

**REVISED EXTENSION OF TIME CLAUSE  
IN PAM FORM 2006  
COMPARED TO PAM FORM 1998**

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**REVISED EXTENSION OF TIME CLAUSE  
IN PAM FORM 2006  
COMPARED TO PAM FORM 1998**

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**A project report submitted in partial fulfilment of the  
requirements for the award of Bachelor of Science  
(Hons.) Quantity Surveying**

**Faculty of Engineering and Science  
Universiti Tunku Abdul Rahman**

**April 2012**

## DECLARATION

I hereby declare that this project report is based on my original work except for citations and quotations which have been duly acknowledged. I also declare that it has not been previously and concurrently submitted for any other degree or award at UTAR or other institutions.

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**APPROVAL FOR SUBMISSION**

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## ACKNOWLEDGEMENTS

I would like to thank everyone who had contributed to the successful completion of this project. I would like to express my gratitude to my research supervisor, Ms. Felicia for her invaluable advice, guidance and her enormous patience throughout the development of the research.

In addition, I would also like to express my gratitude to my loving parents and friends who had helped and given me encouragement to complete my final year project within the time frame. Especially my former employer, Sr Kwan Hock Hai who is the director from Perunding PCT Sdn Bhd, has given me guidance and encouragement while selecting this topic and evaluate the questionnaires.

Secondly, I would like to thank to my former senior, Mr. Chin Wei Min who is one of the employees from Perunding PCT Sdn Bhd, who had guided and improved the language used in the questionnaire in order to ensure my questionnaire has conveyed the right and correct message to the respondents. Besides, he is also willing to borrow the reference books from the library of Perunding PCT Sdn Bhd for my research. Furthermore, I also would like to appreciate the effort of advisor and also my lecturer for subjects of Contract Administrative I and II - Mr. Lim Chai Chai who shared his personal experience and helpful knowledge to me which is related to my topic.

Last but not least, I would like to thank my friends who were willing to share their knowledge and ideas and these were helpful to get the task done. Once again, I really appreciate the effort contributed by my supervisor and thanks to her since she always provide excellent guidance for the overall progress and provided me useful ideas and comment for the betterment of this research.

**REVISED EXTENSION OF TIME CLAUSE IN PAM FORM 2006  
COMPARED TO PAM FORM 1998**

**ABSTRACT**

Some said time is equals to money. Yet, time is not necessary equivalent to money under contractual terms. There are various grounds provided in the contract that allow the Contractor to claim for time with/without money if such a delay is caused by natural disaster, agent's or Employer's default. PAM Form of Contract happens to be the most famous Standard Form of Contract and the latest version of the PAM Form is launched to replace the previous version in July 2007. Therefore, the risk allocation for time, money, matters, quality issues and dispute resolution between the Contractor, Employer and Consultant team has been shifted significantly in the latest version of PAM Form. Besides, such reallocation of risk proportionately increase the Employer's exposure and burden in terms of claims and payment while providing more possible ground for disputes between the Contractor and Employer. The objectives for this research is to determine whether the changes of EOT clause between PAM Form 1998 and 2006 are for the betterment of the construction industry or otherwise; to determine the effects of the changes to both the Employer and Contractor. The research methodology of this research includes literature reviews, data collection, and analysis. Data is gathered from the response of questionnaire survey with the Professional Quantity Surveyors. The research findings showed out that the additional provision in revision of EOT by the Architect is not betterment for the construction industry. This research also highlighted that the changes in the time frame for submission and additional provision in changes to law/terms of authority/services as Relevant Events are in the favour to the Employer; the additional provision in instruction for insufficient information and revision of granted EOT by Architect, execution of work under a Provisional Quantity and Suspension by the Contractor as Relevant Events are in the favour to the Contractor.

As a recommendation, the relevant parties should organise more seminars or conferences regarding revised EOT provision under PAM Form, to deliver the knowledge of the legal studies of the changes to the construction parties in order to make sure they are aware on the changes in the revised EOT clause under PAM Form.



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## LIST OF ABBREVIATIONS

UK	United Kingdom
EOT	Extension of Time
LAD	Liquidated Ascertain Damages
SFOC	Standard Form of Contract
PAM	Pertubuhan Akitek Malaysia
IEM	The Institution of Engineers, Malaysia
JKR	Jabatan Kerja Raya
PWD	Public Works Department
CIDB	Construction Industry Development Board Malaysia
FIDIC	International Federation of Consulting Engineers
ISM	The Institution Surveyors, Malaysia
NSC	Nominated Sub-Contractor
QS	Quantity Surveyor
EC	Excusable Compensable
ENC	Excusable Non Compensable
CEOT	Certificate of Extension of Time
CNC	Certificate of Non Completion
CPC	Certificate of Practical Completion
AI	Architect's Instruction
CAI	Confirmation of Architect's Instruction
BLR	Building Law Report
Lloyd's Rep	Lloyd's Law Report
Con LR	Construction Law Report
AC	Law Reports (Third Series) Appeal Cases
BCL	Building and Construction Law (Australia)
NTSC	Northern Territory Supreme Court [Neutral Citation] (Australia)
AMR	All Malaysia Report



## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Background Studies**

The old adage, “time is money” and some might doubt that does time is really equals money? From the seminar held by Kuala Lumpur Regional Central for Arbitration (KLRC) – Delay and Extension of Time (2012), the speaker – Derek Nelson does mentioned that time is not necessary equals to money. According to him, once a Contractor has secured an Extension of Time (EOT) and relief from Liquidated Ascertain Damages (LAD), thoughts quickly turn to the recovery of those costs incurred due to the delayed completion date such as Prolongation Costs. During his performance, he linked back the previous statement to the questions whether time is equals money or otherwise and come out with a conclusion with that, time is not necessary equal to money in contractual terms since not all the delays giving an EOT will necessarily entitle the Contractor to recover prolongation costs. In details, the delay in time can be separated into excusable and non-excusable delay, and excusable delay can be divided into ‘compensable’ and ‘non-compensable delay’ categories.

The above statement is supported by Gene Worthman (2005), whereby a compensable delay entitles the delayed party which is the Contractor, to monetary compensation for the period of delay due to acts or omissions by the Employer or his agents like Architect, while non-compensable delay arise from neutral events such as exceptionally adverse weather, third parties, etc. which is beyond control by both of the parties.

Besides, the procedures for resolving the delay-oriented issues could vary depending on various factors such as the Standard Form of Contract (SFOC) used (Palaneeswaran & Kumaraswamy, 2007). Further to that, the different version of SFOC, the procedures and terms and conditions to solve the delay also will be different. In EOT Clause 23 in PAM Form, there are only twelve relevant events at version 1998 and this is expanded to twenty-four relevant events in in version 2006 including some new provisions with the existing events (Ong & Ho, 2008).

However, an extension of time provision is inserted in a contract for the benefit of both the Contractor and the Employer (Thomas, 2001). Besides that, EOT claims are frequent in many construction projects and standard forms of contract may provide the provision for EOT due to excusable delay (CEIM, 2010). So, the Contractor is entitled for an EOT or even with loss and expenses if they complied with the clause stipulated in the Standard Form of Contract.

Once a claim has been presented, the Employer and Contractor can come to an agreement concerning the claim, thereby, create a change order or a modification, or they may disagree and create a construction contract dispute (Zaneldin, 2006). According to the study of Managing Construction Disputes, the impact of construction disputes in client's organisation are time consuming, extensive high cost, loss of reputation and sour relationship between stakeholders and also loss of profit and business validity (Motsa, Managing Construction Disputes, 2006). In order to avoid such problems, the contract parties must understand their duties and liabilities as spelled out under the different types of SFOC in relation to the issue of delay.

## **1.2 Problem Statement**

According to Construction Contract Policy – Improved Procedures and Practice (1989), Uff had defined that:

“The development of construction contract forms stands at a watershed: the old forms are losing their influence; instead of orderly change, the existing institutions are being outflanked by the introduction of new forms and new systems; and the institutions are tending to respond by promoting more and more diverse forms of their own.”

Besides, revision to many forms of contract were often driven by decisions in the courts and these revisions sometimes were to have a continuing influence on the drafters of new contracts and on the understanding of the law which affects contracts in construction industry since it became the subject of later cases (Thomas, 2001). In PAM Form 2006 edition, it is considered the latest version of SFOC among the others for the usage of private project. Besides, there are over 90% of the private sector projects are based on PAM Form as the project building contract (Ong & Ho, 2008).

In delay issue, there is a time bar which requires notices complete with particulars in respect of extension of time claims and more of relevant events to claim for EOT (Rajoo, 2010). Further to that, the provisional quantities and some new relevant events causing the delay will also likely to bring some effects to the parties involved under the contract in construction industry.

Furthermore, those who advise on contract forms should take precaution to ensure the parties are aware not only improvements in PAM Form 2006 edition, but also changes in the parties' obligations and risks under the new form (Ong & Ho, 2008). Furthermore, the PAM Form 2006 edition does not follow the risk allocation and approach of the PAM Form 1998 edition, and the risk allocation for time, money matters, quality, issues and disputes resolution between contractor, employer and consultant team has been shifted significantly (Rajoo, 2010).

The changes of the provision might be in the form of amendment and addition towards the provision in relation to time, cost, quality and other contract matters (Ong & Ho, 2008). Thus, Employers and Contractors may potentially give

rise to more disputes between them since the provision are reworded, reshuffled and amalgamated away from the PAM Form 1998 edition (Rajoo, 2010). Hence, it is necessary for the parties to the contracts in this industry, especially the Employer and the Contractor to have a complete understanding on the changes in EOT clause under PAM Form 2006.

### **1.3 Aim and Objectives**

The aim of this research is to investigate the changes between PAM Form 1998 and 2006 edition in relation to EOT. There are several objectives to support the aim stated above. They are as follow:

- To determine whether the changes of clause between PAM Form 1998 and 2006 are for the betterment of the construction industry or otherwise.
- To determine the effects of the said changes to both the Employer and Contractor.

### **1.4 Scope or Limitation of the Research**

The scopes of research are:

- The EOT provision provided under PAM Form 1998 and 2006 edition.
- Survey is conducted within the vicinity of Klang Valley and Selangor.
- Questionnaire surveys are gathered from consultant Quantity Surveyor only.
- Related construction cases in Malaysia and United Kingdom (UK).

## **1.5 Significant of Research**

Having regards to the problem statement, the amendment and addition of provisions in SFOC will bring some effects to Employer and Contractor who will enter into a contract since the risk and responsibility is allocated differently to both of the contract parties if compared with the previous version of SFOC. Therefore, the awareness of changes in the conditions of contract is very important for both parties since the PAM Form 2006 edition is still cluttered with deficiencies, material omissions and provision which an average building construction practitioner may find difficult to comprehend and implement (Rajoo, 2010).

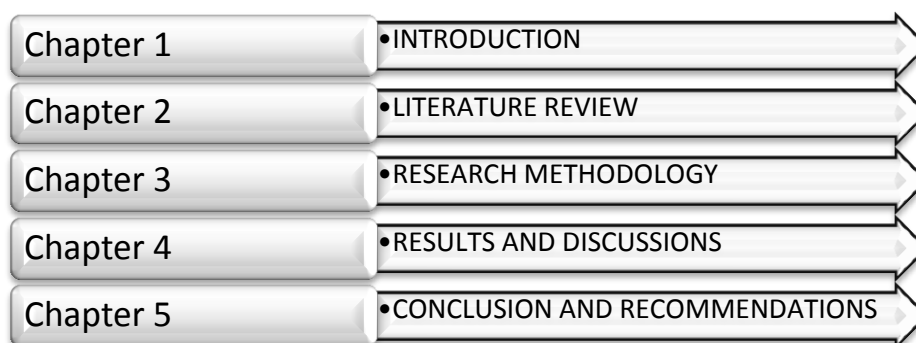
Therefore, there is an urgent need for research to study on the said PAM Form 2006 to increase the awareness of the Contractor when they intended to claim for said compensation based on it. Besides that, identifying the changes in PAM Form between 1998 and 2006 version are able to let the construction players know and realise the amendment in the latest EOT clause.

Furthermore, determine the changes of EOT clause between PAM 1998 and 2006 are for the betterment of the construction industry or otherwise is able to reflect the opinion or view from the players in construction industry. Apart from that, identify the effects of the said changes for both of the Employers and Contractors are able to figure out the level of impartiality to both of the contract parties in relation of EOT clause under PAM Form 2006.

Throughout the research, it is not only to figure out the awareness of the changes in EOT clause from the players in construction industry; yet it is to provide a better understanding on the rights and responsibilities when the players are dealing with EOT clause in the latest form of PAM Form 2006 edition.



## 1.6 Road Map to Chapters of Research



**Figure 1.1: Road Map to the Chapters of Research**

This research report comprised of five (5) chapters. The first chapter consists of the background research and description of past research on delay provision in the construction industry. Besides, rationale of this research, aim and objectives, scope and limitation is briefly described in this chapter as well.

The next chapter is literature review which consists of the review about the delay of construction industry in Malaysia, introduction of SFOC and PAM Form edition. After all, the differences between PAM 98 and 06 for EOT clause and sub-clauses are tabulated and rationale of changes are analysed in this chapter as well.

Chapter 3 is research methodology which described the method adopted by the author for this research. Then, the data gathered from the questionnaires is presented in Chapter 4. Further to that, the ranking is done based on frequency analysis and average index analysis.

Last but not least, conclusion and recommendations are presented in chapter 5. The recommendation for further research is discussed in this chapter.

## **CHAPTER 2**

### **CONTRACT PROVISION OF EXTENSION OF TIME**

#### **2.1 Delay in Malaysian Construction Industry**

The problem of delays in construction industry is considered as a common phenomenal in every country and including Malaysia (Murali & Yau, 2007). Based on research done by Aibinu and Jagboro (2002), delay of the construction can lead to time overrun, cost overrun, dispute, arbitration, litigation and total abandonment. Thus, most construction projects in the United Kingdom (UK) are carried out under a standard form of contract (or subcontract) and all of the standard forms provide clauses for dealing with delays to the project (Lowsley & Linnett, 2007).

Generally, the definition of the completion date not only act as a due date that required the Contractor to complete their works; it also provide the right to the employer to impose liquidated damages to Contractor when their works are delayed or unable to complete before the due date. Therefore, every particular project must have a definite date from which to calculate liquidated damages (Chappell, Smith, & Sims, Building Contract Claims, 2005).

According to Handbook for PAM Contract 2006 (2010), most Employers believe that EOT clause is generally for the benefit of the Contractor. On the face of it, by providing the Contractor more reasons for extension of time, it would reduce his liability for Liquidated Damages (Tan, Low, Chee, & Sum, 2010). However, if there were no contractual provision for extension of the contract period, then in

contracts having a specified date for completion and a liquidated damages clause, the employer would be purporting to be entitled to recover liquidated damages from the Contractor for failure so to complete, whatever the reason for delay might be (Robinson, Lavers, George Tan, & Chan, 1996). When the employer is in default and causes delay the Contractor can claim damages for breach of contract and the Contractor can in many instances make a contractual claim for loss and expense for a sum ascertained by the Engineer or Architect based on the standard forms (Uff, 1989).

In the Contract, the purpose of the EOT clause is defined to preserve the Employer's right to Liquidated Damages (Thomas, 2001). Another word, even if such right is deferred in time due to the operation of the EOT mechanism, it is still available after that deferment (Robinson, Lavers, George Tan, & Chan, 1996). In the event the Contractor fails to complete by the Completion Date due to some action for which the Employer (or Architect acting as agent for the Employer) is responsible (Tan, Low, Chee, & Sum, 2010). From the fact above, such provision is able to prevent the Contractor from abusing or simply claim for EOT for the particular projects and fix a later Completion Date in order to get rid of the liability for Liquidated Damages due to incompleteness of works unless the defaults are made by the Employer (Garland, 1989).

The provision of extension of time for is always provided in every form of contract (Thomas, 2001). Further to that, each of the form of contract has its own particular procedures and allocations of risk when it comes to time issues (Lowsley & Linnett, 2007). Besides that, such particular procedures and allocations of risk also depends on the editions of particular form of contract since the provisions are amended and does not follow the risk allocation and approach of the previous form (Rajoo, 2010). For example in PAM 2006 Form, the increase in the number of Relevant Events and number of matters entitling the Contractor to loss and/or expenses effectively reduces the risks borne by the Contractor, and proportionately increases the employer's risks in respect of time and costs (Ong & Ho, 2008). Therefore, most of the employer may prefer the previous version since it may viewed

as too-Contractor like CIDB Form of building contract which is hardly used in Malaysian construction industry (Rajoo, 2010).

## **2.2 Introduction of Standard Form of Contract**

According to Professor John Uff (1989), there are several proper objectives of any standard form for construction contracting. The objectives are:

- Providing necessary machinery for the efficient administration of the work;
- Providing an apportionment of risk rising out of the performance of the work and the end product of the work;
- Providing for possible contingencies regarding price, time and other variables;
- Providing for the coverage of any risks which are not to be borne ultimately by the parties (usually by insurance);
- Facilitating proper management of the works being carried out;
- Achieving proper economy in regard to performance of the works and the finished product;
- Maintaining sufficient flexibility to attain the proper objectives of the contract;
- Dealing appropriately with disputes which may arise out of the contract.

Therefore, it is necessary to use the suitable standard form for construction contracting to suit the projects. There are four (4) major types of SFOC published by various organisations in Malaysia as listed below:

- The Institution of Engineers, Malaysia (IEM),
- Construction Industry Development Board Malaysia (CIDB),
- Public Works Department (PWD) and
- Pertubuhan Akitek Malaysia (PAM).

For IEM form, it is suitable for most of the civil and infrastructure construction and it is published based on International Federation of Consulting Engineers (FIDIC) form by French organisation (Oon, 2002). For PWD form, it is drafted by the government agencies for works in the public sector.

For CIDB form, it launched in year 2000 and is suitable for main building works in both private and government sector (Khairuddin, Masamitsu, Toshihiko, & Kiyoshi, 2007). Yet this is considered as too pro-Contractor and very difficult to suit the Malaysian projects in the construction industry (Rajoo, 2010). On the other hand, PAM form is suitable for private sector commercial, institutional, housing and other building projects. In addition, it is estimated about 90% of the building contracts in this sector are based on a PAM form (Ong & Ho, 2008). The latest version of PAM building contract form is 2006 edition and previously was 1998 and 1969 edition.

Although the new PAM Forms are dated 2006, they were officially launched in 2007 (Singh H. K., 2009). The significant changes of provisions are affecting the rights of parties involved due to reallocation of rights or obligations are different for those who are used to PAM 1998 edition (Rajoo, 2010). After obtaining confirmation from the Contract Department of PAM, PAM has stopped printing the PAM Form 1998 since two years ago.

### **2.3 History of PAM Form**

Pertubuhan Akitek Malaysia (PAM) is one of the publishers of Standard Form of Contracts and it is normally used for private sector project. The first edition of PAM SFOC was published in 1969 with the corporation of Institution of Surveyors, Malaysia (ISM) and therefore it known as PAM/ISM 1969. Besides that, it is modelled based on Joint Contracts Tribunal Form (JCT) version 1963 (Rajoo, Davidson, & Singh, 2010) and the Royal Institute of British Architect (RIBA), case law in the United Kingdom, Singapore and Hong Kong were applicable to Malaysian cases (Tan, Low, Chee, & Sum, 2010).

PAM 1998 version of SFOC comprising of PAM 98 (with quantities), PAM 98 (without quantities), and PAM 98 NSC were officially launched in October 1998 and replaced the PAM/ISM 1969 (Tan, Low, Chee, & Sum, 2010). Before that, Mr. Jerry PM Sum who was the chairman of Building Contract Review Committee of PAM, was prepared all the final documents in 1990 yet he was unable to launch officially during that time since he received objections and reservation from several members of the architectural profession and a body representing the Contractors which called Master Builders Association Malaysia (MBAM) (Rajoo, Davidson, & Singh, 2010). After that, Professor Vincent Powell-Smith was engaged by PAM to revise and take into consideration the comments given by other professionals and representative who involved in the previous stage. After that, Mr. Sundra Rajoo and Mr. KC. Cheang had involved to complete the revision of the PAM/ISM 1969.

