Department were used as comparison against average project weather records. While this may show that the weather has been unusual, it may prove nothing in respect of delay to the progress of the works. For the Contractor to succeed in this claim, the Contractor must be able to demonstrate that the weather on a particular date has been exceptionally inclement compared to the average weather condition for, say the past 10 years, and that this has an effect of disrupting the work on that day. The information submitted by the Contractor had failed to demonstrate this. Based on Contractor's original work programme, earthwork and piling were considered critical activities to the project's

completion date. The increase in earthworks is inevitable due to the change in earthwork profile as directed by the Employer. Similarly, as a result of the revision in the platform level, the piling layout and design needed to be revised. The information submitted to support claims on the increased earthwork and piling quantities were sufficient, and they are considered variation under Clause 24(b) of PWD 203A form of contract.

#### *Substantiality of Contract Administrator's Assessment*

In Case Study No.1, the Architect granted no extension of time for the project's late start. It was decided that even if the Contractor was able to prove that a valid instruction had been issued, the claim did not fall within the ambit of the specific events referred to under Clause 23.7(v) of PAM 1998. As for the late instruction, the approach adopted was considered inappropriate because it did not clearly demonstrate how the late receipt of instruction affected the actual progress of the works and subsequently affected the completion date. There was no justification to granting an extension of time since the works were in fact not delayed. Having reviewed all the facts on the variation claims under the delay event no.3 and 4, the Architect granted a total extension of time of 86 days for the disruption caused to progress of work.

The main issue surrounding the unsuitability of designed piles relates to a technical matter that needs to be determined initially before any contractual liability can be identified. The Contractor claimed that the designed pile foundations for Block C were inadequate resulting in numerous piles being broken or unset. The Engineer alleged that the Contractor did not practise proper piling methods and that they failed to perform and complete the works as reasonably expected by an experienced contractor. The Engineer noted that the Site Agent and General Manager lacked experience and engineering knowledge

pertaining to piling works which resulted in lack of control of work on site. He therefore, recommended the Contractor's claim for delay event no.5 as not valid. Consequently, the Architect concurred with the Engineer's explanations and granted no extension of time to the Contractor for this event.

The validity of a party's technical argument cannot be determined until all evidence and testimony from both parties have been analysed and where appropriate, expert opinion sought. The piling work's duration for Block C was prolonged approximately 3 months (double the period originally planned). In deriving to who is liable for such delay, the facts need to be examined closely. The onus is on the Contractor to prove his case to secure the entitlement to an extension of time. Having reviewed all the delaying events, the Architect proceeded to evaluate the master programme, which showed that the Contractor intended to execute the 3 blocks almost concurrently. It appeared that 3 groups of resources were allocated to construct the 3 blocks and there was no direct dependency or shared resources between the activities in the 3 blocks. Based on Contractor's up-dated work programme, the Architect carried out a delay analysis. He had to consider: concurrent delays, change in critical path, float and other relevant issues. Accordingly, the Architect granted the Contractor 30 days extension of time having reviewed the evidence submitted by both the Contractor and the project Engineer.

The Engineer in Case Study No.2 did not provide any rationale for his decision on how and why a total of 72 days extensions of time had been granted to the Contractor. The Engineer issued his extension of time certificate on 19<sup>th</sup> August 2002 based on the Contractor's notification on 5<sup>th</sup> April 2002. Taking into account that the Contract's Extended Date for Completion was on 3<sup>rd</sup> January 2002, prompt evaluation of an extension of time claim was critical to the project. It can be argued that the Engineer

may not have met his contractual obligation stipulated by Clause 43 of the IEM 1989 form of contract which provides that:

*...if in the opinion of the Engineer, the completion of the Works is likely to be delayed or has been delayed beyond the Date for Completion stated in the Appendix or beyond any extended Date for Completion...the Engineer shall as soon as he is able to estimate the length of the delay beyond the date or time aforesaid make in writing a fair and reasonable extension of time for completion of the Works,...*

Most standard forms of contract require the contract administrator to determine extension of time within a reasonable time. Time is crucial especially for variation work so that the Contractor could have sufficient time to reprogram the work. In the Singaporean case of *Lian Soon Construction Pte Ltd v Guan Qian Realty Pte Ltd* (2000) 1 SLR 495, it had been decided that substantial delay in issuing extension of time by contract administrator without any explanation would render the delay certificate invalid. It is the Engineer's obligation to grant a fair and reasonable extension of time as soon as it is possible for him to estimate the impact of delay to project completion.