According to Handbook for PAM Contract 2006 (2010), the Contract Review Committee of PAM is chaired by Dato' Kington Loo to look into the amendments to be made to PAM 98 and come out with a replacement form to replace this version. Besides, the committee members included two (2) Architects; Ar. Tan Pei Ing, Ar. and Chee Soo Teng, a Quantity Surveyor; Sr. Low Khian Seng, and a lawyer; Mr. Lim Chee Wee. In March 2003, the said Chairman passed away, and the chairmanship was taken over by Ar. Tan Pei Ing. In 2003, an Architect; Ar. Jerry Sum Phoon Mun had joined the committee, and a lawyer; Prof. Dr. Colin Ong also joined the committee and contributed on some legal aspects of the final version of the forms when the drafting of the forms was in an advanced stage in 2005.

Finally, a replacement version for PAM Form 1998 has officially launched in April 2007 which is the PAM Contract 2006. The latest version for PAM Form comprises of PAM 06 (with quantities), PAM 06 (without quantities) and PAM 06 Nominated Sub-Contract, which are same with the previous version of this Form of Contract (Tan, Low, Jerry, Chee, 2011).

## **2.4 EOT Provision in PAM Form 2006**

For EOT provision, the relevant clause is based on Clause 23.0 Extension of Time (EOT) in both edition of the contract form. As to compare the EOT clause with PAM Form 1998 and 2006 edition, PAM Form 1998 had seven (7) main clauses and twelve (12) sub-clauses while PAM 2006 has ten (10) main clauses and thirty-one (31) sub-clauses. Apparently, there are three (3) main clauses and nineteen (19) sub-clauses added into PAM 2006 after the revision of 1998 edition.

Although the contract parties are the Contractor and Employer, Yet, Architect is here to act as the Employer's agent to assess and certify the application of EOT by the Contractor (Oon, 2002), and the Contractor is required to comply the terms and conditions that set out under the contract. Therefore, the Architect and Contractor parties are required to highlight their rights and obligation while doing comparison within two version of PAM Form.

Under Clause 23.0 in both version of PAM Form has described the rights and obligation of the Contractor, and stipulated the relevant events which allowed the Contractor to claim for EOT. The main clauses in PAM Form 2006 for Contactor's rights and obligation are clauses 23.1, 23.2, 23.3 and 23.6; Architect's rights and obligation are clauses 23.3, 23.4, 23.5, 23.7, 23.9, and 23.10, and relevant events are stated under clause 23.8.

## 2.5 Changes of Clause 23 in PAM 2006

### 2.5.1 Contractor's Obligation under PAM Form 1998 & 2006

**Table 2.1: Contractor's Obligations**

PAM 2006		PAM 1998	
Clause	Explanation	Clause	Explanation
23.1 (a, b)	<p>Contractor has to give written notice to the Architect when he intends to claim for EOT. And such notice must be given within twenty eight (28) days from the date of the AI, CAI or the commencement of those Relevant Events that stated in Clause 23.8.</p> <p>Besides that, giving of the said written notice will be considered as condition precedent for a Contractor to claim for EOT.</p> <p>The Contractor has to send his final claim for EOT within 28 days of the end of the cause of delay, otherwise the Contractor is deemed that he assessed that such Relevant Event will not delay the completion of works beyond the original completion date.</p>	23.1	When the works will be delayed and unable to complete before the Date of Completion (DOC), Contractor has to notify the Architect in writing and identify the causes of delay, state the expected effect and the estimate of EOT required.
		23.2	The claim of EOT must not intend to cure any default of or breach of contract by the Contractor.
		23.3	Contractor has to submit his application for EOT to the Architect within reasonable time before DOC.
		23.4	Contractor is responsible to use his best endeavour to prevent or reduce the possibility of delay where the completion of works beyond the Date of Completion as stated in the Contract.



Table 2.1: Contractor's Obligations (Cont'd)

PAM 2006		PAM 1998	
Clause	Explanation	Clause	Explanation
23.2	Contractor should send a copy of his application for EOT to Nominated Sub-Contractor (NSC) immediately when the EOT is related to NSC.		
23.3	Contractor has to submit further documents to support for such application within another 28 days from the date of receipt of the Architect's instruction when the information is insufficient to enable the Architect to examine such application.		
23.6	Contractor is responsible to use his best endeavour to prevent or reduce the possibility of delay where the completion of works beyond the Date of Completion that as in the Contract.		

From the table 2.1, there are three (3) significant changes for Contractor's obligation between PAM 2006 and 1998. The significant changes are as following:

- Time frame for submission,
- Condition precedent, and
- Extend a copy to NSC for Contractor's application for EOT.

### **2.5.1.1 Time Frame for Submission**

Time frame for submission can be separated into three (3) categories under Contractor's obligation in PAM Form of Contract which is to submit first, final and further written notice to the Architect. Firstly, PAM Form 2006 is required the Contractor to send a written notice to the Architect for his intention to claim for EOT according to PAM 2006 Clause 23.1 (a), within 28 days from the receipt of Architect's Instruction (AI), Confirmation of Architect's Instruction (CAI) of commencement of Relevant Events.

Secondly, the Contractor has to submit final claim for extension of time within 28 days of the end of the cause of delay. In other words, the Contractor must give notice within twenty-eight (28) days of relevant event, followed by supporting particulars within the twenty-eight (28) days of cessation of delay or it shall be deemed that the Contractor have waived his right (Ong & Ho, 2008).

Lastly, the submission of further documents and information by the Contractor is within 28 days as well from the receipt of AI to support such application when the Architect is of the opinion that the particulars submitted by the Contractor are insufficient to enable him to assess the application for EOT. Yet, such time frame is subject to change by the Employer due to the complexity and time performance to suit the project (Tan, Low, Chee, & Sum, 2010). If the Contractor failed to submit the particulars within the time stated, then he should it deemed that

the Contractor has assessed that such Relevant Event will not delay the Completion of the works beyond the Completion Date (Rajoo, Davidson, & Singh, 2010).

In PAM 1998, the time frame for the said issues is not expressly stated, while it was stated that the period required is ‘reasonable time’. Therefore, time becomes at large when the obligation to complete within the specified time for completion of a contract is lost (Eggleston, 2009). In well-known case of *Pantland Hick v. Raymond & Reid*<sup>1</sup>, the House of Lord said that where the law implied a contract shall be performed within a reasonable time it has:

“...invariably been held to mean that the party upon whom it is incumbent duly fulfils his obligations, notwithstanding protracted delay, so long as such delay is attributable to cause beyond his control and he has neither acted negligently nor unreasonably.”

Therefore, the ‘reasonable time’ does not mean ‘anytime considered as reasonable by the Architect’ (Tan, Low, Chee, & Sum, 2010). In other words, the reasonable time is very subjective to the Contractor. Besides, there are several factors to define reasonable time which are extra works given, exceptional weather, strikes, production capability of the contractor, his management, and financial resources, and his other contractual commitments (Eggleston, 2009).

In the case of *Percy Bilton v Greater London Council*<sup>2</sup>, the Lord Fraser commented that:

“The general rule is that the main contractor is bound to complete the work by the date for completion stated in the contract. If he fails to do so, he will be liable for liquidated damages to the employer. That is subject to

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<sup>1</sup>[1893] AC 22

<sup>2</sup>[1982] 20 BLR 1

the exception that the employer is not entitled to liquidate damages if by his acts or omission he was preventing the main contractor from completing his works by the completion date.”

Hence when the term “time at large” is used, it means that the Contractor shall not bound to complete the Works before the completion date stated in the Contract, yet he is required to complete the Works within a reasonable time without the threat of being held in culpable delay and therefore being liable to the Employer for LAD.

In other words, reasonable time is said to be time at large when there is no specific date or new date stated in the contract to complete a task and provided a contractor has not acted unreasonably or negligently, he will complete within a reasonable time despite a protracted delay and is due to causes outside his control (Chappell, Smith, & Sims, *Building Contract Claims*, 2005). According to the research done by Ong (2007), one of the meanings of reasonable time is:

“Reasonable under the existing circumstances, assuming that those circumstances, in so far as they involve delay, are not caused or attributed to by him and excluding circumstances which were under the control of the Contractor, considering what in ordinary circumstances was a reasonable time for performance was in fact extended by extraordinary circumstances outside his control.” (pp. 80-81)

Thus, the time frame provision expressly added into PAM 2006 in order to replaced ‘reasonable time’ with a definite period to avoid subjecting it to argument (Tan, Low, Chee, & Sum, 2010). According to the seminar on PAM Contract 2006 & PAM Sub-Contract 2006 which was carried out by Ong and Ho in year 2008, it stated the Contractor should beware of the ‘time bar’ in respect of claims for EOT, and ensure that notices and particulars are given in a timely manner. Further to that,

the time bar is twenty-eight (28) days provided to Contractor to give notice of EOT claim, and followed by supporting particulars within another twenty-eight (28) days of cessation of the delay.

Under The PAM 2006 Standard Form of Building Contract (2010), it mentioned the rationale of those twenty-eight (28) days for notice requirement. That is due to Clause 21.1 of the Nominated Sub-Contract Form, the NSC has to submit notice to the Contractor within twenty-one (21) days and the Contractor has a further seven (7) days for follow up action. Further to that, the Clause 23.1(b) does give some flexibility for such period to be enlarged but it sets out an express procedure that must be satisfactorily followed before this can be affected. Should the Contractor consider that he may not able to meet the prescribed 28 days period and he requires more time, he has to officially apply to the Architect in writing for an extension with cogent reasons to support his application (Rajoo, Davidson, & Singh, 2010).

#### **2.5.1.2 Condition Precedent**

The condition precedent had taken into account in the latest version of PAM contract. If a Contractor or Sub-Contractor failed to send the written notice is does not mean that they loss the right to claim for EOT unless the contract expressly stated that such application is a condition precedent in order to claim for EOT (Knowles, 2005). In *Bremer Handelsgesellschaft MBH v. Vanden Avenne-Izegem*<sup>3</sup>, Lord Salmon was of the opinion that for a notice to be a condition precedent to the right to an extension of time, the wording of the clause would need to be such that a failure to serve notice would result in loss of right. In other words, when the notice is considered as a condition precedent under the Contract in order to claim for EOT; the applicator will loss his right for such claim if the applicator failed to submit such notice as stated in the Contract.

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<sup>3</sup>[1987] 2 Lloyd's Rep 109

This view is supported by Brian Eggleston in his book entitled *Liquidated Damages and Extension of Time in Construction Contract* (3<sup>rd</sup>Edn.) (2009). According to facts that raised by him, there are three conditions precedent for liquidated damages under JCT 2005, which as following:

- a) The Contractor shall fail to complete on time,
- b) The Architect shall issue a certificate to the effect, and
- c) The employer shall give written notice for his intention to deduct damages.

Failure to comply with condition precedent will render the deduction of liquidated damages unlawful and the Contractor will be able to sue for their return (Eggleston, 2009). Therefore, giving of written notice to Architect for Contractor's intention to claim for EOT is condition precedent in PAM Form 2006, otherwise Contractor is deemed that he is taken to have assessed that such Relevant Events will not delay the completion of works beyond the Completion Date, and thus the Contractor is considered to have waived his right to any extension of time premised on such Relevant Events (Tan, Low, Chee, & Sum, 2010).

In the case of *Turner Corporation Ltd v Austotel Pty Ltd*<sup>4</sup>, the court held that a party to a contract cannot rely on preventing conduct of the other party where it failed to exercise a contractual right which would have negated the effect of that preventing conduct. The statement also supported by the case of *Graymark Investment v Walter Construction Group*<sup>5</sup>, the Contractor is entitled to an EOT since he failed to meet the notification requirements stated in the Contract. Although the arbitrator found that the Contractor was entitled to an EOT since such delay is caused by the Employer, but the court refused to uphold the "notice condition precedent" provision, but instead relied on the "prevention principle" that a party cannot take advantages of its own wrong in enforcing a contract.

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<sup>4</sup> [1997] 13 BCL 378

<sup>5</sup> [1999] NTSC 143

While in the case of *City Inn v. Shepherd Construction*<sup>6</sup>, the Contractor has failed to send the notice which was a condition precedent to apply an EOT. The court held that the failure on the part of the Contractor to comply with the provision is properly regarded as breach of contract on his part since he said that:

“If the Contractor having formed the opinion, elects not to do what the clause requires of him, he not only deprives himself of any entitlement, he would otherwise have had to an EOT; he also deprives the Architect opportunity of reviewing the instruction in light of the Contractor’s opinion of its consequences, and choosing whether to insist in it, or withdraw it... it therefore seem to me that the clause is of material value to the Employer, and that it would not be right to construe the apparently obligation words in the clause as merely conferring an option, rather than imposing an obligation on the Contractor.”

Hence, the Contractor must be mindful of the difference between the PAM Contract 2006 and similar provision in other contemporary form of conditions of contract being used in the country (Rajoo, Davidson, & Singh, 2010). In other words, a new provision has been expressly drafted to allow the Architect to grant an EOT, if the Contractor or deliberately declined to make an EOT application based on a relevant Events (Tan, Low, Jerry, Chee, 2011). As a conclusion for this part, giving the written notice for EOT application by the Contractor is an expressed condition precedent in PAM Form 2006 before the Architect can grant an EOT.

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<sup>6</sup> [2001] Scot CS 187

### **2.5.1.3 Extend a Copy to NSC for Contractor's Application**

Last but not least, the third significant change under the Contractor's obligation is the provision that required the Contractor to send a copy of his application as in Clause 23.1 (a) & (b) for EOT to Nominated Sub-Contractor (NSC) immediately when the EOT is related to NSC. This provision is a totally new provision that cannot be found in the PAM Form 1998.

Clause 23.2 is to tie up with the provision in Sub-Contract as well (Tan, Low, Chee, & Sum, 2010). Under Clause 21 in PAM Form 2006 Sub-Contract, NSC has to give written notice to Contractor and also with a copy to the necessary Consultant team where the NSC intended to claim for EOT. Besides that, Clause 23.8 (h) in PAM Form 2006 also relates to PAM Form 2006 Sub-Contract, whereby: "...the delay is due to part of the NSC for reasons set out in clause 21.4 (a) to 21.4 (w) of the PAM Sub-Contract 2006". Therefore, Rajoo (2010) had concluded that the purpose of giving such a copy is to forewarn the NSC concerned accordingly and then he can make a considered decision if he feels necessary to make a claim for a commensurate EOT under Clause 21.0 in PAM Sub-Contract 2006.

Besides that, the purpose of such practice is to ensure the Contractor's notice meet the condition precedent to EOT as prescribed under Clause 23.1 as any default by the Contractor in complying with such conditions may have serious contractual ramifications on the NSC involved (Rajoo, Davidson, & Singh, 2010). This provision is found to be the same with JCT 1998 Contract, Chappell (2002) has described further in Parris's Standard Form of Building Contract (3<sup>rd</sup>Edn.) where:

"Clause 25.2.1.2 introduces a further requirement, and that is a copy of the Contractor's original notice must be sent to any NSC to whom reference is made in it. One of the "Relevant Events" listed is "delay on the part of NSC or Nominated Suppliers which the Contractor has taken all practicable steps to avoid or reduce" (clause 25.4.7). The purpose of giving a copy



of the notice to the affected NSC is to forewarn the NSC so that he may in turn, if necessary, make an application for EOT to the main Contractor under clause 2.2 off the Nominated Sub-Contract Form NSC/C.” (pp. 227-228)

Based on the above facts, the Contractor is expected to undertake the obligation under Clause 23.2 where it makes express reference to any NSC in its notification issued pursuant to Clause 23.1 (Rajoo, Davidson, & Singh, 2010). Besides, the Contractor has to inform Architect and Consultant and included his comment on his application within seven (7) days of such written notice from the NSC. Thus, the Contractor has to extend a copy of such application to his NSC (Tan, Low, Chee, & Sum, 2010). In summary, Contractor must send a copy of such written notice and particulars including references to the NSC concerned if the particulars of the written notice are given under Clause 23.1.

**2.5.2 Architect’s Obligation under PAM Form 1998 and 2006**

**Table 2.2: Architect’s Obligations**

PAM 2006		PAM 1998	
Clause	Explanation	Clause	Explanation
23.3	Once the Architect thinks the documents submitted by the Contractor is insufficient to enable him to approve the EOT application, Architect may issue an instruction and request the Contractor to submit further documents to support the said application within 28 days from receipt of the Contractor's particulars.	23.3	Once the Contractor has submitted all the sufficient relevant documents for application of EOT, Architect should fix a later Date of Completion within the reasonable time from the receipt of the said notice.  Architect may fix a new Date for Completion retrospectively upon failure of the Contractor to submit his application for extension of time complete with particulars and estimates in accordance with reasonable time.
23.4	Once the claim of EOT approved by the Architect, he is required to issue a Certificate of Extension of Time (CEOT) within 6 weeks to the Contractor and extend or fix a later Date of Completion.	23.5	Architect has no right to fix a Date for Completion before the Date for Completion which is stated in the Contract
23.5	The Architect has to take into account any other Relevant Events which will affect the Contractor’s right to apply for EOT.  The Architect has no right to fix the new Date of Completion earlier than the Original Completion Date which is stated in the Contract.	23.6	If a later Completion Date is decided and fixed by the Architect, he has to notify every NSC as well in writing stating the new Date for Completion.

**Table 2.2: Architect's Obligations (Cont'd)**

<b>PAM 2006</b>		<b>PAM 1998</b>	
<b>Clause</b>	<b>Explanation</b>	<b>Clause</b>	<b>Explanation</b>
23.7	If a later Completion Date is decided and fixed by the Architect, he has to notify every NSC as well in writing stating the new Date of Completion.		
23.9	When AI, CAI and Relevant Events occur after the Completion Date, the Architect should grant an EOT to Contractor even though the Certificate of Non-Completion has been issued.		
23.10	Architect is allowed to review extension of time that was previously granted within twelve (12) weeks after the issuance of Certificate of Practical Completion (CPC).		

In the event of EOT, except of Contractor's obligations, Architect has the rights and responsibilities as well even though the Architect has no contract with the Contractor. From Table 2.2, the changes of Architect Obligations are highlighted as following:

- Instruction for insufficient information
- Time provision for approval & issuance of Certificate of Extension of Time,
- Consideration of other Relevant Events of the Contractor's application,
- EOT after issuance of Certificate of Non-Completion, and
- Revision of EOT.

#### **2.5.2.1 Instruction for Insufficient Information**

Under Clause 23.3 in PAM 2006, Architect is required to give instruction within 28 days to submit further information for his application of EOT by the Contractor when the Architect is of the opinion that the submitted particulars are insufficient to enable him to access or examine the claim of EOT.

This clause is a new provision which is not stated in PAM 1998. Furthermore, such instruction should made in writing and identify the deficiency that required the Contractor to remedy and request him to submit such further particulars to the Architect within the stated period. Besides that, the PAM had considered the problem that normally occurring in the industry, where Rajoo, Davidson and Singh in The PAM 2006 Standard Form of Building Contract (2010) also stated that:

“The commonly occurring practice of handling such issue for a continuing nature is never considered in PAM 1998 which is a necessity for the submission of particulars on a periodic basis leading to the grant of extension of time on an interim basis” (pp. 441)

According to the seminar of Contract Guide to PAM Contract 2006 & PAM Sub-Contract 2006 carried out by DLS Management (M) Sdn. Bhd., various scenarios may arise due to this provision, which are:

- Contract has submitted an application for EOT,
- Completion Date has passed,
- Architect had requested for further information,
- No new Completion Date is fixed by the Architect,
- The Contractor has asserted that sufficient information had been submitted to the Architect, and that the Architect failed to issue a Certificate of EOT within 6 weeks stipulated, and
- Contractor challenges the validity of the Certificate of Non-Completion (CNC) issued, and the Liquidated and Ascertained Damages (LAD) imposed.

Furthermore, the speakers in the seminar of Contract Guide to PAM Contract 2006 & PAM Sub-Contract 2006, Ong and Ho (2008) had concluded that the Architect has no power to issue an “interim” Certificate of EOT based on information available yet the Architect may allowed to do final review of EOT after Practical Completion under Clause 23.10 in PAM Form 2006. Thus, the Architect is required to wait until sufficient information is received before giving his decision to reject or grant the EOT, and the Architect can request the Contractor to provide further information for evaluation purposes.

#### **2.5.2.2 Time Provision for Approval and Certificate of EOT**

In Clause 23.4, the Architect may issue written notice of rejection or the Certificate of EOT to the Contractor within 6 weeks from the receipt of sufficient information from the Contractor. From Table 2.1, PAM 1998 Clause 23.3 has no stated the timeframe required for approval and certification of EOT; while it just stated that: “Provided always the Contractor submits to the Architect his application for extension of time, the architect shall ascertain and fix such new date for completion

within a reasonable time”. The time frame is just a “reasonable time” in the previous edition of PAM Form.

Besides that, this was same with the previous section of this research where the time frame is just a ‘reasonable time’. This issue is having regard to previous section which already discussed in part of Contractor’s obligations. Therefore, PAM had replaced ‘reasonable time’ with a specified period in order to prevent any unnecessary argument (Tan, Low, Chee, & Sum, 2010).

The *Perini Corporation v. Commonwealth of Australia*<sup>7</sup> case can be referred in relation to consultant’s responsibility. Where the building contract had stated that the Employer – Commonwealth of Australia can allowed Contractor – Perini Corporation to grant for EOT within a reasonable time, but the Contractor is failed to get the EOT although he had made many applications for extension of time according to the contract. Thus, the judge decided that the Employer is necessary to make his decision within a reasonable time, and he also said that:

“The measurement of a reasonable time in any particular case is always a matter of fact. Plainly, the Employer must not to procrastinate, and in my opinion he is not simply entitled to defer a decision. When the investigation is complete, I am of the opinion that the decision should then be made.”

The term of “reasonable time” for the Architect to make the decision to reject or approve the claim of EOT is does not mean “anytime considered to be reasonable by the Architect” and the court held that the Contractor was able to succeed in claims for acceleration cost due to failure of the Architect to make a decision to approve or reject the claim of EOT. If without a proper date allowed for Architect to make a decision to approve the claim of EOT, Contractor will accelerate the works in order to avoid liquidated damages since he is unsure of the Completion Date.

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<sup>7</sup>[1969] 12 BLR 82

Furthermore, the provision for certificate of EOT under Clause 23.4 in PAM Form 2006 is apparently a consolidated, reformulation and relabeling of clause 23.2 “A fair and Reasonable Extension of time” and clause 23.3 “Time limitation as to giving Extension of time” in the previous edition of PAM Form (Rajoo, Davidson, & Singh, 2010).

On the other hand, Rajoo, Davidson & Singh (2010) also agreed that the stipulation of a define period of time for Architect to complete the assessment of this issue is a welcome change as compared to PAM Form 1998 where term of “reasonable time” was applied into such provision and that was both misconstrued and abused by many Architects which reflected from the case of *Lion Engineering Sdn. Bhd. v. Pauchuan Development Sdn. Bhd.*<sup>8</sup>. Further to that, The PAM 2006 Standard Form of Building Contract (2010) had concluded that the Architect can adopt one of the following options when he is unable to make a decision within the stated period of 6 weeks:

- Inform the Contractor that he needs more time and get his express consent thereto, or
- Issue an interim extension (if the review period is less than granted to carry out a further assessment and perhaps give an additional extension; or
- If the assessment period is too short so that it is not reasonably practicable for him to make a considered decision, inform the Contractor accordingly and leave it for review under Clause 23.10.

The above options as stated by Rajoo, Davidson, & Singh (2010) especially item b) is slightly different with the comment given by Ong and Ho (2008), where the Architect has no power to issue an “interim” Certificate of EOT based on information available. Yet, both of opinions by Rajoo, Davidson & Singh and, Ong and Ho are having the same views where the EOT can be review under Clause 23.10 which is after the Practical Completion. Therefore, it can be concluded for this issue where the Architect should assess and make a decision to issue Certificate of EOT or reject the application of EOT within six (6) weeks after receipt of sufficient

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<sup>8</sup> [1997] 4 AMR 3315

particulars. Furthermore, the issue of Certificate of EOT is existed to confirm that an event is valid or compiles with the conditions in the contract (Chee, 2011).

### **2.5.2.3 Consideration of other Relevant Events of the Contractor's Application**

This provision is stated under PAM 2006 Clause 23.5 which considered as a revision of Clause 23.5 in PAM 1998 for "*Limitation in Fixing Completion Date*" (Rajoo, Davidson, & Singh, 2010). This provision is not only to ensure the Completion Date stated in the Appendix is not reduced, it also required the Architect to take consideration on other Relevant Events which the Contractor has not applied as his basis for the EOT claim (Tan, Low, Chee, & Sum, 2010).

The first issue from this clause is to prevent the Architect to fix an earlier Completion Date. This circumstances are considered as a common scenario encountered in practice where many Architects think that the omissions issued by him is entitled to reduce an EOT that granted or the contract period so that the original contract completion date is accordingly brought forward (Rajoo, Davidson, & Singh, 2010).

As referred to in an English case of *Glenlion Construction Ltd v. The Guinness Trust*<sup>9</sup> that whiles the Contractor is entitled, but not obliged to complete by an earlier completion date, the Architect may not require it (Rajoo, 1999). In other words, the Architect has no right to force the Contractor to complete the works before the Completion Date yet the Contractor has right to do so.

However, the second issue of this provision can be referred to the *Graymark Investment v. Walter Construction Group*<sup>5</sup> case. The court held that the Employer was in breach of contract since he failed to make a timely payment to the Contractor, the Contractor claimed for variations, prolongation and disruption. Yet the Employer

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<sup>9</sup> [1987] 11 Con LR 126

<sup>5</sup> [1999] NTSC 143



claimed for liquidated damages. After that, the Arbitrator found that the Contractor actually entitled for EOT which caused by the Employer even though his application of EOT failed since he failed to meet the notification requirements as stated in the contract.

Where after, the court held that the Employer was in breach of contract since he failed to make timely payment to Contractor, and such issue prevented the Employer from impose Liquidated Damages to Contractor. The Court refused to uphold the “notice condition precedent” provision, but instead relied on “prevention principle” that a party cannot take advantages of its own wrong in enforcing a contract (Rajoo, Davidson, & Singh, 2010). Hence, the Contractor can take into consideration other Relevant Events besides the ones given by the Contractor in the application of EOT and completion Date will not be deducted due to omission of works.

#### **2.5.2.4 EOT after Issuance of Certificate of Non-Completion (CNC)**

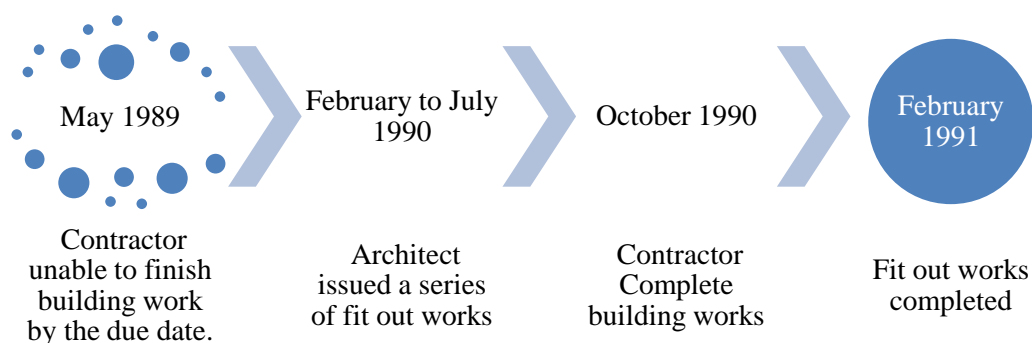
There is a question arising from Liquidated Damages and Extensions of Time in Construction Contracts (2009), does the Contractor has an entitlement to an EOT if he is in culpable delay having failed to complete within the specified time? From PAM 1998, there is no such clause that permits the Architect to grant EOT to Contractor after the issuance of the Certificate of Non-Completion (CNC). Yet, PAM 2006 Clause 23.9 allowed the Architect to do so when the Relevant Events occurs after the issuance of CNC and thereby preserving the Employer’s rights to impose Liquidated Damages (Rajoo, Davidson, & Singh, 2010).

Refer to *Balfour Beatty Building Ltd v. Chestermount Properties*<sup>10</sup>, the Contractor failed to complete building works by May 1989. After that, the Architect had issued a series of instructions for fit out works during February to July 1990, where the Contractor is delayed several months to complete the building works

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<sup>10</sup> [1993] 62 BLR 1

except for fit out works. Thereafter, the Contractor had completed the building and fit out works in October 1990 and February 1991 respectively.



**Figure 2.1: Facts of *Chestermount* case.**

The key issue in the *Chestermount* case was the long-standing question of whether an extension of time granted in respect of relevant events occurring during a period of culpable delay should be awarded in a gross basis or a net basis (Eggleston, 2009). However, The PAM 2006 Standard Form of Building Contract (2010) had mentioned that the court held:

- a) Unless it is expressly stipulated to the contrary and even so by the use of very clear words, extension of time to cover acts of prevention occurring during a period of culpable delay can be granted;
- b) Any EOT granted should be awarded on the “net” basis method instead of the “gross” method; and
- c) For a neutral event, if the test in the contract for any extension is fair and reasonable, then the Contractor’s entitlement to an extension may be dependent upon the Contractor being able to show that even without his own delay, the particular event should have delayed completion.

Therefore, Clause 23.9 in PAM Form 2006 is drafted to expressly allow the Architect to issue an EOT after issuance of CNC for delays due to Employer’s fault otherwise time will be at large if without this provision to render the situation like

*Chestermount* case (Tan, Low, Chee, & Sum, 2010). Besides, the Architect must grant an EOT equivalent to the net period of delay when a variation is issued during the period of culpable delay, instead of a gross extension of time encompassing the said net period of delay in addition to the Contractor's own period of culpability (Rajoo, Davidson, & Singh, 2010) as upheld by the in the *Chestermount* case. As a conclusion for this matter, Architect has the power to grant an EOT to Contractor after the issuance of CNC

#### **2.5.2.5 Revision of EOT**

Under clause 23.10 in PAM 2006, the Architect may review the granted Certificate of EOT within 12 weeks after the issuance of Certificate of Practical Completion (CPC), to fix or set a later Completion Date. This is similar Clause 25.3.3 under JCT Contract 1998, where the Architect may, and not later than the expiry of 12 weeks after the date of Practical Completion to fix a Completion later than that previously fixed. On the other hand, this clause is applied in the case of *Temloc Ltd v, Errill Properties Ltd*<sup>11</sup>, and the court of appeal held that this clause is directory only as to time and is not something which would invalidate the calculation and payment of LAD. In other words, exceeded the period of 12 weeks provided in the contract is not to be so detrimental that time was large, and it is always better if the Architect endeavours to give a decision within the time stipulated even though the Temloc case shows that strict compliance with the time is not mandatory (Tan, Low, Chee, & Sum, 2010).

However, this view is opposed to Chappell (2002) in Parris's Standard Form of Building Contract (3<sup>rd</sup> ed.), and he discussed that:

“Clause 25.3.3 gives the Architect the opportunity to make a final decision on extensions of time. This clause imposes a mandatory obligation on the Architect to

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<sup>11</sup>[1987] 39 BLR 30

review the Completion Date in any event not later than 12 weeks from the date of Practical Completion. In *Temloc Ltd v. Errill Properties Ltd*<sup>11</sup> the Court of Appeal appeared to hold that the requirement is not mandatory. This is the wrong view of the judgement.” (pp. 234)

Yet, Rajoo (2010) rendered the view of the judgement in The PAM 2006 Standard Form of Building Contract, concluded that the said decision is merely of a persuasive nature which the local courts may or may not follow, it is difficult to speculate which of the two views above may be adopted. Besides, he also advise the Architect should err on the side of caution and deem the said prescribed period to be of a mandatory nature, lest the Architect be found to have fallen foul of it. Furthermore, he also mentioned that should the Contractor or Employer is not satisfied with the Architect’s decision under Clause 23.10; they may have a right to request the Architect to review such a decision especially in the light of further and better particulars.

Further to that, the Architect must take into consideration all Relevant Events that may affect the Completion Date during his review, irrespective of whether or not any Relevant Events has been considered in a previous decision, and whether or not the Relevant Events has been notified by the Contractor (Tan, Low, Chee, & Sum, 2010). Besides, this clause also implied that the Architect is permitted to fix later Completion Date but is expressly proscribed from reducing any EOT previously granted (Rajoo, Davidson, & Singh, 2010). Thus, the Architect can make one of the following two decisions:

- Confirm a Completion Date previously fixed; or
- Fix a Completion Date later than that previously fixed.

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<sup>11</sup> [1987] 39 BLR 30

In the event the Architect chosen the second decision which stated above, and result the Liquidated Damages that imposed is required to deduct from the Contractor, the Employer should re-pay back any the amount over-deducted and included the interest to the Contractor and such amount should paid within the Period of Honouring Certificates from the date of issuance of last Certificate of EOT (Tan, Low, Chee, & Sum, 2010). As a summary for this matter, the Architect can revise but not deduct the granted EOT after practical completion.

### **2.5.3 Relevant Events**

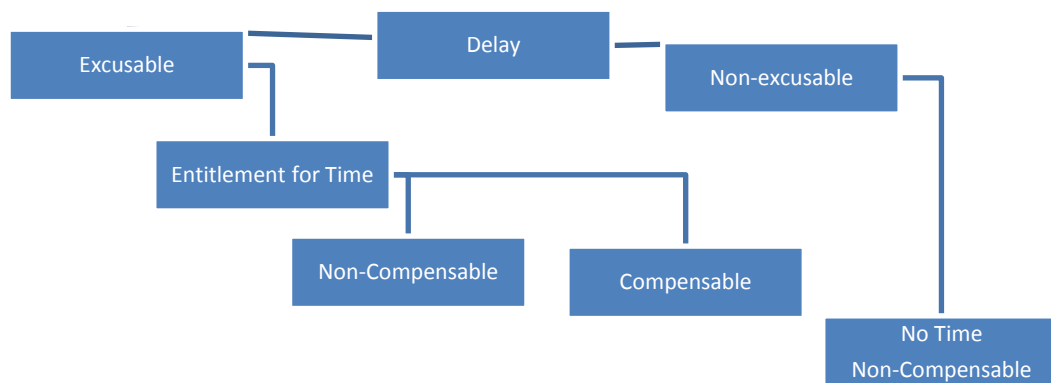
Under PAM Form 1998, there are only twelve (12) relevant events for EOT. This is expanded to twenty-four (24) relevant events under the new PAM Form 2006. As compared with PAM 1998 edition, there are only twelve (12) Relevant Events for EOT. This is expended to twenty-four (24) Relevant Events which under PAM Form 2006 including some new provisions with the existing events. The PAM Form 2006 has increased the number of Relevant Events, and this had led to some suggesting that the increase in the number of relevant events has effectively reduced Contractor's risk and proportionately increased the Employer's risk (Tan, Low, Chee, & Sum, 2010).

There are two (2) types of delay in the delay provision which are non-excusable and excusable (Levin, 1998). For non-excusable, there is no time and compensation to the Contractor since it is within his control of him such as under estimate, inadequate scheduling or management, construction mistakes, equipment problems, bad luck, liquidated damages or termination of contract and more (Wortham, 2005).

Excusable delay is divided into non-compensable or compensable and excusable delay are that affected the overall work progress such as unusually severe weather, changes and extra works, differing site conditions, delays from unforeseeable causes beyond control of the Contractor, labour disputes, utilities, and

more (Wortham, 2005). Excusable non-compensable delay is allowed in the Contract, yet the compensation will not be granted since the delay is unforeseeable and beyond the control and without fault or negligence by the Owner or Contractor (Wortham, 2005). In other words, the Contractor is entitled to claim for EOT only but not for compensation since the delay is beyond the Employer and Contractor's control (Nelson, 2012).

On the other hand, the excusable compensable delay is known as contractual claim (Tan, Low, Chee, & Sum, 2010) and it is allowed the Contractor to claim for time and loss and expenses in successful granted an EOT (Nelson, 2012). In other words, the contractor is entitled to an adjustment for increases in costs to the performance of the contract (Wortham, 2005), or the Contractor is entitled to an extension of time and additional cost as well to cover the loss and expenses incurred due to such delay that is within the control of the Employer (Project Management Institute, 2010). The Figure 2.2 had been adopted from AASHTO organisation by Wortham (2005) to describe the types of delay.



**Figure 2.2: Types of Delay**

If the triggers of delay happened which is not stated in the contract; or the relevant events are not stated as a basis to allowed the Contractor to claim for EOT, the time that required by a Contractor to complete the particular works will be at large if the delay is caused by Employer's side. Further to that, Lowsley and Linnett (2007) also defined that the time at large as following:

“A situation where there is no fixed contractual completion date, generally because there is no mechanism in the contract to vary the completion date or the reasons for the delay is not events for which the contract provides for the granting of an EOT.”

Thus, the Contractor is required to complete the works within reasonable time based on common law (Lowsley & Linnett, 2007). Besides that, Wortham (2005) had mentioned that if the time extension is requested by Contractor and not granted and proven to be excusable, then the constructive acceleration may exist and costs owed by owner. If the Contractor is granted the EOT, he is not charged for Liquidated Damages or terminated if the delay is excusable (Wortham, 2005).