The S.O. in Case Study No.3 took a few months to assess Contractor's extension of time claim no.2. As for delay event no.1, the Contractor had failed to demonstrate that the weather condition on a particular day had been exceptionally inclement, that work was disrupted. The Contractor's claim then was rejected.

For the increase in earthwork quantities and revised piling design, the S.O. concurred with the productivity rate analysis adopted by the Contractor in arriving at an extension of 20 months to the completion date. Taking into consideration concurrent delays, the S.O. awarded 16 months of extension of time for event no.2 as claimed by the Contractor. From the information submitted, the Contractor did not demonstrate how many days of delay

had been caused by the additional pipe laying work under delay event no.4 as instructed by the S.O. At the time the case study was written, the Contractor has yet to demonstrate the delay days caused by the S.O.'s instruction. The S.O. requested the Contractor to resubmit his claim once he was able to demonstrate the delay when the external work was completed.

The Contractor submitted an extension of time claim no.3 for delay event no.4 for a total of 8 months. However, the S.O. decided that there was also culpable delay by the Contractor and granted an extension of time of only 6 months. The Contractor claimed that cash flow problem due to the unforeseen economic downturn and non-payment by the Employer on agreed variation works had contributed to the delay in the project. The Contractor argued that these problems had caused inability to expedite works by employing appropriate resources such as labour, plant or equipment. The risk of managing these resources generally rests upon the Contractor and delay caused by poor management should be borne by the Contractor. Therefore, the ground for this claim is unfounded. In any event, there are other remedies that the Contractor may pursue for breach of contract by the Employer where the Employer failed to pay for work done.

## **Conclusions**

The case study approach seemed to have worked in exploring the history of events and issues that are pertinent in discussing the obligations and responsibilities of parties involved and the sequence of events for a particular incident of claim on an extension of time. The case studies indicated that contractors often fail to comply with the contract's procedural requirement to submit timely notification of delay. Notices of delay are submitted late, often, just before the date of completion when the employer is about to impose liquidated damages onto the contractor. Contractors seldom keep proper

records on delay issues. This is one major aspect of contract management that contractors need to urgently address. Without proper record and documentation that is virtually nothing that can be used as supporting evidence. As a result, they face difficulty in demonstrating the cause and effect of the delaying event and this gravely affects their entitlement for extension of time. There is ambiguity and a lack of records or supporting facts as to when events occurred, how and who caused the delay and the impact they have on the project's completion date. Often, a contractor's extension of time claims consist only of the statement of occurrence of delaying events and their causes, and that these are submitted as one global delay claim. They also failed to inform contract administrator on the changes on works programme and their impact on the project's critical path. Meanwhile, updated works programmes are usually submitted only when the contractors wish to claim for extension of time. Even then, some of the works programmes do not indicate important facts such as the project's critical path to enable contract administrator to easily assess the time impact on the project.

The main problem encountered by contract administrators is that contractors tend to "inflate" their claims even though they are unable to provide proper justification for them. As a result, contract administrators need to spend a great deal of time to evaluate and establish reasonable and acceptable length of time to be granted to the contractor. It is observed that there is often delay by the contract administrators in processing and evaluating contractors' delay claims. Such delays may have prevented contractors from taking necessary mitigating action (if any) to reduce the impact of project delay. Contract administrators appear to have a negative and defensive attitude towards contractor's delay claims and seldom provide any rationale for their decisions on how and why a certain number of days extension of time have been granted to the contractors.