In Clause 23.8 under PAM 2006, there are ten (10) sub-clauses considered as excusable non-compensable has listed below:

- 23.8(a) Force Majeure,
- 23.8(b) Exceptionally Inclement Weather,
- 23.8(c) Insurance Contingencies,
- 23.8(d) Civil Commotion, Strikes, Lockout,
- 23.8(h) Nominated Sub-Contractor’s Delay,
- 23.8(i) Delay in Re-nomination of Nominated Sub-Contractor,
- 23.8(n) War Damage,
- 23.8(p) Changes to Law /Terms of Authority/Service Provider,
- 23.8(q) Delay by Appropriate Authority/Service Provider, and
- 23.8(x) Any Other Grounds

The other fourteen (14) sub-clauses of which are categorised as excusable compensable delay are:

- 23.8(e), 24.3(a) Late Receipt of Architect’s Instruction,
- 23.8(f), 24.3(b) Delay in Giving Possession of Site,
- 23.8(g), 24.3(c) Compliance with AI,

- 23.8(j), 24.3(d) Delay by Employer's Licenses,
- 23.8(k), 24.3(e) Delay or Failure to Supply Materials and Goods by the Employer,
- 23.8(l), 24.3(f) Opening up for Inspection and Testing,
- 23.8(m), 24.3(g) Act of Prevention or Breach of Contract by Employer,
- 23.8(o), 24.3(h) Discovery of Antiques,
- 23.8(r), 24.3 (i) Appointment of a Replacement Person,
- 23.8(s), 24.3 (j) Disputes with Neighbouring Property Owners,
- 23.8(t), 24.3(k) Execution of Work under a Provisional Quantity,
- 23.8(u), 24.3(l) Failure to Give Entry or Exit from the Site,
- 23.8(v), 24.3(m) Suspension by the Contractor,
- 23.8(w), 24.3(n) Suspension by order of an Appropriate Authority,



**Table 2.3: Excusable Non-Compensable Delays**

<b>Events</b>	<b>PAM 2006</b>		<b>PAM 1998</b>	
	<b>Clause</b>	<b>Explanation</b>	<b>Clause</b>	<b>Explanation</b>
Force Majeure	23.8 (a)	Force Majeure is a term derived from French law and it defines those circumstances which are beyond the will and the control of Contractor. Such as natural disaster, governmental or regulatory or regulatory action, terrorist acts.	23.7 (i)	Same as PAM 2006
Exceptionally Inclement Weather	23.8 (b)	Exceptionally Inclement Weather means the existing weather condition is different from norm which will delay the overall Works programme. For example, heavy rainfall, storm has occurred within a month which the Meteorological records of the area have showed little rain over certain period. For those internal works which are protected from the weather such as lighting installation, internal brickworks, sanitary fittings and more, the exceptionally inclement weather is not considered as a Relevant Event.	23.7 (ii)	Same as PAM 2006

**Table 2.3: Excusable Non-Compensable Delays (Cont'd)**

Events	PAM 2006		PAM 1998	
	Clause	Explanation	Clause	Explanation
Insurance Contingencies	23.8 (c)	Contractor has the right to claim for EOT when the works damaged resulted in an insurance claim and the said damages are not caused by the Contractor.	23.7 (iii)	Contractor has the right to claim for EOT when the works damage resulted in an insurance claim.  As compared with latest PAM Form, Contractor may benefit from his own default since there is no exclusive provision stated that the damages caused by the Contractor are not claimable.
Civil Commotion, Strikes, Lockout	23.8 (d)	Civil commotion in the country and national strikes affecting any of the Works such as preparation, manufacture, transportation of any goods that required for the Works, and trades of work that engaged in the Contract will be covered.	23.7 (iv)	Same as PAM 2006

**Table 2.3: Excusable Non-Compensable Delays (Cont'd)**

Events	PAM 2006		PAM 1998	
	Clause	Explanation	Clause	Explanation
Nominated Sub-Contractor's Delay	23.8 (h)	<p>Contractor has the right to claim for EOT due to delay on the part of the NSC when the Relevant Event(s) are affecting the Works. The Relevant Events are under sub-clauses 21.4 (a) to 21.4 (w) of the PAM Sub-Contract 2006, and these are almost similar to Clause 23.8 (a) to 23.8 (x) except Clause 23.8 (h).</p> <p>This clause will not be applicable when the NSC stop or abandon his works due to financial default, liquidation, receivership, etc.</p> <p>PAM 2006 NSC had further limited Relevant Events as the grounds for entitlement of EOT. In clause 21.5 under PAM Sub-Contract 2006, the granted EOT for NSC will not applicable or affect the PAM Form 2006 contract duration if that delay is caused by Main Contractor.</p>	23.7 (vii)	<p>Almost same as PAM 2006, just different with fewer Relevant Events which only Clause 23.7 (i) to 23.7 (xiii) except Clause 23.7 (vii). Under PAM 1998 NSC Clause 8.2, where the NSC has the entitlement to EOT when delay is caused by Contractor. In addition, reference made Clause 23.7 (xi) in PAM 1998 Main Contract, the NSC is entitled to EOT although the act of prevention or breach of contract of the Main Contract did not affect the Sub-Contract Works since there is no '<i>mutatis mutandis</i><sup>12</sup>' rule between NSC and main contract in the previous form.</p> <p>Besides that, the granted EOT for NSC might be applicable or affect the PAM Form 1998 contract duration if that delay is caused by Main Contractor since PAM 1998 NSC has no special provision to declare the delays whether is caused by Employer's side or Contractor's side.</p>

<sup>12</sup> Mutatis Mutandis is (literally) Latin for "with those things having been changed which need to be changed; the necessary changes having been made". (Adopted from <http://legum.org/>)

**Table 2.3: Excusable Non-Compensable Delays (Cont'd)**

Events	PAM 2006		PAM 1998	
	Clause	Explanation	Clause	Explanation
Delay in Re-nomination of Nominated Sub-Contractor.	23.8 (i)	Contractor has the right to claim for EOT when there is a delay by the Architect in re-nominating another NSC who had been determined by the Main Contractor.	-	Not applicable in PAM 1998
War Damage	23.8 (n)	<p>Contractor's entitlement to EOT when the war damage had caused the works to delay and thus unable to complete before Date of Completion.</p> <p>Under 32.1 (c), EOT is granted when the Contractor is required to make good or reinstate such war damage and to proceed with completion of Works.</p>	-	Not stated under Clause 23.0, while it did mentioned in Clause 32.1 (iii) in PAM 1998, stating that EOT is granted when the Contractor required to make good or reinstate such war damage and to proceed with completion of Works.
Changes to law/terms of Authority/Service Provider	23.8 (p)	The Contractor is entitled for EOT when the delay is due to compliance of any changes to any law, regulations, by-law or terms and conditions which will affects his work progress.	-	Not applicable in PAM 1998

**Table 2.3: Excusable Non-Compensable Delays (Cont'd)**

<b>Events</b>	<b>PAM 2006</b>		<b>PAM 1998</b>	
	<b>Clause</b>	<b>Explanation</b>	<b>Clause</b>	<b>Explanation</b>
Delay by Appropriate Authority and Service Provider	23.8 (q)	When the delay of work progress is due to any Appropriate Authority and Service Provider, Contractor is entitled to EOT and provided that such delay is not due to his negligence, omission, default and/or breach of contract on his part or his NSC.	-	Not applicable in PAM 1998
Any other Grounds	23.8 (x)	This clause is 'catch all' provision which will apply to any other ground for EOT expressly stated under the Contract.	-	Same as PAM 2006

**Table 2.4: Excusable Compensable Delays**

Events	PAM 2006		PAM 1998	
	Clause	Explanation	Clause	Explanation
Late receipt of Architect's Instruction	23.8 (e) 24.3 (a)	<p>When delay is due to the failure to comply with the general obligation by the Architect to provide or issue AI which requested by the Employer or Contractor.</p> <p>As condition precedent, the Contractor must specifically applied in writing to the Architect in advance for the necessary AI including details, further drawings, and any other information; and provided that the AI was not required as a result of any negligence, default and/or breach of contract by Contractor and/or NSC.</p> <p>Such application must be submitted before the commencement of construction of the affected works.</p>	23.7 (vi) 24.2 (i)	<p>Contractor is entitled for EOT, loss and expenses when he had specifically applied in writing to the Architect due to late receipt of AI.</p> <p>It is almost the same with PAM 2006, just the due date for such application is not stated expressly as in PAM 2006, and the limitation for this clause was not mentioned, which those AIs are not resulted from any negligence, omission, default and/or breach of contract by the Contractor and/or NSC.</p>

**Table 2.4: Excusable Compensable Delays (Cont'd)**

Events	PAM 2006		PAM 1998	
	Clause	Explanation	Clause	Explanation
Delay in giving possession of Site	23.8 (f) 24.3 (b)	When the Employer is unable to give possession of Site or any sectional of Site to Contractor after the issuance of Letter of Award from Architect, then the Contractor is entitled to claim for EOT, and loss and expenses since he is unable to start his works on time.  As a condition precedent, the Contractor has to ensure that he is already purchased the necessary insurance and other responsibilities before commencement of the Works.	-	Not applicable in PAM 1998
Compliance with AI	23.8 (g) 24.3 (c)	When the Architect had issued an instruction for variation order, and/or to postponing or suspending the in-progress Works or any part of Work.	23.7 (v) 24.2 (v)	Same as PAM 2006

**Table 2.4: Excusable Compensable Delays (Cont'd)**

<b>Events</b>	<b>PAM 2006</b>		<b>PAM 1998</b>	
	<b>Clause</b>	<b>Explanation</b>	<b>Clause</b>	<b>Explanation</b>
Delay by Employer's Licensees	23.8 (j) 24.3 (d)	When the Craftsman, Tradesman, or other Contractors employed or engaged by Employer had affected or delayed the Works in the Main Contract, the Contractor is entitled to EOT and loss and expenses.	23.7 (viii) 24.2 (iv)	Same as PAM 2006
Delay or Failure to Supply Materials and Goods by the Employer	23.8 (k) 24.3 (e)	When the Employer is unable delivered or supply the materials and goods to site as agreed by him, the Contractor may be entitled to EOT and loss and expenses.	23.7 (ix) 24.2 (vi)	Same as PAM 2006
Opening Up for Inspection and Testing	23.8 (l) 24.3 (f)	The Architect instructed to open up the covered work for inspection and carry out testing materials, executed works in order to prove and show that the Works are according to the Contract.	23.7 (x) 24.2 (ii)	Same as PAM 2006



**Table 2.4: Excusable Compensable Delays (Cont'd)**

Events	PAM 2006		PAM 1998	
	Clause	Explanation	Clause	Explanation
Opening Up for Inspection and Testing (Cont'd)	23.8 (l) 24.3 (f)	If such inspection and testing works are provided in the Contract Bills, shows that materials, goods were not comply with the Contract, and such instruction is due to negligence, omission, default and/or breach of contract by the Contractor, then this provision clause will not be a ground for the Contractor to claim for EOT and loss and expenses.	23.7 (x) 24.2 (ii)	Same as PAM 2006
Act of prevention or breach of contract by Employer	23.8 (m) 24.3 (g)	Where the delay in the completion of Works is due to the Employer's responsibilities.	23.7 (xi) 24.2 (viii)	Same as PAM 2006

**Table 2.4: Excusable Compensable Delays (Cont'd)**

Events	PAM 2006		PAM 1998	
	Clause	Explanation	Clause	Explanation
Discovery of antiquities	23.8 (o) 24.3 (h)	If fossil, antiquities and other objects of interest or value are discovered on the Site, the Contractor has to stop all the works, not to move or disturb but preserve all the said objects discovered from the Site. After that, he is required to notify Architect for further instruction.  Therefore, the Contractor is entitled to EOT and loss and expenses under these two clauses.	33.2	Contractor is only entitled to loss and expenses, without any EOT provision for this issue under PAM 1998
Appointment of a Replacement Person	23.8 (r) 24.3 (i)	Where any of the Qualified Persons such as Architect, Engineer, QS, and Specialist Consultant had ceased their act for employment, the Architect may require to appoint a replacement person to continue the act for employment within 28 days as stated in Articles.	-	Not applicable in PAM 1998

**Table 2.4: Excusable Compensable Delays (Cont'd)**

Events	PAM 2006		PAM 1998	
	Clause	Explanation	Clause	Explanation
Disputes with neighbouring property owners	23.8 (s) 24.3 (j)	If a dispute happens with the neighbouring property owner, due to the Employer or AI that requires the Contractor to comply with, which is likely to delay the Works, the Contractor is then entitled to EOT, Loss and Expenses.  Provided that such dispute or AI issued is not due to Contractor's or Sub-Contractor's negligence, omission, default and/or breach of contract.	-	Not applicable in PAM 1998
Execution of work under a Provisional Quantity	23.8 (t) 24.3 (k)	Where the Provisional Quantity that stated in the Bills of Quantities (BQ) are different with quantity executed, and the Architect in his opinion agrees that the quantity of work that actually required was a reasonable accurate forecast, therefore the extra days to execute the extra quantity will entitled the Contractor to EOT as well as the Loss and Expense	-	Not applicable in PAM 1998

**Table 2.4: Excusable Compensable Delays (Cont'd)**

Events	PAM 2006		PAM 1998	
	Clause	Explanation	Clause	Explanation
Failure to give entry or exit from the site	23.8 (u) 24.3 (l)	Where the Employer failed to give at the due time to the Contractor for entry or exit to the site and the Contractor is unable to start his works on Site.	-	Not applicable in PAM 1998
Suspension by the Contractor	23.8 (v) 24.3 (m)	When the Employer failed to pay to the contractor the amount as stated in the payment certificate within fourteen (14) days from the receipt or a written notice from the Contractor, the Contractor can issue further written notice and suspend his work immediately until such payment is made.  The Contractor has right to suspend the part of works that under any Qualified Person (QP) such as Architect and other Consultants. The QP must inform the Contractor in writing of their withdrawal from the supervision of the execution of the Works.	-	Not applicable in PAM 1998

**Table 2.4: Excusable Compensable Delays (Cont'd)**

<b>Events</b>	<b>PAM 2006</b>		<b>PAM 1998</b>	
	<b>Clause</b>	<b>Explanation</b>	<b>Clause</b>	<b>Explanation</b>
Suspension by order of an Appropriate Authority	23.8 (w) 24.3 (n)	Where the suspension of works is ordered by the Appropriate Authority which is likely to delay the works progress, the Contractor is entitled to EOT and loss and expenses.  And such order must not be due to negligence, omission, default and/or breach of contract by the Contractor and/or NSC.	-	Not applicable in PAM 1998

From the detailed comparison for excusable delay from Table 2.1 and 2.2, there are ten (10) excusable non-compensable and fourteen (14) compensable delay in Clause 23.8 respectively. For excusable non-compensable delay, there are two (2) revised sub-clauses and four (4) new sub-clauses are added into the PAM 2006. Nevertheless, there are one (1) amended and eight (8) sub-clauses added under excusable compensable delays. The changes for both type of delay are tabulated as follows:

**Table 2.5: Amendment of Clauses for Excusable Non Compensable Delay**

<b>Clause</b>	<b>Particulars</b>	<b>Status of Clauses</b>
23.8 (c)	Insurance Contingencies	Revised
23.8 (h)	Delay by NSC	Revised
23.8 (n)	War Damage	Added
23.8 (i)	Delay in re-nomination of NSC	Added
23.8 (p)	Changes to law/terms of authority/Services Provider	Added
23.8 (q)	Delay by Appropriate Authority and Service Provider	Added

**Table 2.6: Amendment of Clauses for Excusable Compensable Delay**

<b>Clause</b>	<b>Particulars</b>	<b>Status of Clauses</b>
23.8 (e)	Late receipt of Architect's Instruction	Revised
23.8 (o)	Discovery of antiquities	Added
23.8 (f)	Delay in giving possession of site	Added
23.8 (r)	Appointment of replacement Person	Added
23.8 (s)	Disputes with neighbouring property owners	Added
23.8 (t)	Execution of work under a Provisional Quantity	Added
23.8 (u)	Failure to give entry or exit from the site	Added
23.8 (v)	Suspension by the Contractor	Added
23.8 (w)	Suspension by an order of an Appropriate Authority	Added

## **2.6 Conclusion**

As to what the construction industry players are required to claim for extension of time, loss and expenses, payment or other compensation according to the contract form. Ong and Ho (2010) had stated that there are 90% of the residential construction project is using PAM form, and version 2006 is considered as the latest version among the construction contracts that is currently available in Malaysia. Therefore, the awareness of amended or newly added provisions under the new SFOC is very important to all the construction industry.

In conclusion, the changes found under the PAM Form 2006 can be separated into four (4) sections which are Contractor's rights and obligations, Architect's rights and obligations, Excusable Compensable Delay and Excusable Non-Compensable Delay. For the first section, there are one (1) revised clause and two (2) added clause while the second section has one (1) revised clause and four (4) added clauses. The third section has two (2) revised clauses and four (4) added clauses; and lastly, one (1) revised clause and eight (8) added clauses are found in the fourth section. Hence, the questions designed for the questionnaire is based on the changes figured out from this chapter in order to determine whether the changes of clauses between PAM Form 1998 and 2006 are for the betterment of the construction industry or otherwise, and also to determine the effects of the said changes for both of the Employer and Contractor.

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 Introduction**

The methodology that can be used to guide the research is outlined in this chapter. The information required for this research was obtained from two (2) principal sources, which are literature reviews and questionnaires survey. The method to analyse the data is also further elaborated in this chapter.

#### **3.2 Selection of Respondent**

In order to obtain the most accurate data for this research, the targeted respondents are Quantity Surveyors (QS). The function of QS is to act professionally and impartially between Contractor and Employer, and therefore the result obtained from them should not be biased to anyone of the parties. Due to time constraint, the questionnaires are sent to QS in the vicinity of Klang Valley and Selangor.

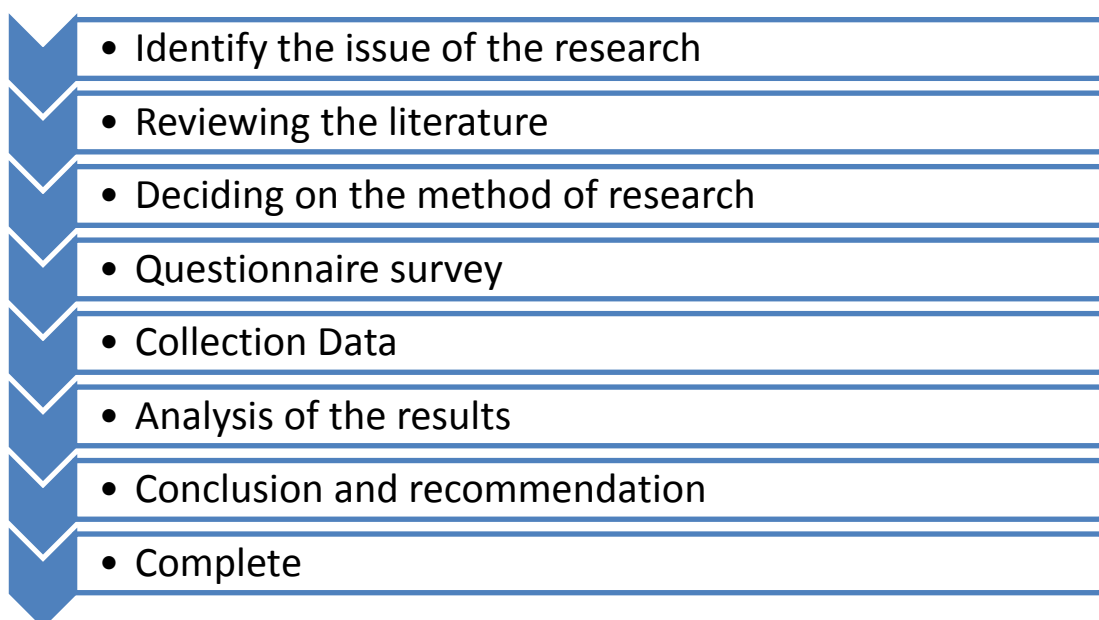
Besides, the reason why the author selected QS as his respondent was that the author wanted to examine the QS's awareness on the changes of PAM 1998 to 2006 since they are responsible to advise the Employer on the terms and conditions of the Contract, and prepare the Contract Document for the particular project as well



(History of Roles and Responsibilities of Quantity Surveyor, 2010). Thus, the Senior QS is having better sensitivity of the changes of clause in Standard Form of Contract.

For this research, some of the questionnaires were sent by postal mail and the rest are despatched manually to 80 respondents. Some of the questionnaires were sent by mail since it is considered to be the most efficient method to distribute the entire questionnaire at one time. Besides, some of the questionnaires were despatched manually to the relevant professional in order to make sure the questionnaires are able to pass to the director and Senior QS who are often involve in the issue of delay for their projects. All of the respondents are able to return the questionnaire to the author via an enclosed pre-addressed and stamped envelope.

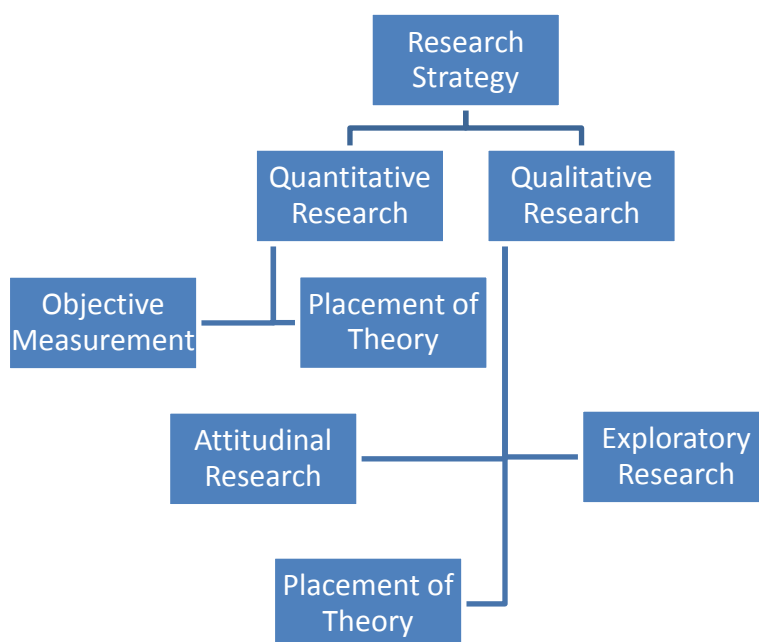
### 3.3 Research Design



**Figure 3.1: Research Design Flow Chart**

### 3.4 Research Strategy

The research strategy is a plan of action that provides a direction to the efforts and enables the research to be conducted systematically rather than haphazardly (Ferguson, 2005). Thus, research strategy helps to define the various terms as research objectives of the research (Naoum S. G., 2007). There are two types of research strategies which are quantitative research and qualitative research. The type of research strategies is used based on the purpose of study and availability of the required information.



**Figure 3. 2: Type of Research Strategy**

#### 3.4.1 Quantitative Research

Quantitative research is quite objective and it is defined as an inquiry into a social or human problem depends on testing a hypotheses or a theory composed of variables, measured with numbers and analysed with statistical procedures. Thus, the statistical result will reflect whether the hypotheses or the theory hold true (Greswell, 1994). The hypotheses, research questions and objectives are having better understanding in

quantitative study when they are ground in a theoretical framework (Naoum S. G., 2006). For this study, a theory is used deductively and places towards the beginning of the plan for a study to test or verify the said theory, rather than develop it. The theory is then becomes a framework for the entire study, an organising model for the research questions or hypotheses and for the data collection procedures. According to DJS Research Ltd, quantitative research is used to measure how most people feel, think or act in a particular way. On the other hand, quantitative research is to allow for better statistical analysis and one of the methods is structured closed-question questionnaire undertaken either over the phone, on the street, by post or through web based sessions.

### **3.4.2 Qualitative Research**

Qualitative research is different from qualitative research since it is quite subjective in terms of emphasised meaning, experience, description and etc. The gathered information can be divided into three (3) types which are exploratory, attitudinal and placement of theory. Exploratory research is used when there are limited resources for the topic. Normally, the interview technique will be selected as one of the method to collect the data for this type of research in order to get a clear and precise statement of the recognised problem. Then, attitudinal research is subjectively to evaluate the opinion, view or the perception of a person based on the particular project. For placement of theory in qualitative research, the theory used is less clear than in quantitative design since there is no standard terminology or rules about placement (Naoum S. G., 2006). The examples of this type of research are interview and case study.

### **3.5 Data Collection**

The data collection is a process of preparing and collecting data for the research based on the nature of the investigation, type of available data and relevant information. Data collection is divided into two (2) categories which are Primary Data and Secondary Data (Naoum S. G., 2007).

#### **3.5.1 Primary Data**

The primary data is data that was gathered by the author through field survey and the data is obtained first hand. The gathered data is expected to focus on the specific issues or aspects of the research in order to ensure the author gets original and unbiased data. The methods that are commonly used for this type of data collection are face to face or telephone interviews, case studies, and questionnaires. However, this method is quite costly and time consuming to collect, analyse and evaluate the data for the author (Naoum S. G., 2007).

##### **3.5.1.1 Questionnaire Survey Design**

The postal questionnaire is probably the most common used data collecting technique for conducting survey. Besides, it is also usually used for descriptive and analytical surveys in order to find out facts, opinion and view on what is happening, who, where, how many or how much. Almost all postal questionnaires have “closed-ended” questions that required a specific response such as “yes” or “no” or ranking the importance of factors (Naoum S. G., 2007).

From the questionnaire survey form for this quantitative research, there are seven (7) questions; six (6) questions are “closed-ended” question and one (1) question is “open-ended” question respectively. The closed-ended question is

measured by the ordinal scale which normally uses integers in ascending or descending order (Naoum S. G., 2007). The questionnaire has divided into three (3) sections which are as following:

- Section A – Generally,
- Section B – Awareness, and
- Section C – Effects of changes.

Section A is separated into two (2) categories, which are respondent's particular and background of project. The first category is aiming to get the general information of the respondent such as respondent's name, position and the company's seal for proof purpose. In addition, the author will be able to know and classify the post whether is senior or junior and therefore, the data will be more accurate based on their designation.

Furthermore, the respondent required to rate the frequency based on three rating scale which is "Often", "Sometimes" and, "Never" for the questions under the second category. The questions for this category are:

- Frequency of using the listed standard form of construction contract in Malaysia,
- Frequency of the listed type of projects that the respondent was involved in,
- Frequency of involvement for application of EOT, and
- Frequency of the listed Relevant Events happens to the project.

Thus, the first section is to determine whether the respondents are familiar with the EOT issue based on their experience in the particular projects. Besides, this section is also able to figure out the frequency of the listed Relevant Events happens to the project in Malaysian construction industry.

Then, section B is to determine whether the changes of EOT clause between PAM Form 1998 and 2006 are for the betterment of the construction industry or otherwise. The changes of EOT clause in PAM Form 2006 had been summarised

from the literature review and listed into the questions under section B, and the respondents are required to rank for the agreement of improvement for the construction industry based on the said changes. In this question, the changes under Clause 23 had been divided into four parts which are:

- Contractor's Right and Obligation,
- Architect's Right and Obligation,
- Relevant Events – Excusable Non-compensable Delays, and
- Relevant Events – Excusable Compensable Delays.

There are five ranking scale selected for this section:

- 1 - Strongly disagree,
- 2 - Disagree,
- 3 - Neutral,
- 4 - Agree, and
- 5 - Strongly agree.

For section C, it is expected to identify the effects of the said changes for both of the Employer and Contractor. The respondents are required to rank the agreement for the changes in the Clause 23 is whether in the favour of the Contractor in PAM Form 2006 or otherwise. The question are structured similarly with section C and listed as below

- Contractor's Right and Obligation,
- Architect's Right and Obligation,
- Relevant Events – Excusable Non-compensable Delays, and
- Relevant Events – Excusable Compensable Delays.

There are five ranking scale selected for this section as following:

- 1 - Strongly disagree,
- 2 - Disagree,
- 3 - Neutral,
- 4 - Agree, and
- 5 - Strongly agree.

For the last question of this questionnaire survey, there is an open ended question that required the respondent to provide further comment for any clauses or provisions for EOT in PAM 2006 that he or she feels needed to be re-drafted or deleted in future PAM Form revision. Besides, the data from this question also can provide comment for the amendment which can be referred by the drafters of PAM Form in the future.

### **3.5.2 Secondary Data**

The secondary data is gathered from other existing resources such as journals, reference books and articles. This data can be obtained easily though internet assesses, books and articles. Therefore, this method is commonly used by the author because they are able to obtain the data easily and quickly.

In this research, the secondary data that had been used are PAM Contract 1998 and 2006 version, relevant reference books and handbooks. The said relevant reference books and handbooks related to construction contract were used as well and the books were available from the Universiti Tunku Abdul Rahman (UTAR) library and Perunding PCT Sdn. Bhd.'s library. Furthermore, the recently published journal, seminar paper and articles were obtained from the internet as part of the sources or information for this research.

### **3.5.2.1 Literature Review**

The literature review will provide a theoretical framework for the research and it also can provide the author an overview for the research. Besides that, it is able to emphasise the reliability of the research and also provides a solid background for a research paper's investigation. In this research, the data is mostly obtained through relevant reference books, recently published journals, seminar papers and articles. The resources used for this research includes online articles, online journals and information from the organisation.

## **3.6 Analysis Method**

For this survey, there are two (2) methods that used to analyse the collected data. The analysis methods are frequency analysis and average index analysis. Frequency analysis is used to analyse Section A 2.0 and average index is used for analysing Section B and C. The first method is able to show the frequency that practiced by the respondents such as the usage of type of standard form, type of projects, involvement of application for EOT and involvement for relevant events under Clause 23.8. The latter analysis method is able to show the average index and rating scale for "closed-ended" question. For the last question which is the "open-ended" question, the author will summarise the comments given by the respondents and this is presented the next chapter as well. The feedback from the respondents will normally analyse via two (2) major types of computer software which are SPSS and Microsoft Excel. However, the analysis for the data in this research was carried out using only Microsoft Excel.

### **3.6.1 Frequency Analysis**

Frequency analysis is a method to transform from a wave, signal or even function into its frequency components and thus it will have a frequency spectrum. Frequency



analysis produces a table of frequency counts and percentages for the value of an individual variable. Such table is represents the results of data analysis of the number of frequency of response where the respondents gave different answers for every question and the result is then presented in pie charts form. Therefore, the frequency analysis is used for:

- Frequency of using the listed standard form of construction contract in Malaysia,
- Frequency of the listed type of projects that the respondent involved, and
- Frequency of involvement for application of EOT.

### 3.6.2 Average Index Analysis

The data obtained from the questionnaires are analysed using Average Index Analysis (AI). The formula for this method as shown below (Al-Hammad, Al-Mohsen, & Assaf, 1996):

$$\text{Average Index (AI)} = \frac{\sum a_1 x_i}{\sum x_i}$$

Where,

$a_1$  = constant representing the weight given to i

$x_i$  = variable representation the frequency of response for  $i = 1, 2, 3, 4, 5 \dots n$

Based on the formula stated,

(Section A)

$x_1$  = frequency of the “Never” and corresponding to  $a_1 = 1$

$x_2$  = frequency of the “Sometimes” and corresponding to  $a_2 = 2$

$x_3$  = frequency of the “Often” and corresponding to  $a_3 = 3$

(Section B and C)

$x_1$  = frequency of the “Strongly Disagree” and corresponding to  $a_1 = 1$

$x_2$  = frequency of the “Disagree” and corresponding to  $a_2 = 2$

$x_3$  = frequency of the “Neutral” and corresponding to  $a_3 = 3$

$x_4$  = frequency of the “Agree” and corresponding to  $a_4 = 4$

$x_5$  = frequency of the “Strongly Agree” and corresponding to  $a_5 = 5$

In Section A, the respondents required to rank is the frequency of the listed relevant events happens to the project. Based on the formula stated by Abdul Majid and McCaffer (1997), the classification of the rating scale is as follows:

**Table 3.1: The classification of the rating scales in Section A of the questionnaire**

Rating Scale	Average Index (AI)
Never	$1.00 \leq AI < 1.50$
Sometimes	$1.50 \leq AI < 2.50$
Often	$2.50 \leq AI < 3.00$

In section B, in order to determine the levels of agreement and disagreement whether there is an improvement for the construction industry based on the changes of EOT clause, the rating scales for this section are as following:

**Table 3.2: The classification of the rating scales in Section B of the questionnaire**

Rating Scale	Average Index (AI)
Strongly Disagree	$1.00 \leq AI < 1.50$
Disagree	$1.50 \leq AI < 2.50$
Neutral	$2.50 \leq AI < 3.50$
Agree	$3.50 \leq AI < 4.50$
Strongly Agree	$4.50 \leq AI < 5.00$

For section C, in order determine the levels of agreement and disagreement whether the said changes is in favour of the Contractor in PAM Form 2006, the rating scales for this section are tabulated as below:

**Table 3.3: The classification of the rating scales in Section C of the questionnaire**

<b>Rating Scale</b>	<b>Average Index (AI)</b>
Strongly Disagree	$1.00 \leq AI < 1.50$
Disagree	$1.50 \leq AI < 2.50$
Neutral	$2.50 \leq AI < 3.50$
Agree	$3.50 \leq AI < 4.50$
Strongly Agree	$4.50 \leq AI < 5.00$

### **3.7 Conclusion**

Thus, the research methodology has been established in order to achieve the objectives of this research. Thus, all the primary data and secondary data are focused on the changes in EOT clause under PAM Form 2006. Besides that, the awareness and the effect of the said changes can be figured out through this research.

## **CHAPTER 4**

### **RESULTS AND DISCUSSIONS**

#### **4.1 Introduction**

This chapter analysed the data collected from the questionnaires and the methods used to for the analysis are frequency analysis and average index analysis. There are three (3) sections from the questionnaires which are Section A, B and C.

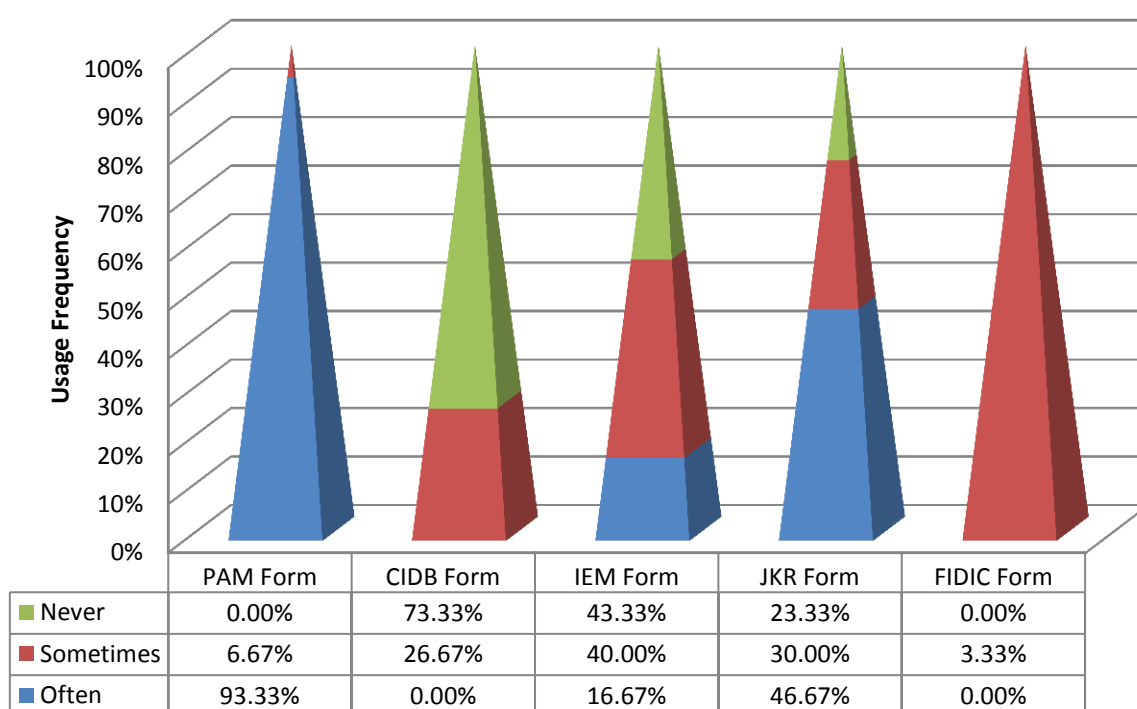
#### **4.2 Section A - Analysis for Background of Project**

The author distributed 100 sets of questionnaires to many QS consultancy firms and unfortunately, there are only 30 respondents who replied and sent back the completed questionnaire to the author. From the questionnaire, there are four (4) questions designed for this section part 2, which as following:

- Frequency of using the listed standard form of construction contract in Malaysia,
- Frequency of the listed type of projects that the respondent involved,
- Frequency of involvement for application of EOT, and
- Average index of the listed relevant events happens to the project.

#### 4.2.1 Frequency of using the listed Standard Form of Construction Contract in Malaysia

There are various types of standard form of construction contracts available in Malaysia which is PAM Form, CIDB Form, IEM Form and JKR Form as highlighted in Chapter 2. Other than these, International Federation of Consulting Engineers (FIDIC) Form has been added by one of the respondents as one of the type of standard form of contract that using for international construction projects.



**Figure 4.1: Frequency of using the standard form of construction contracts in Malaysia.**

Based on Figure 4.1, it is shown that the PAM Form is most often used by the respondents which registered the highest frequency, followed by JKR Form, IEM Form, CIDB Form, and the lowest frequency is FIDIC Form. 93.33% of the respondents often practice with PAM Form among the other forms of contract, 6.67%

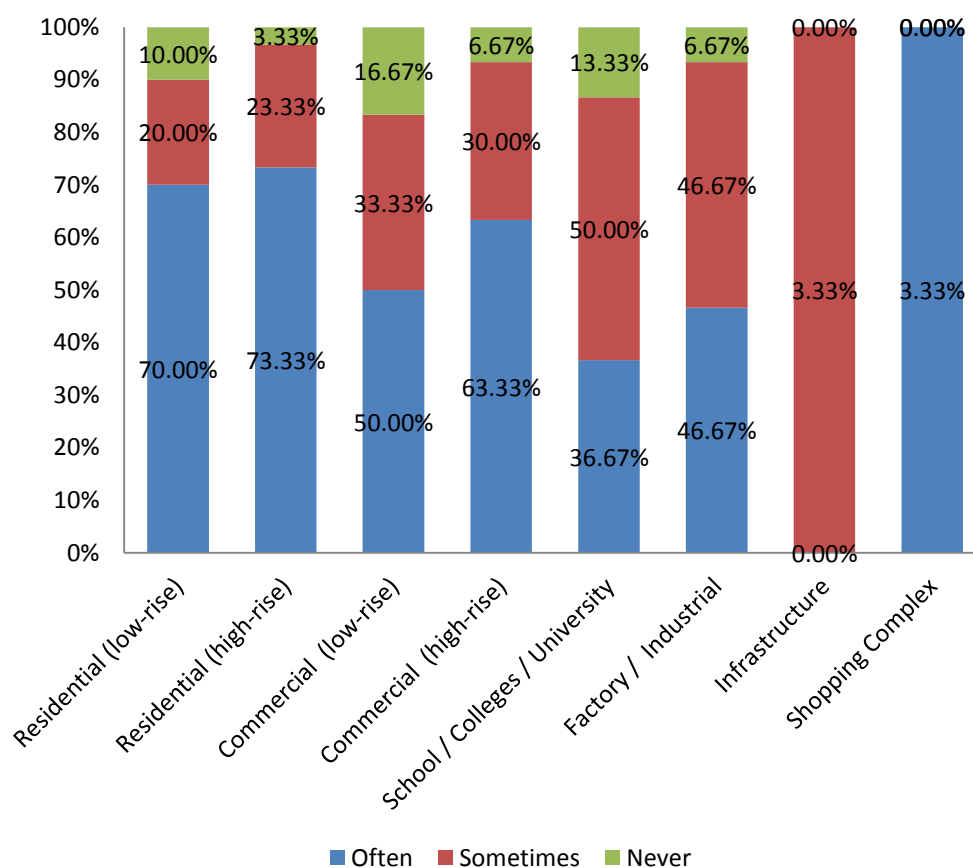
and 0% of the respondents who are sometimes and almost never use this standard form of contract respectively. Thus it can be seen that the respondents are able to answer the questions since the change of EOT clause is arose between PAM Form 1998 and 2006. Since most of the respondents are quite often in using PAM Form for their construction project, the questions that answered by the respondents will be more precise and accurate. Besides, this also able to prove that there are more than 90% of the private sector projects are based on PAM Form as the project building contract (Ong & Ho, 2008).

Next, for the JKR Form, 46.67% of the respondents answered often, 30% of the respondents who replied sometime and 23.33% who never use this standard form. Meanwhile for IEM Form and CIDB Form, there are only 16.67% and 0% of the respondents who answered often respectively. This is reflected that most of the respondents may not be familiar with these two types of forms of contract as well where there are 26.67% and 40.00% of the respondents answered sometime on the CIDB and IEM Form of contract respectively. Furthermore, there are 73.33% and 43.33% of the respondents who replied never on the CIDB Form and IEM Form. The CIDB form registered a very low frequency since it is considered as too pro-Contractor and very difficult to suit the projects in the Malaysian construction industry (Rajoo, 2010)

Besides the listed standard form, one of the respondents had added for another type of standard form – FIDIC, and the frequency he answered for this standard form is sometimes since it is not very common for local construction projects; it is normally for international construction projects (Knutson, 2005). As a conclusion for this part, PAM Form is considered as the most popular standard form that is used by the respondents. Therefore, the respondents are able to answer the other questions that related the changes of EOT clause and the results can be more reliable and accurate.

#### 4.2.2 Frequency of the listed Type of Projects that the Respondent Involved

The listed types of projects are Residential (low rise), Residential (high rise), Commercial (low rise), Commercial (high rise), School/Colleges/University, and Factory/Industrial. Furthermore, two of the respondents have added two (2) additional types of projects which are infrastructure and shopping complex.