Suggestions on minimising problems encountered in the application and preparation of extension of time claim by contractor and analysis and justification of claims entitlement by contract administrator, include: adherence to the agreed procedure for the preparation and evaluation of delay claims, implementation of a set of agreed standardised delay analysis methodology, and proper documentation of project records to be used later for the purposes of claims and overcoming disputes by both parties. Promptness of processing and finalising claims and documentations of project records for claims purposes are utmost important issues in relation to claims. Perhaps, an increased sense of professionalism in construction could overcome some of the problems related to claims and extension of time.

It is recommended that other research methodologies such as questionnaire surveys and triangulation methods be used in future research to provide more insights and possible remedies into the problems encountered in the application and assessment of extension of time claims.

## References

- Adrian, J. J. (1988). *Construction Claims – A Quantitative Approach*, Prentice-Hall, United States.
- Bramble, B. B. and Callahan, M. T. (1992). *Construction Delay Claim*, 2<sup>nd</sup> Edition, John Wiley & Sons Inc., New York.
- CIDB 2000 Standard Form of Contract. Published by Construction Industry Development Board, Malaysia.
- Collier, K. (2001). *Construction Contracts*, 3<sup>rd</sup> Edition. Prentice-Hall, Inc. United States.
- Eggleston, B. (1997). *Liquidated Damages and Extensions of Time in Construction Contracts*, 2<sup>nd</sup> Edition, Blackwell Science Ltd., London.
- Faridi, A.S. and El-Sayegh, S.M. (2005). *Assessment of the Causes of Delays in the UAE Construction Industry*, Proceedings of 2005 International Conference of Construction & Real Estate Management, December 12<sup>th</sup> – 13<sup>th</sup>, 2005, Penang, Malaysia, Vol.1, 146-150,
- IEM 1989 Standard Form of Contract. Published by The Institution of Engineers, Malaysia.
- Lian Soon Construction Pte Ltd v Guan Qian Realty Pte Ltd (2000) 1 Singapore Law Reports 495.
- London Borough of Merton v. Stanley Hugh Leach Ltd (1985). 32 Building Law Reports 51.
- Ng, S.T., Skitmore, M., Deng, M.Z.M. and Nadeem, A. (2004). *Improving existing delay analysis techniques for the establishment of delay liabilities*, Construction Innovation, 2004, Vol.4, Issue 1, 3-17.
- O'Brien, J. J. (1976). *Construction Delay – Responsibilities, Risks and Litigation*. Cahners Books International, Inc. Boston.
- PAM 1998 Standard Form of Contract. Published by Malaysian Institute of Architects, Malaysia.
- Patton, M. Q. (1987). *How to Use Qualitative Methods in Evaluation*, Sage Publications, London.
- Pickavance, K. (2000). *Delay and Disruption in Construction Contracts*, LLP Reference Publishing, London.
- Powell-Smith, V. and Sims, J. (1989). *Building Contract Claims*. BSP Professional Books, London.
- PWD 203A Standard Form of Contract. Published by Public Works Department, Malaysia.
- Robinson, N. M., Lavers A. P., Tan, G. K. H. and Chan, R. (1996). *Construction Law in Singapore and Malaysia*, 2<sup>nd</sup> Edition. Butterworth Asia, Singapore.
- Thamesa Designs Sdn. Bhd. v. Kuching Hotels Sdn. Bhd. (1993). 3 Malayan Law Journal 25.
- Turner, D. F. and Turner, A. (1999). *Building Contract Claims and Disputes*, 2<sup>nd</sup> Edition, Addison Wesley Longman Limited, England.
- White, B. (2000). *Dissertation Skills*, Continuum, London and New York.
- Williams, T. (2003). *Assessing extension of time delays on major projects*. International Journal of Project Management, Vol.15, No.3, 181-186.
- Yin, R. K. (1984). *Case Study Research – Design and Method*, Sage Publications, London.

**Table 1: Grounds for Extension of Time for Case Study No. 1**

No.	Description of Event	Pursuant to Clause (PAM 1998)	Number of Days Claimed
1.	Late start of project.	23.7 (v)	30
2.	Late instruction on unset piles.	23.7 (vi)	37
3.	Late instruction on short piles & Variation instruction on short piles.	23.7 (vi) & 23.7 (v)	41 + 50
4.	Relocation of Block	23.7 (v), (vi), (x)	48
5.	C.Unsuitability of designed piles.	23.7 (v), (vi), (x)	74

**Table 2: Chronology of Events for Case Study No. 2**

No.	Date	Details
1.	24 <sup>th</sup> Oct 2001	Notification from Engineer that it is unlikely that the extended completion date no. 1 of 4 <sup>th</sup> November 2001 can be achieved.
2.	25 <sup>th</sup> Oct 2001	Contractor served notice of delay and claim for extension of time of 60 days.
3.	9 <sup>th</sup> Nov 2001	Contractor served notice and claim for 10 days extension of time.
4.	5 <sup>th</sup> April 2002	Contractor applied for extension of time and requesting completion date to be extended to 5 <sup>th</sup> April 2002.
5.	22 <sup>nd</sup> April 2002	Engineer granted extension of time of 60 days and complete date was extended to 3 <sup>rd</sup> January 2002 as per Contractor's application dated 25 <sup>th</sup> October 2001.
6.	23 <sup>rd</sup> April 2002	Engineer issued Certificate of Non-Completion on 4 <sup>th</sup> Jan 2002.
7.	12 <sup>th</sup> May 2002	Contractor reiterated that the Engineer had yet to evaluate their application for extension of time submitted on 5 <sup>th</sup> April 2002.
8.	31 <sup>st</sup> July 2002	Contractor requested for status update of the extension of time applications dated 5 <sup>th</sup> April 2002 and their letter dated 12 <sup>th</sup> May 2002.
9.	1 <sup>st</sup> August 2002	Engineer confirmed that assessment of extension of time is in progress.
10.	5 <sup>th</sup> August 2002	Engineer issued Certificate of Practical Completion.

Table 3: Grounds for Extension of Time for Case Study No. 2

No.	Description of Event	Pursuant to Clause (IEM 1989)	Number of Days Claimed
1.	Objection of works by third parties.	43 (g)	34
2.	Refusal by lot owner.	43 (e)	25
3.	Uncertainty of diameter of force main.	43 (j)	8
4.	Discovery of existing pipeline.	43 (e)	7
5.	Poor soil condition.	43 (e)	18
6.	Variation work.	43 (e)	10

Table 4 : Grounds for Extension of Time for Case Study No. 3

No.	Description of Event	Pursuant to Clause(PWD 203A)	Number of Months Claimed
1.	Exceptionally inclement weather.	43 (b) 4.5	Disruption due to resource re-allocation Affect overall work progress
2.	Increase in earthwork quantities.	43 (e) 12	
3.	Revised piling design.	43 (e) 8	
4.	Additional water pipe laying.	43 (e)	
5.	Financial cash flow problem.	43 (j)	

Table 5 : Notice of Delay Clause

Key Issues	PAM 1998	PWD 203A	IEM 1989
When to serve a Notice of Delay?	<p>Clause 23.1  <i>If and when it becomes reasonably apparent that the progress of the Works is being or likely to be delayed beyond the Date for Completion the Contractor shall forthwith of the occurrence of such event notify the Architect in writing identifying the relevant events causing the delay,...</i></p>	<p>Clause 43  <i>Upon it becoming reasonably apparent that the progress of the Works is delayed, the Contractor shall forthwith give written notice of the causes of delay to the S.O...</i></p>	<p>Clause 43  <i>Upon it becoming reasonably apparent that the progress of the Works is delayed, the Contractor shall forthwith give written notice of the causes of delay to the Engineer...</i></p>