**Figure 4.2: Frequency of the listed type of projects that the respondents involved**

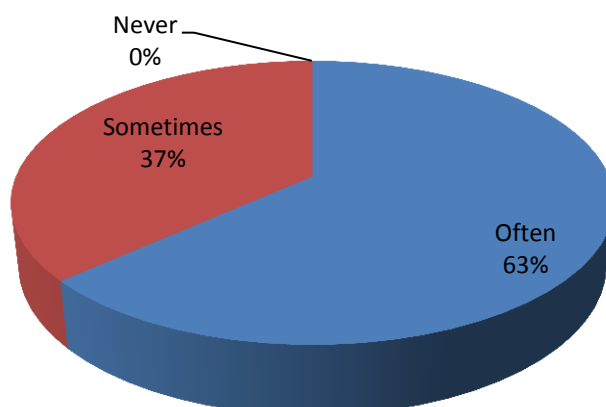
From figure 4.2 had shown that the various types of projects that the respondents were involved in. Focusing on the projects rated “often”, 73.33% of the respondents are often involved in high-rise residential construction project. Second place come to low-rise residential construction project where it is only 70.00% of the respondents are replied often on this type of project.

Followed by high-rise commercial and low-rise commercial projects, and factory or industrial project where it registered with 63.33%, 50.00% and 46.67% of the respondents often experience with respectively. Lastly, the school/colleges/ University project had less involvement by the respondents which is 36.67% only. Other than that, there are some of the respondent had added the other categories of the project which is infrastructure and shopping complex project and the frequency of involvement replied by the particular respondents are sometimes and often respectively.

From these data, the author is able to realise how frequent the respondents involved in various type of projects since the types of the projects are related with the types of the standard form of contract that normally practiced by the construction players. Hence, the projects such as residential, commercial, and factory projects which may considered as private sector project it might practice with PAM Form to deliver their project.

As a summary for this part, the data is able to prove that the respondents might have higher frequency in the involvement of construction projects which practiced with PAM Form. Therefore, their responses might be more precise and accurate on the questions that related to the PAM Form issues

#### 4.2.3 Frequency of Involvement for Application of EOT



**Figure 4.3: Frequency of involvement for application of EOT**



The frequency of involvement for application of EOT is important to show that the respondents are aware with the claim of EOT based on their standard form of contract. Figure 4.3 shown 63% of the respondents who are quite often involved in the application of EOT for their construction project. Other than that, there are 37% of the respondents who are quite rarely involved in the application of EOT and almost 0% of the respondents who are never involved in the application of EOT. This data shows that most of the respondents are involved quite frequently and might have experience in the application of EOT by the Contractor. Thus, they should be able to answer the Question 4 in the questionnaires which regarding the relevant events happen in their projects.

#### 4.2.4 Average Index of the listed Relevant Events happens to the Project

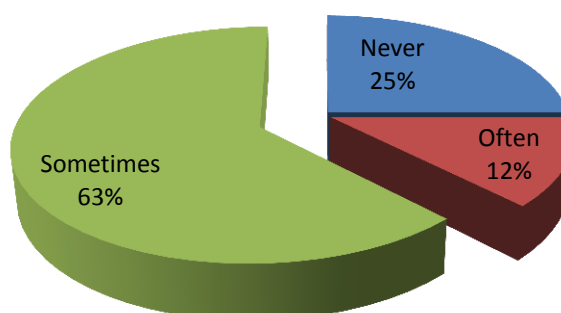
The Contractor is allowed to claim for EOT based on the 24 Relevant Events stated in Clause 23.8 under PAM Form 2006. In the questionnaire, there are only 23 Relevant Events that had been answered by the respondents

**Table 4.1: Average Index of the Relevant Events happens to the project**

<i>Item</i>	<i>Relevant Events</i>	<i>Average Index</i>	<i>Rating Scale</i>
a.	Force Majeure (Act of God)	2.57	Never
b.	Exceptionally Inclement Weather	2.00	Sometimes
c.	Insurance Contingencies	2.67	Never
d.	Civil Commotion, Strikes, Lockout	2.63	Never
e.	Late receipt of Architect's Instruction (AI)	1.43	Often
f.	Delay in giving possession of Site	1.93	Sometimes
g.	Compliance with AI	1.43	Often
h.	Nominated Sub-Contractor's (NSC) Delay	1.47	Often
i.	Delay in Re-nomination of NSC.	1.87	Sometimes
j.	Delay by Employer's Licensees	2.17	Sometimes
k.	Delay or Failure to Supply Materials and Goods by the Employer	1.87	Sometimes
l.	Opening Up for Inspection and Testing	1.73	Sometimes
m.	Act of prevention or breach of contract by Employer	2.13	Sometimes
n.	War Damage	2.90	Never
o.	Discovery of antiquities	2.90	Never
p.	Changes to law/terms of Authority/Service Provider	2.50	Never

q.	Delay by Appropriate Authority and Service Provider	2.20	Sometimes
r.	Appointment of a Replacement Person/Consultant/Contractor	2.17	Sometimes
s.	Disputes with neighbouring property owners	1.87	Sometimes
t.	Execution of work under a Provisional Quantity	1.70	Sometimes
u.	Failure to give entry or exit from the site	2.00	Sometimes
v.	Suspension by the Contractor	1.87	Sometimes
w.	Suspension by order of an Appropriate Authority	2.30	Sometimes
x.	Any other grounds	2.00	Sometimes

Table 4.1 had shown the average index of the relevant event that happens to the respondents' project. Apparently, there are only 3 items of the relevant events are happened quite often to their projects. Other than that, another 15 items and 6 items of the relevant events are happen "sometimes" and "never" to their projects respectively.



**Figure 4.4: Frequency of the Relevant Events happens to the project**

Based on Figure 4.4, the pie chart shown that there are only 12% of the relevant events from PAM Form 2006 are happened quite often, 63% are happened sometimes, 25% are almost never happened to their project currently. The relevant events that rated "often" by the respondents are late receipt of AI, compliance of AI, and NSC's delay. Besides that, the 6 items of relevant events that almost never happened to their project which are Force Majeure, insurance contingencies, civil

commotion/strikes/lockout, war damage, discovery of antiquities, and changes to law/terms of authority/service provider.

Some of the respondents had listed the others type of relevant events under types of “Any other ground”. The added grounds for application of EOT are the withdrawal from supervision and decision making by clients. The frequency answered by the respondents for that special 2 items are “Never” and “Often” respectively. As a conclusion for this part, the author able to know that most of the Relevant Events listed in Clause 23.8 under PAM Form is not often happens to the construction projects in Malaysia. Yet, there are few “famous” Relevant Events must be aware by the construction industry players in order to prevent such events happen and delay their project.

#### **4.3 Section B - Analysis for Awareness of the changes in EOT clause under PAM Form 2006**

Under this section, the analysis was separated into two (2) parts which are rights and obligations for Architect and Contractor, and the other part is Relevant Events. Under Relevant Events, the delays listed under Clause 23.8 in PAM Form 2006 can be divided into two (2) categories which are Excusable Non-Compensable (ENC) and Excusable Compensable (EC) Delays. So, this section of survey is aimed to determine whether the changes of EOT clause between PAM Form 1998 and 2006 are for the betterment of the construction industry or otherwise.

##### **4.3.1 Rights and Obligations**

Based on the Table 4.2, rights and obligation had divided into two different parties which are Contractor and Architect. From the comparison carried out in Table 2.1 under Chapter 2, the changes of rights and obligation among the Contractor are the time frame for submission, condition precedent provision, and the responsibility to

extend a copy to NSC for Contractor's application for EOT. Meanwhile, the rights and obligation to the architect are the time provision for approval and issuance of certificate of EOT, instruction for insufficient information, consideration of other relevant events of the Contractor's application, the power to grant for EOT after issuance of CNC, and the power of revision of the granted EOT are tabulated in the Table 2.2 under Chapter 2.

**Table 4.2: Improvement of changes in Rights and Obligation in EOT Clause under PAM Form 2006**

<i>Item</i>	<i>Rights and Obligation</i>	<i>Average Index</i>	<i>Rating Scale</i>
<b>I</b>	<b>Contractor</b>		
a.	Time frame for submission	4.53	Strongly Agree
b.	Condition precedent	3.77	Agree
c.	Extend a copy to NSC for Contractor's application for EOT	4.03	Agree
<b>II</b>	<b>Architect</b>		
d.	Time provision for approval & issuance of Certificate of Extension of Time	3.43	Neutral
e.	Instruction for insufficient information	3.50	Neutral
f.	Consideration of other Relevant Events of the Contractor's application	3.93	Agree
g.	EOT after issuance of Certificate of Non-Completion	4.13	Agree
h.	Revision of EOT	2.47	Disagree

As stated from Table 4.2, the average index reflected that the respondents strongly agreed there is an improvement for the construction industry where the Contractor must give notice within 28 days of relevant event, followed by supporting particulars within the 28 days of cessation of the delay otherwise will be deemed that the Contractor has assessed that such Relevant Event will not delay the Completion of the works beyond the Completion Date (Rajoo, Davidson, & Singh, 2010).

Thus, this will related into the item (b) in Table 4.2 and also agreed by the respondents where giving the written notice as mentioned by the Contractor is an expressed condition precedent before the Architect can grant an EOT is a great

improvement for the construction industry. If the Contractor failed to comply the condition precedent to apply for EOT, then he is considered to have waived his right to any extension of time premised on such Relevant Events (Tan, Low, Chee, & Sum, 2010). Furthermore, the average index also reflected that the respondents agreed there is an improvement whereby the Contractor must send a copy of the said written notice and particulars including references to the NSC concerned if the particular of the written notice is given under Clause 23.1.

For Architect's rights and obligation, the respondents are neutral that the Architect should assess and make a decision to issue Certificate of EOT or reject the application of EOT within 6 weeks after receipt of sufficient particulars is a better practice when compared with the previous provision. One of the respondents has brought up a question asking whether the Architect can issue EOT retrospectively, and it is silent in PAM 2006. This is because the respondents might think that there is no legal implication in the event the Architect assess the claim of EOT after 6 weeks and thus, this is not consider a perfect change to them.

Besides that, the respondents are neutral on whether there is an improvement whereby the architect is required to wait until sufficient information is received before giving his decision to reject or grant for EOT, and the Architect can request the Contractor to provide further information for evaluation purposes. One of the respondents had mentioned that the problems where there is no legal implication in Clause 23.4 under PAM 2006 in the event the Contractor failed to submit the further particulars and thus, the Architect still have to evaluate his claim within six weeks. Thus, such changes might not consider as an improvement for the construction industry.

In addition, the respondents agreed that the changes on the consideration of other Relevant Events of the Contractor's application and agreed that the PAM Form had provided the Architect a power to grant an EOT to Contractor after issuance of CNC are a positive improvement as well. Other than that, average index also shown that the respondents disagreed on the revision of granted EOT after practical completion. This could be the respondents having an opinion where the Architect might simply evaluate and assess the EOT since he has second chance to revise his

granted EOT after practical completion. Thus, the respondents think that this will likely to promote the attitude of irresponsible to the Architect.

### 4.3.2 Relevant Events

From PAM Form 2006, there are two types of delays are listed under Clause 23.8 which are ENC delay and EC delay. Furthermore, there are six (6) items under ENC Delay and nine (9) EC Delay are discussed in this section.

**Table 4.3: Improvement of changes in Relevant Events in EOT Clause under PAM Form 2006**

<i>Item</i>	<i>Relevant Events</i>	<i>Average Index</i>	<i>Rating Scale</i>
<b>I</b>	<b>Excusable Non-Compensable Delay</b>		
a.	Insurance Contingencies	3.87	Agree
b.	Delay by NSC	4.00	Agree
c.	Delay in re-nomination of NSC	4.23	Agree
d.	War Damage	3.30	Neutral
e.	Changes to law/terms of authority/Services Provider	3.40	Neutral
f.	Delay by Appropriate Authority and Service Provider	4.00	Agree
<b>II</b>	<b>Excusable Compensable Delay</b>		
g.	Late receipt of Architect's Instruction	3.87	Agree
h.	Delay in giving possession of site	3.93	Agree
i.	Discovery of antiquities	3.50	Neutral
j.	Appointment of replacement Person	3.30	Neutral
k.	Disputes with neighbouring property owners	4.07	Agree
l.	Execution of work under a Provisional Quantity	4.53	Strongly Agree
m.	Failure to give entry or exit from the site	4.07	Agree
n.	Suspension by the Contractor	4.00	Agree
o.	Suspension by an order of an Appropriate Authority	4.10	Agree

Under ENC delay, the respondents agreed that the changes in the provision of insurance contingencies, delay in re-nominating of NSC, the changes in the provision

of delay by NSC, and delay by appropriate authority and services provider are a good practice to this construction industry.

For the changes in the provisions which the delay is due to war damage and changes to law/terms authority/services provider, the respondents are neutral with these since they might think these changes are not an improvement or otherwise to the construction industry since these events never happen in construction projects which are shown in Table 4.1. Thus, the respondents have no experience on these issues and therefore neutral with such changes under PAM Form 2006.

For EC delay, the respondents are strongly agreed with one (1) item, agreed with six (6) items, and neutral with two (2) items there is an improvement to this construction industry among the changes. Firstly, the respondents are strongly agreed there is an improvement on the additional of new Relevant Events for execution of work under a provisional quantity. For the agree items, the changes are under the provision for late receipt of AI, suspension by Contractor, suspension by an order of an appropriate authority, delay in giving possession of site, disputes with neighbouring property owners, and failure to give entry or exit from the site.

Lastly, the respondents are neutral with two (2) items which are the provision of discovery of antiquities and appointment of replacement person where such person is no longer provides services to the Employer. This is because the respondents are no experiences in the involvement on such issue where these are presented in Table 4.1; which the respondents are never involved in the discovery of antiquities and appointment of replacement person is not often happen to their projects. Thus, they have no idea on these whether it is an improvement or otherwise.

#### **4.4 Section C - Analysis for Effects of the Changes in EOT Clause under PAM Form 2006**

This section of survey aims to determine the effects of the said changes for both of the Employer and Contractor. Therefore, the author had assumed that the changes in

the clause for the EOT is in favour of the Contractor in PAM Form 2006 and required the respondents to rate whether such statement is agreed or neutral by them or otherwise. For this section, it is same as the previous analysis where this question had been divided into two (2) parts which are rights and obligation to Contractor and Architect, and Relevant Events.

#### 4.4.1 Rights and Obligations

Based on Table 4.4, Architect's and Contractor's rights and obligations had been listed and the items to be discussed are focused on the favourability in the Contractor for revised EOT clause under PAM Form 2006.

**Table 4.4: Favourability in the Contractor for Rights and Obligation in the revised EOT Clauses under PAM Form 2006**

<i>Item</i>	<i>Rights and Obligation</i>	<i>Average Index</i>	<i>Rating Scale</i>
<b>I</b>	<b>Contractor</b>		
a.	Time frame for submission	2.47	Disagree
b.	Condition precedent	3.50	Neutral
c.	Extend a copy to NSC for Contractor's application for EOT	3.17	Neutral
<b>II</b>	<b>Architect</b>		
d.	Time provision for approval & issuance of Certificate of Extension of Time	3.43	Neutral
e.	Instruction for insufficient information	3.57	Agree
f.	Consideration of other Relevant Events of the Contractor's application	3.20	Neutral
g.	EOT after issuance of Certificate of Non-Completion	3.37	Neutral
h.	Revision of EOT	4.07	Agree

Under Contractor's rights and obligations, the average index analysis had indicates out that the respondents are disagreed that the changes of time frame for submission of EOT application. This may be due to respondents are in the opinion



that this are due to the reasonable time frame which is 28 days is not enough for Contractor to prepare the particulars for application of EOT and thus this might made the respondents think that this issue is having minor favourability to the Employer. Yet the time frame is actually very flexible as stated in PAM Form 2006 Clause 23.1(b). Hence, the stated period under the contract might be misled and misunderstood by the respondents.

For the expressed terms for condition precedent to claim for EOT by the Contractor and extend a copy to NSC for Contractor's application for EOT is in the favour to the Contractor, the respondents are neutral with these since the changes are neutral to both Contractor and Employer without biased to any party.

Under Architect's rights and obligations, the respondents are neutral with the revised time provision allowed the Architect to assess the EOT claim and issuance of certificate of EOT. Besides, the respondents also neutral with that the Architect should take consideration of other Relevant Events of the Contractor's application, and the power to grant for EOT after issuance of CNC is in the favour to the Contractor without beneficial to any party.

Besides that, the respondents are agreed that the provision requests the Architect to issue instruction for insufficient information, and revision of granted EOT after practical completion is in the favour to the Contractor. Firstly, the analysis shown in section 4.3.1 whereby the respondents are neutral with such changes is an improvement due to no legal implication for such issue in the event Contractor failed to submit further particulars. Therefore the Contractor might choose not to submit the further information since it will not influence or extinguishment of the right to claim for EOT. Thus, this will seem favourable to the Contractor.

Secondly, the revision of granted EOT after practical completion might encourage and promote the Architect's the irresponsible attitude to simply issue and assess the claim of EOT since it is allowed to change in the future. Thus, this will seem more favourable to the Contractor since the EOT granted is only can be added but not deducted in the future as stated under Clause 23.10 under PAM Form 2006; "...No such final review of extension of time shall result in a decrease in an any

extension of time already granted by the Architect...”. Besides that, the risk is shifted to Employer where the PAM Form 2006, Clause 23.10 also stated that “...In the event the fixing of such later completion Date affects the amount of Liquidated Damages the Employer is entitled to retain, he shall repay and surplus amount to the Contractor within the Period of Honouring Certificates”.

#### 4.4.2 Relevant Events

**Table 4.5: Favourability in the Contractor for Relevant Events in EOT Clauses under PAM Form 2006**

<i>Item</i>	<i>Relevant Events</i>	<i>Average Index</i>	<i>Rating Scale</i>
<b>I</b>	<b>Excusable Non-Compensable Delay</b>		
a.	Insurance Contingencies	3.50	Neutral
b.	Delay by NSC	3.52	Neutral
c.	Delay in re-nomination of NSC	3.49	Neutral
d.	War Damage	3.50	Neutral
e.	Changes to law/terms of authority/Services Provider	2.40	Disagree
f.	Delay by Appropriate Authority and Service Provider	3.47	Neutral
<b>II</b>	<b>Excusable Compensable Delay</b>		
g.	Late receipt of Architect’s Instruction	3.27	Neutral
h.	Delay in giving possession of site	3.43	Neutral
i.	Discovery of antiquities	3.30	Neutral
j.	Appointment of replacement Person	3.30	Neutral
k.	Disputes with neighbouring property owners	3.40	Neutral
l.	Execution of work under a Provisional Quantity	4.00	Agree
m.	Failure to give entry or exit from the site	3.30	Neutral
n.	Suspension by the Contractor	3.53	Agree
o.	Suspension by an order of an Appropriate Authority	3.20	Neutral

For ENC delay, the respondents are neutral with the listed five changes and disagreed for one changes of the clause in PAM Form 2006 are in the favour to the Contractor. The respondents are also neutral with the clause changes is in beneficial

to the Contractor when he has the right to claim for EOT when the works damaged resulted in an insurance claim and provided that the said damages are not caused by the Contractor, and he also has the right to claim for EOT when there is a delay in giving site possession by the employer, delay by the Architect in re-nomination another NSC who had been determined by the Main Contractor, war damage, and delayed by appropriate authority and service provider.

Besides, the respondents disagreed with the added the event in compliance of any changes to law/terms of authority/service provider is in the favour to the Contractor. This is due to the respondents are in the opinion that that such issue will caused the Contractor extra time and cost such as demolition of certain works due to changes to laws or requirements by the authority. Therefore, the risks are then shifted to the Contractor since they might require responsible for the extra cost since it is not stated as a ground to claim for loss and expenses in Clause 24.3 under PAM Form 2006.

Under EC delay, the respondents are neutral with the revisions of a clause in late receipt of AI, and additional of clause in delay in giving possession of site, discovery of antiquities, disputes with neighbouring property owners, failure to give entry or exit from the site, and suspension by an order of an appropriate authority. Besides that, the respondents are also neutral with the changes of the provision in the appointment of a replacement person such as Architect, Engineer, QS and specialist consultant had ceased to act for employment.

On the other hand, the respondents are agreed with the execution of work under a Provisional Quantity and suspension by the Contractor is in the favour to the Contractor. In other words, the respondents thought that the said items are biased to Contractor. An example for provisional quantity, the quantity of rock excavation is not only influencing the costing issue, it also influences the time to be execute or excavate; it need more time if quantity is bigger or more than estimated. Thus, the respondents are having an image showing that such changes are in the favour to the Contractor. Yet, it is actually fair to both parties since the extra time and cost payable is depends on the joint measurement by both of the Employer and Contractor.

For suspension by the Contractor, the Contractor has right to suspend his works due to non-payment as stated in Clause 30.7 under PAM Form 2006. Thus the respondents might have the wrong mind set based the changes of the clause are biased to the Contractor when comparing with the previous form. Besides that, The Contractor has right to suspend the part of works that under any Qualified Person (QP) such as Architect and other Consultants. Hence, it is fair to both of the parties.

#### **4.4.3 Recommendation for future PAM Form Revision**

For the last part, which is the “closed-ended question from the questionnaire is intended to obtain the recommendation for any clauses/provisions for EOT in PAM Form 2006 is whether required to be re-drafted or deleted for the good of industry. Yet the response rate is low where this question is just answered by three (3) of the respondents.

The respondents claimed that there are few issues are silent in EOT clause under PAM Form 2006. Firstly, one of the respondents is asking about whether the Architect can grant for EOT retrospectively or otherwise. Secondly, one of the respondents doubts whether there is any legal implication to the Contractor, Employer or even the Architect in the event that the Contractor failed to submit further information as requested by the Architect due to insufficient information as stated in Clause 23.3 under PAM Form 2006. Lastly, the other respondent also wondering that whether the Architect is having any legal implication when he is unable to assess or issue the certificate of EOT under the period of 6 weeks.

Especially for time-bar issue on the Architect’s liabilities to issue or assess the claim of EOT, although PAM Form 2006 is silent but according to The PAM 2006 Standard Form of Building Contract (2010), the Architect can adopt one of the following options if the stated 6 weeks are not sufficient for him:

- Inform the Contractor that he needs more time and get his express consent thereto, or

- Issue an interim extension (if the review period is less than granted to carry out a further assessment and perhaps give an additional extension; or
- If the assessment period is too short so that it is not reasonably practicable for him to make a considered decision, inform the Contractor accordingly and leave it for review under Clause 23.10.

Furthermore, one of the respondents also stated that the language used by the PAM Form 2006 is too complex which is beyond the understanding by the contract parties. Therefore, they usually require a person who has legal background to interpret the contents in order to reduce misunderstanding on the terms that stated in the PAM Form Contract.

Besides that, one of the respondents also claimed that there is no further legal implication in the event the rights to claim for EOT by the Contractor are extinguished due to failure to comply with the condition precedent and perhaps, the completion will be at large and this is not good to the Contractor and Employer. According to Rajoo (2010), he mentioned that the Contractor will lose his rights to for EOT application for that particular events if he is failed to serve the notice as condition precedent as stated in Clause 23.1(a) under PAM Form.

Following to that, any delay due to that particular events, then the Contractor is required to bear the risk and might be imposed LAD by the Employer when the works are unable to be completed before the Completion Date. The term of “time at large” is used when the Contractor is required to complete his works within a reasonable time without culpable delay (Tan, Low, Chee, & Sum, 2010). The stated completion date is then no longer valid and thus the Employer is unable to levy liquidated damages for late completion. (Wortham, 2005). Therefore, this issue that raised by the respondent is able to declared the failure to comply condition precedent under the stated clause is not resulted time at large to the project.

However, some of the provisions are silent in the PAM Form 2006 and therefore, it is recommended to add in provisions regarding such issues to reduce the uncertainty or unnecessary disputes. Besides that, this section is brought forward to discuss further under recommendation in Chapter 5.

## 4.5 Conclusion

For Section A which is the background of project, the author concluded that the respondents are quite often involved in the application of EOT under PAM Form Contract. Therefore, the results are more reliable and accurate. Based on the analysis for Section B and Section C, the author also concluded that these two sections are inter-linked. If the respondents are agreed that the changes are the improvement for the construction industry, then the effects of the changes are neutral since it is not in the favour or biased to any party.

From the analysis for this research, the changes on the provisions that allowed the Architect has the power to revise the granted EOT is not an improvement for the construction industry. Furthermore, the time frame stated in PAM Form 2006 for submission of the particulars by the Contractor is in not in the favour to him; yet it is in the favour to the Employer. Besides, the additional provision that allowed the Contractor claim for EOT when the delay is due to changes to law/terms of authority/services provider is in the favour to the Employer as well.

Meanwhile, the additional of the provisions in the instruction for insufficient information and revision of EOT after CPC is consider in the favour to the Contractor. Besides that, the additional of the provisions that allowed the Contractor to claim for EOT when the delay is due to execution of work under a Provisional Quantity and Suspension by the Contractor is in the favour to the Contractor as well. Lastly, the recommendations are further discussed in next chapter.

## **CHAPTER 5**

### **CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter is the last chapter of this research which included the recommendation based on the findings and conclusion. The aim of the study is to investigate the changes between PAM Form 1998 and 2006 edition in relation to EOT. Besides that, this study is not only to figure out the changes between the revised EOT clause, it is also able to determine whether the changes of clause between PAM 1998 and 2006 are for the betterment of the construction industry and also determine the effects of the said changes for both of the Employer and Contractor. Furthermore, recommendations are described in the event why the changes are not an improvement for the construction industry and biased to one of the parties from the contract.

#### **5.2 Conclusion**

Basically, the objectives stated in chapter one is achieved successfully by the author. There are two (2) objectives that was set for this research which are: a) To determine whether the said changes of clause between PAM Form 1998 and 2006 are for the betterment of the construction industry or otherwise, and b) To determine the effects of the said changes for both of the Employer and Contractor.

For the first objective had been achieved by this research whereby the author can conclude that the changes in EOT clause between PAM Form 1998 and 2006 are for the betterment of the construction industry. This statement also reflected that the most of the QS are aware of the changes in EOT clause between two different versions of PAM Form since they are able to answer and understand the questions from the questionnaire.

On the other hand, the second objective had been achieved as well since the author is able to conclude that the effect of the changes figured out from the latest version of PAM Form is mostly neutral to both of the Employer and Contractor and without biased to any one of the parties. Furthermore, this result also showed which of the provisions are impartially or tend to biased one of the parties. Thus, the construction industry players are able to know that their rights and liabilities and the potential risk that likely to happen in the future when adopting the PAM Form 2006 version.

### **5.3 Recommendations**

Although the conclusion had been finalised, yet there are some of the changes are not same as the result from the conclusion. From previous chapter, the author had figured out some of the respondents are not agreed the changes is an improvement, and/or agreed and/or disagreed that the effect of changes are in the favour to the Contractor; which is not neutral for both parties. Therefore, the author suggested some recommendations to increase more awareness to the construction players and re-draft the better EOT clause for PAM Form.

First of all, the related parties should organise more seminars or conferences regarding revised EOT provision in PAM Form revision, to deliver the knowledge of the legal studies of the said issues to the construction players since some of them are not aware on the changes. Next, the related parties also should publish more of handbook for PAM Form since there are not much of writer had published such handbook for the construction players even the students and lecturer as well and thus,



they able to know and figure out what are changed from the previous version of the standard form of contract. Besides that, the institution parties can deliver more knowledge on the latest form of contract but not focus on the previous version of the standard form.

On the other hand, PAM Form is advisable to change the complex English language to simple English language in order to make the construction players, students and lecturers are easier to understand and will not be misled by the complex language. Further to that, PAM Form is advisable as well to consider some of the Relevant Events that are entitled to grant the EOT with loss and expenses or otherwise to the Contractor base on the Malaysian construction industry practice such as the delay is due to decision making by the Employer and changes to law/terms of authority/service provider in order to declare and shift the risks and responsibilities to the defaulted party.

Furthermore, the respondents are neutral with that an additional provision of instruction for insufficient information by the Architect is an improvement since there is no legal implication for such issue in the event Contractor failed to submit further particulars. So, the drafter of PAM Form should look into this issue and establish further legal implication to strengthen this provision.

Last but not least, the respondents also brought up a question for this research, which is asking whether the Architect can issue EOT retrospectively, and it is silent in PAM 2006. According to Clause 23.4 under PAM Form 2006, it is stated that the Architect must assess and issue the certificate of EOT or rejection within six weeks, and there is no legal implication if the Architect never issue or assess the claim of EOT within the time frame. Therefore, PAM Form is required to look up this issue in order to declare the legal implication to the Architect based on this issue.

#### **5.4 Limitation of Research**

Lack of conference is one several limitations that figured out by the author. The author had found very few of the reference books regarding PAM Form from the market. Besides that, this study is only focused in the changes of EOT clause, but not the entire PAM Form since the author has to complete this research within a limited time. Furthermore, this research is only able to focus on the awareness and effects of the changes to the Contractor and Employer, and there is no further evaluation of the details of the effects of changes since such changes in PAM Form 2006 is still considered new to this construction industry.

#### **5.5 Recommendation for Further Research**

As mentioned in the limitation of the research, the author had limited time to complete this research and thus, it is recommended that the future students can study the changes on the other aspect between PAM Form 1998 and 2006 such as payment issues, arbitration issues, determination issues and more. Besides that, the study of differences between PAM Form and the other Form of Contractor can also be done by the future students. Furthermore, a study regarding the effects of the said changes can be done in the future research since this research is only able to show the level of fairness on the revised EOT clause. Lastly, students also can study the recommendations that were made by the author in order to draft out a better PAM Form revision in the future which is able to suit most of the project types and able to shift the risks and responsibilities to become more impartial and fair to both of the contract parties.

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**APPENDIX A**

**Questionnaire Survey Form**



Liaw Kok Cheng

No. 25 Jalan Saga,  
Taman Sri Saga,  
43000 Kajang,  
Selangor.

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To Whom It May Concern

Dear Sir/Madam,

My name is Liaw Kok Cheng. I am an undergraduate pursuing a bachelor degree in Quantity Surveying at Universiti Tunku Abdul Rahman. Currently, I am doing a dissertation entitled "**Revised Extension of Time (EOT) Clause in PAM Form 2006 Compared to PAM Form 1998**" as a prerequisite for the degree.

2. Under PAM 1998, there are only twelve (12) relevant events for EOT. This is expended to twenty-four (24) relevant events which under PAM Form 2006 including some new provisions with the existing events.
3. The aim of this research is to investigate the changes between PAM Form 1998 and 2006 edition in relation to EOT clause. Therefore, it is essential to establish statistical data to provide a better understanding on it.
4. For the purpose of gathering information in order to achieve the aim stated above, I hereby enclosed a set of questionnaire for your kind reply. I would be grateful if all the questions are completed to facilitate in the data analysis. Please return the completed questionnaire via mail, using the **enclosed pre-addressed and stamped enveloped by 9<sup>th</sup> March 2012**.
5. All information and personal particulars given in this questionnaire will be kept **strictly confidential**, and will not be passed on to any other party(s).
6. For further inquiries or clarification, please do not hesitate to call me on 012-6661423 or email to [lkcanson89@gmail.com](mailto:lkcanson89@gmail.com).
7. I look forward to hear your favourable reply on the questionnaire that I have posted to you. Thank you for your time taken to fill in the questionnaire.

Thank you.

Yours faithfully,

Liaw Kok Cheng

SECTION A: GENERAL

1.0 RESPONDENT'S PARTICULAR

Name of Respondent : \_\_\_\_\_

Designation : \_\_\_\_\_

Name of Company : \_\_\_\_\_

Address : \_\_\_\_\_

Signature : \_\_\_\_\_

<b>COMPANY'S STAMP</b>
------------------------

## SECTION A (Cont'd)

## 2.0 BACKGROUND OF PROJECT

(Please tick [ / ] where applicable according to the appropriate scale)

		Often	Sometimes	Never
1.	There are various types of Standard Form of construction contracts available in Malaysia. How often do you use the listed Standard Form?	PAM Form		
		CIDB Form		
		IEM Form		
		JKR Form		
		Others (Please state): _____		
2.	How often are you involved in the listed type of projects?	Residential (low rise)		
		Residential (high rise)		
		Commercial (low rise)		
		Commercial (high rise)		
		School / Colleges / University		
		Factory / Industrial		
		Others (Please state): _____		
3.	How often do your projects involve the application of Extension of Time (EOT)?			
4.	Based on your experience, how often do the listed relevant events happen in your projects?	Force Majeure (Act of God)		
		Exceptionally Inclement Weather		
		Insurance Contingencies		
		Civil Commotion, Strikes, Lockout		
		Late receipt of Architect's Instruction (AI)		
		Delay in giving possession of Site		
		Compliance with AI		
		Nominated Sub-Contractor's (NSC) Delay		
Delay in Re-nomination of NSC.				

4.	Based on your experience, how often do the listed relevant events happen in your projects? (Cont'd)	Often	Sometimes	Never
	Delay by Employer's Licensees			
	Delay or Failure to Supply Materials and Goods by			
	Opening Up for Inspection and Testing			
	Act of prevention or breach of contract by Employer			
	War Damage			
	Discovery of antiquities			
	Changes to law/terms of Authority/Service Provider			
	Delay by Appropriate Authority and Service Provider			
	Appointment of a Replacement			
	Disputes with neighbouring property owners			
	Execution of work under a Provisional Quantity			
	Failure to give entry or exit from the site			
	Suspension by the Contractor			
	Suspension by order of an Appropriate Authority			
	Others (Please state): _____			

## SECTION B: AWARENESS

This section of the survey aims to determine whether the changes of clauses between PAM Form 1998 and 2006 are for the betterment of the construction industry or otherwise.

"The risk allocation for time, money matters, quality issues and dispute resolution between the Contractor, Employer and Consultant team has been shifted significantly in PAM Form 2006." - Quoted from Mr. Rajoo (One of the authors of PAM Form 1998)

5. In your opinion, do you agree or disagree that there is an improvement for the construction industry based on the changes made under the EOT clause(s) in PAM Form 2006?

(Please tick [ / ] where applicable according to the appropriate scale)

Changes of Clauses		Status of Clauses	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b><u>Contractor's Rights and Obligation</u></b>							
a.	(2006 Version) - Contractor must give notice within <u>twenty-eight (28) days</u> of Relevant Event, followed by supporting particulars within the 28 days of cessation of the delay or it shall be deemed that the Contractor have waived his right.  (1998 Version) - Contractor must give notice within <u>reasonable time</u> of Relevant Event in order to claim for EOT.	Revised					
b.	(2006 Version) - Giving the written notice as item (a) by the Contractor is an <u>express</u> condition precedent before the Architect can grant an EOT.  (1998 Version) - Giving the written notice as item (a) by the Contractor is an <u>implied</u> condition precedent before the Architect can grant an EOT.	Revised					
c.	Contractor must send a copy of such written notice and particulars including references to the Nominated Sub-Contractor (NSC) concerned if the particulars of the written notice is given under Clause 23.1	Added					
d.	Others ( Please state): _____						
<b><u>Architect's Rights and Obligation</u></b>							
e.	(2006 Version) - Architect should assess and make a decision to issue Certificate of EOT or reject the application of EOT within <u>6 weeks</u> after receipt of sufficient particulars.  (1998 Version) - Architect should assess and make a decision to issue Certificate of EOT or reject the application of EOT within <u>reasonable time</u> after receipt of sufficient particulars.	Revised					
f.	Architect is required to wait until sufficient information is received before giving his decision to reject or grant for EOT, and the Architect can request the Contractor to provide further information for evaluation purposes.	Added					
g.	Architect can take into consideration other Relevant Events besides the ones given by the Contractor in the application of EOT and Completion Date will not deducted due to omission of works.	Added					
h.	Architect can grant an EOT to Contractor after issuance of Certificate of Non-Completion	Added					

5. In your opinion, do you agree or disagree that there is an improvement for the construction industry based on the changes made under the EOT clause(s) in PAM Form 2006? (Cont'd)

Changes of Clauses		Status of Clauses	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>Architect's Rights and Obligation (Cont'd)</b>							
i.	Architect can revise but not deduct the granted EOT after Practical Completion.	Added					
j.	Others ( Please state): _____						
<b>Relevant Events - Excusable Non-Compensable Delays</b>							
k.	Insurance contingencies (2006 Version) - Contractor has the right to claim for EOT when the works damaged resulted in an insurance claim and <u>the said damages are not caused by the Contractor.</u> Insurance contingencies (1998 Version) - Contractor has the right to claim for EOT when the works damaged resulted in an insurance claim.	Revised					
l.	NSC's delay (2006 Version) - The granted EOT for NSC <u>will not be applicable</u> or affect the PAM Form 2006 contract duration if that delay is caused by Main Contractor. NSC's delay (1998 Version) - The granted EOT for NSC <u>may be applicable</u> or affect the PAM Form 1998 contract duration if that delay is caused by Main Contractor.	Revised					
m.	Delay in re-nomination of NSC - Contractor has the right to claim for EOT when there is a delay by the Architect in re-nominating another NSC who had been determined by the Main Contractor.	Added					
n.	War Damage - Contractor is entitled to claim for EOT when the war damage caused the works are delay and thus unable to complete before the Date of Completion.	Added					
o.	Changes to law/terms of Authority/Services Provider - The contractor is entitled for EOT when the delay is due to compliance of any changes to any law, regulations, by-law or terms and conditions which will affects his work progress.	Added					
p.	Delay by Appropriate Authority and Service Provider - When the delay of work progress is due to any Appropriate Authority and Service Provider, contractor will be entitled to EOT provided such delay is not due to his negligence, omission, default and/or breach of contract on his part or his NSC.	Added					
q.	Others ( Please state): _____						
<b>Relevant Events - Excusable Compensable Delays</b>							
r.	Late receipt of Architect's Instruction (2006 Version) - Contractor is entitled for EOT, loss and expenses when he had specifically applied in writing to the Architect due to late receipt of AI <u>including details, further drawings, any other information;</u> and <u>provided that the AI was not required as a result of any negligence, default and/or breach of Contract and/or NSC.</u> Late receipt of Architect's Instruction (1998 Version) - Contractor is entitled for EOT, loss and expenses when he had specifically applied in writing to the Architect due to late receipt of AI.	Revised					

5. In your opinion, do you agree or disagree that there is an improvement for the construction industry based on the changes made under the EOT clause(s) in PAM Form 2006? (Cont'd)

Changes of Clauses		Status of Clauses	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>Relevant Events - Excusable Compensable Delays (Cont'd)</b>							
s.	Delay in giving possession of site - When the Employer is unable to give possession of site or any section of site to Contractor after issuance of Letter of Award (LA), the Contractor will then be able to claim for EOT, loss and expenses.	Added					
t.	Discovery of antiquities - Contractor can claim for EOT, loss and expenses if fossil, antiquities and other objects of interest or value are discovered on the site, the contractor has to stop all the works, not move or disturb the said objects and preserve all the said objects in the site. He is also required to notify the Architect for further instruction.	Added					
u.	Appointment of a Replacement Person - Where any of the Qualified Persons such as Architect, Engineer, QS, and Specialist Consultant had ceased to act for employment, the Architect may be required to appoint a replacement person to continue the act for employment within 28 days as stated in Articles.	Added					
v.	Disputes with neighbouring property owners - If a dispute happens with the neighbouring property owner, due to the Employer or AI that requires the contractor to comply with, which is likely to delay the Works, the Contractor is then entitled to EOT, loss and expenses.	Added					
w.	Execution of work under a Provisional Quantity - Where the Provisional Quantity that stated in the Bills of Quantities (BQ) are different with the quantity executed, and the Architect in his opinion agrees that the quantity of work that actually required was a reasonable accurate forecast, therefore the extra days to execute the extra quantity will entitle the contractor to EOT as well as the loss and expenses.	Added					
x.	Failure to give entry or exit from the site by the Employer - Where the employer fails to give at due time to the contractor access and egress to the site, the contractor is then entitled to EOT, loss and expenses.	Added					
y.	Suspension by the Contractor - When the Employer failed to pay to the contractor the amount as stated in the payment certificate after fourteen (14) days from the receipt or a written notice from the Contractor, the Contractor can issue further written notice and suspend his work immediately until such payment is made.	Added					
z.	Suspension by order of an Appropriate Authority - Where the suspension of works is ordered by the Appropriate Authority which is likely to delay the works progress, the Contractor is entitled to EOT and loss and expenses.	Added					
aa.	Others ( Please state): _____						

## SECTION C: EFFECT OF CHANGES

This section of the survey aims to determine the effects of the said changes for both of the Employer and Contractor.

"The reallocation of risks proportionately increase the employer's exposure and burden in terms of claims and payment while providing more possible grounds for disputes between the contractor and employer." - Quoted from Mr. Rajoo (One of the authors for PAM Form 1998)

6. In your opinion, do you agree that the changes in the clauses for the EOT is in favour of the Contractor in PAM Form 2006?

(Please tick [ / ] where applicable according to the appropriate scale)

Changes of Clauses		Status of Clauses	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b><u>Contractor's Rights and Obligation</u></b>							
a.	(2006 Version) - Contractor must give notice within <u>twenty-eight (28) days</u> of Relevant Event, followed by supporting particulars within the 28 days of cessation of the delay or it shall be deemed that the Contractor have waived his right.  (1998 Version) - Contractor must give notice within <u>reasonable time</u> of Relevant Event in order to claim for EOT.	Revised					
b.	(2006 Version) - Giving the written notice as item (a) by the Contractor is an <u>express</u> condition precedent before the Architect can grant an EOT.  (1998 Version) - Giving the written notice as item (a) by the Contractor is an <u>implied</u> condition precedent before the Architect can grant an EOT.	Revised					
c.	Contractor must send a copy of such written notice and particulars including references to the Nominated Sub-Contractor (NSC) concerned if the particulars of the written notice is given under Clause 23.1	Added					
d.	Others ( Please state): _____						
<b><u>Architect's Rights and Obligation</u></b>							
e.	(2006 Version) - Architect should assess and make a decision to issue Certificate of EOT or reject the application of EOT within <u>6 weeks</u> after receipt of sufficient particulars.  (1998 Version) - Architect should assess and make a decision to issue Certificate of EOT or reject the application of EOT within <u>reasonable time</u> after receipt of sufficient particulars.	Revised					
f.	Architect is required to wait until sufficient information is received before giving his decision to reject or grant for EOT, and the Architect can request the Contractor to provide further information for evaluation purposes.	Added					
g.	Architect can take into consideration other Relevant Events besides the ones given by the Contractor in the application of EOT and Completion Date will not deducted due to omission of works.	Added					
h.	Architect can grant an EOT to Contractor after issuance of Certificate of Non-Completion	Added					



6. In your opinion, do you agree that the changes in the clauses for the EOT is in favour of the Contractor in PAM Form 2006? (Cont'd)

Changes of Clauses		Status of Clauses	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>Architect's Rights and Obligation (Cont'd)</b>							
i.	Architect can revise but not deduct the granted EOT after Practical Completion.	Added					
j.	Others ( Please state): _____						
<b>Relevant Events - Excusable Non-Compensable Delays</b>							
k.	Insurance contingencies (2006 Version) - Contractor has the right to claim for EOT when the works damaged resulted in an insurance claim and <u>the said damages are not caused by the Contractor.</u> Insurance contingencies (1998 Version) - Contractor has the right to claim for EOT when the works damaged resulted in an insurance claim.	Revised					
l.	NSC's delay (2006 Version) - The granted EOT for NSC <u>will not be applicable</u> or affect the PAM Form 2006 contract duration if that delay is caused by Main Contractor. NSC's delay (1998 Version) - The granted EOT for NSC <u>may be applicable</u> or affect the PAM Form 1998 contract duration if that delay is caused by Main Contractor.	Revised					
m.	Delay in re-nomination of NSC - Contractor has the right to claim for EOT when there is a delay by the Architect in re-nominating another NSC who had been determined by the Main Contractor.	Added					
n.	War Damage - Contractor is entitled to claim for EOT when the war damage caused the works are delay and thus unable to complete before the Date of Completion.	Added					
o.	Changes to law/terms of Authority/Services Provider - The contractor is entitled for EOT when the delay is due to compliance of any changes to any law, regulations, by-law or terms and conditions which will affects his work progress.	Added					
p.	Delay by Appropriate Authority and Service Provider - When the delay of work progress is due to any Appropriate Authority and Service Provider, contractor will be entitled to EOT provided such delay is not due to his negligence, omission, default and/or breach of contract on his part or his NSC.	Added					
q.	Others ( Please state): _____						
<b>Relevant Events - Excusable Compensable Delays</b>							
r.	Late receipt of Architect's Instruction (2006 Version) - Contractor is entitled for EOT, loss and expenses when he had specifically applied in writing to the Architect due to late receipt of AI <u>including details, further drawings, any other information;</u> and provided that the AI was not required as a result of any negligence, default and/or breach of Contract and/or NSC.  Late receipt of Architect's Instruction (1998 Version) - Contractor is entitled for EOT, loss and expenses when he had specifically applied in writing to the Architect due to late receipt of AI.	Revised					

6. In your opinion, do you agree that the changes in the clauses for the EOT is in favour of the Contractor in PAM Form 2006? (Cont'd)

Changes of Clauses		Status of Clauses	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>Relevant Events - Excusable Compensable Delays (Cont'd)</b>							
s.	Delay in giving possession of site - When the Employer is unable to give possession of site or any section of site to Contractor after issuance of Letter of Award (LA), the Contractor will then be able to claim for EOT, loss and expenses.	Added					
t.	Discovery of antiquities - Contractor can claim for EOT, loss and expenses if fossil, antiquities and other objects of interest or value are discovered on the site, the contractor has to stop all the works. not move or disturb the said objects and preserve all the said objects in the site. He is also required to notify the Architect for further instruction.	Added					
u.	Appointment of a Replacement Person - Where any of the Qualified Persons such as Architect, Engineer, QS, and Specialist Consultant had ceased to act for employment, the Architect may be required to appoint a replacement person to continue the act for employment within 28 days as stated in Articles.	Added					
v.	Disputes with neighbouring property owners - If a dispute happens with the neighbouring property owner, due to the Employer or AI that requires the contractor to comply with, which is likely to delay the Works, the Contractor is then entitled to EOT, loss and expenses.	Added					
w.	Execution of work under a Provisional Quantity - Where the Provisional Quantity that stated in the Bills of Quantities (BQ) are different with the quantity executed, and the Architect in his opinion agrees that the quantity of work that actually required was a reasonable accurate forecast, therefore the extra days to execute the extra quantity will entitle the contractor to EOT as well as the loss and expenses.	Added					
x.	Failure to give entry or exit from the site by the Employer - Where the employer fails to give at due time to the contractor access and egress to the site, the contractor is then entitled to EOT, loss and expenses.	Added					
y.	Suspension by the Contractor - When the Employer failed to pay to the contractor the amount as stated in the payment certificate after fourteen (14) days from the receipt or a written notice from the Contractor, the Contractor can issue further written notice and suspend his work immediately until such payment is made.	Added					
z.	Suspension by order of an Appropriate Authority - Where the suspension of works is ordered by the Appropriate Authority which is likely to delay the works progress, the Contractor is entitled to EOT and loss and expenses.	Added					
aa.	Others ( Please state): _____						

7. For the good of the industry, is there any clauses/provisions for EOT in PAM 2006 that you feel need to be re-drafted or deleted in future PAM Form revision? Please state proposed amendment and reasons if any:

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- END -  
Thank You.

**APPENDIX B**

**EOT & Loss and Expenses Clause under PAM FORM 1998**

22.0 Damages For Non-Completion

22.1 If the Contractor fails to complete the Works by the Date for Completion or within any extended time fixed under Clause 23.0 or sub-clause 32.1 (iii) and the Architect certifies in writing that in his opinion the same ought reasonably so to have been completed, then the Contractor shall pay to the Employer a sum calculated at the rate stated in the Appendix as Liquidated and Ascertained Damages (LAD) for the period from the Date for Completion or any extended date where applicable to the date of Practical Completion. The Employer may deduct such sum as a debt from any monies due or to become due to the Contractor under this Contract.

Liquidated and Ascertained Damages

22.2 The Liquidated and Ascertained Damages stated in the Appendix is to be deemed to be as the actual loss which the Employer will suffer in the event that the Contractor is in breach of the Clause hereof. The Contractor by entering into this Contract agrees to pay to the Employer the said amount(s) if the same become due without the need of the Employer to prove his actual damage or loss.

LAD Amount Deemed As Agreed

23.0 Extension Of Time

23.1 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, giving particulars of the expected effect and an estimate of the extension of time required. The notice shall contain sufficient information and reason why delay to completion will result.

Notifying of Events Causing Delay

23.2 Upon receipt of the Contractor's notice that there are events causing delay and the completion of the Works is likely to be delayed beyond the Date for Completion then the Architect shall subject to Clauses 23.3, 23.4 and 23.7 hereof consider the relevant events causing delay and by written notice to the Contractor give a fair and reasonable extension of time by fixing such later date as the Date for Completion. The Contractor shall not be entitled to any extension of time where instructions or acts of the Employer and/or the Architect are necessitated by or intended to cure any default of or breach of contract by the Contractor.

A Fair and Reasonable Extension of Time

23.3 Provided always the Contractor submits to the Architect his application for extension of time complete with particulars and estimates in a reasonable time before the Date of Completion, the Architect having regard to the sufficiency of the particulars and estimates of the aforesaid notice shall ascertain and fix such new Date for Completion within a reasonable time from the receipt of the said notice. The Architect may fix a new Date for Completion retrospectively upon failure of the Contractor to submit his application for extension of time complete with particulars and estimates in accordance with the aforesaid period.

Time Limitation As to Giving Extension of Time

23.4 The Contractor shall constantly use his best endeavours to prevent delay in the progress of the Works, however caused, and to do all that may reasonably be required to the satisfaction of the Architect to prevent delay or further delay in the completion of the Works beyond the Date for Completion.

Contractor to Prevent Delay

23.5 The Architect shall not under Clause 23.3 fix a Date for Completion earlier than the Date for Completion stated in the Appendix.

Limitation in Fixing Completion Date

23.6 The Architect shall notify every Nominated Sub-Contractor in writing each decision of the Architect when fixing a new Date for Completion.

Notification to Nominated Sub-Contractors

23.7 The relevant events causing delay where the Contractor may be given a fair and reasonable extension of time are:

Relevant Events Causing Delay for Which Extension of Time May Be Given

23.7 (i) force majeure.

23.7 (ii) exceptionally inclement weather.

23.7 (iii) loss or damage occasioned by one or more of the contingencies referred to in Clauses 20.A, 20.B.1 or 20.C.1 as the case may be.

23.7 (iv) civil commotion, strike or lockout affecting any of the trades employed upon the Works or any of the trades engaged in the preparation, manufacture or transportation of any goods or materials required for the Works.

23.7 (v) compliance of Architect's instructions under Clauses 1.2, 11.2, 21.1 or 21.4.

- 23.7 (vi) Contractor not having received in due time necessary instructions, drawings, details or levels from the Architect for which he had specifically applied in writing provided that the application was made on a date having regard to the Date for Completion was neither unreasonably distant nor unreasonably close to the date on which it was necessary for him to receive them.
- 23.7 (vii) delays on the part of Nominated Sub-Contractors or Nominated Suppliers for the same reasons as set out in the sub-clauses 23.7 (i) to 23.7 (vi) and sub-clauses 23.7 (viii) to 23.7 (xii).
- 23.7 (viii) delay on the part of artists, tradesmen or others engaged by the Employer in executing work not forming part of this Contract.
- 23.7 (ix) delay in the supply of materials and goods which the Employer had agreed to supply for the Works.
- 23.7 (x) opening up for inspection any work covered up or the testing of any work, materials or goods in accordance with Clause 6.3 (including making good in consequence of such opening up or testing) unless the inspection or test showed that the work, materials or goods were not in accordance with the Contract.
- 23.7 (xi) any act of prevention or breach of contract by the Employer not mentioned in this Clause 23.7.
- 23.7 (xii) any other ground for extension of time expressly mentioned in the Contract.

**24.0 Loss And/Or Expense Caused By Disturbance Of Regular Progress Of The Works**

**Application to Ascertain Loss and/or Expense**

**24.1** If and when the Contractor notifies the Architect in writing that the regular progress of the Works or any part of it has been or is likely to be materially affected and that he had incurred or is likely to incur direct loss and/or expense for which he would not be reimbursed by a payment under any other provision of this Contract then the Architect shall as and when necessary from time to time ascertain the amount of such loss and/or expense which had been incurred by the Contractor, provided that:

- 24.1 (i) the Contractor's application is made in writing as soon as it becomes or should be reasonably apparent to him that the regular progress of the Works or any part of it had been or is likely to be affected; and
- 24.1 (ii) the Contractor submits together with his application relevant information substantiating his claim so as to enable the Architect to form an opinion; and
- 24.1 (iii) the Contractor upon request submit to the Architect any other additional details of loss and/or expense as are reasonably necessary for ascertainment.

**Circumstances Materially Affecting Progress of the Works**

**24.2** The Contractor is not entitled to loss and/or expense except in accordance with the express provisions of the Contract. The following are circumstances materially affecting the regular progress of the Works referred to in Clause 24.1:

- 24.2 (i) The Contractor not having received in due time the necessary instructions, drawings, details or levels from the Architect for which he had specifically applied in writing provided that such application was made on a date which having regard to the Date for Completion stated in the Appendix or any extension of time under Clause 23.0 or sub-clause 32.1 (iii) was neither unreasonably distant from nor unreasonably close to the date on which it was necessary for him to receive them.
- 24.2 (ii) the opening up for inspection of any work covered up or testing of any work, materials or goods in accordance with Clause 6.3, including making good in consequence of such opening up or testing, unless the inspection or test showed that the work, materials or goods were not in accordance with this Contract.
- 24.2 (iii) any discrepancy in or divergence between the Contract Drawings and/or the Specification.
- 24.2 (iv) delay on the part of artists, tradesmen, or others engaged by the Employer in executing work not forming part of this Contract.

- 24.2 (v) the Architect's instructions issued in regard to the postponement of any work to be executed under the provisions of this Contract.
- 24.2 (vi) delay or failure by the Employer to supply or provide materials and goods which the Employer had agreed to provide or supply for the Work.
- 24.2 (vii) failure of the Employer to give in due time entry to or exit from the site of the Works or any part thereof through or over any land by way of passage adjoining or connected to the site and in the possession and control of the Employer in accordance with the Contract Drawings and/or the Specification.
- 24.2 (viii) any act of prevention or breach of contract by the Employer.

24.3 If and when the Contractor makes written application within a reasonable time of it becoming apparent that the progress of the Work or any part of it has been affected as aforesaid, then the Architect shall ascertain the amount of such loss and/or expense. The failure by the Contractor to comply with the requirements of Clause 24.0 shall entitle the Architect or the Quantity Surveyor as instructed by the Architect to ascertain the quantum of such loss and/or expense on the basis of information available to them.

Ascertainment of Loss and/or Expense

24.4 Any amount so ascertained from time to time shall be added to the Contract Sum, and if an Interim Certificate is issued after the date of ascertainment any such amount shall be added to the amount which would otherwise be stated as due in such Certificate.

Amount Ascertained Added to Contract Sum

**25.0 Determination By Employer**

The Employer may determine the Contract without prejudice to any other rights and remedies which he may possess if the Contractor makes default in one or more of the following instances:

Defaults by Contractor

25.1 (i) without reasonable cause wholly suspends the carrying out of the Works before completion thereof. Reasonable cause in this clause shall mean compliance with an instruction from the Architect or compliance with a direction or an order from a Statutory or Governmental body.

25.1 (ii) fails to proceed regularly and diligently with the Works.

25.1 (iii) refuses or neglects to comply with a written notice from the Architect requiring him to remove or to remedy defective work, improper materials or goods and by such refusal or neglect the progress of the Works is materially affected.

25.1 (iv) fails to comply with the provisions in Clause 17.0.

25.1 (v) has abandoned the Contract.

25.1 (vi) has persistently refused or failed to comply with a written instruction from the Architect.

25.2 The Architect may then give the Contractor notice by registered post or recorded delivery specifying the default subject to that such notice is not given unreasonably or vexatiously. If the Contractor continues with such default for fourteen (14) days after receipt of such notice or at any time thereafter repeat such default (whether previously repeated or not), then the Employer may within ten (10) days after such continuance or repetition by letter sent by registered post or recorded delivery forthwith determine the employment of the Contractor under this Contract.

Determination of Employment of Contractor

25.3 In the event of the Contractor becoming bankrupt or making a composition or arrangement with his creditors or have a winding up order made or (except for purposes of reconstruction or amalgamation) a resolution for voluntary winding up passed or having a liquidator or receiver or manager of his business or undertaking duly appointed or having possession taken by or on behalf of the holders of any debentures secured by a floating charge or of any property comprised in or subject to the floating charge, the employment of the Contractor under this Contract shall be forthwith automatically determined but the said employment may be reinstated and continued with the agreement of the Employer and the Contractor, his trustee in bankruptcy, liquidator, receiver or manager as the case may be.

Contractor Becoming Bankrupt, Etc

**APPENDIX C**

**EOT & Loss and Expenses Clause under PAM FORM 2006**



	21.0	<b>Date Of Commencement, Postponement And Completion Date</b>
<b>Commencement and Completion</b>	21.1	On the Date of Commencement, possession of the Site shall be given to the Contractor who shall commence the execution of the Works and regularly and diligently proceed with and complete the same on or before the Completion Date. In the event there is a delay by the Employer in giving possession of the Site to the Contractor, the Architect shall grant an extension of time under Clause 23.8(f). Provided always that the delay in giving possession of the Site does not exceed the Period of Delay stated in the Appendix, the Contractor shall not be entitled to determine his own employment under the Contract.
<b>Sectional Commencement Dates</b>	21.2	Where there are different Dates of Commencement for sections of the Works, these shall be stated in the Appendix.
<b>Sectional Completion Dates</b>	21.3	Where there are different Completion Dates for sections of the Works stated in the Contract Documents, the Architect shall issue a Certificate of Sectional Completion when the sections of the Works are Practically Completed. The provisions in the Contract in regard to Practical Completion and the Defects Liability Period under Clause 15.0, extension of time under Clause 23.0, Liquidated Damages under Clause 22.0 and release of Retention Fund under Clause 30.6 shall apply with necessary changes as if each such section was a separate and distinct contract.
<b>Postponement or suspension of the Works</b>	21.4	The Architect may issue an AI in regard to the postponement or suspension of all or any part of the Works to be executed under the Contract for a continuous period not exceeding the Period of Delay stated in the Appendix. If the insurance is covered by the Contractor under Clauses 19.0 and 20.A, the Contractor shall ensure full insurance coverage for the whole period of postponement or suspension or if the insurance is covered by the Employer under Clause 20.B or 20.C, the Employer shall ensure similar insurance coverage.
	22.0	<b>Damages For Non-Completion</b>
<b>Liquidated Damages and Certificate of Non-Completion</b>	22.1	If the Contractor fails to complete the Works by the Completion Date, and the Architect is of the opinion that the same ought reasonably so to have been completed, the Architect shall issue a Certificate of Non-Completion. Upon the issuance of the Certificate of Non-Completion, the Contractor shall pay or allow to the Employer a sum calculated at the rate stated in the Appendix as Liquidated Damages for the period from the Completion Date to the date of Practical Completion. The Employer may recover such sum as a debt or may deduct such sum from any monies due or to become due to the Contractor under the Contract or the Employer may recover such sum from the Performance Bond. The Employer shall inform the Contractor in writing of such deduction or such debt due from the Contractor. The imposition of Liquidated Damages by the Employer shall not be taken into account by the Architect in the issuance of payment certificates and Final Certificate, and is not subject to the set-off procedures under Clause 30.4 and adjudication.
<b>Agreed Liquidated Damages amount</b>	22.2	The Liquidated Damages stated in the Appendix is a genuine pre-estimate of the loss and/or damage which the Employer will suffer in the event that the Contractor is in breach of Clauses 21.0 and 22.0. The parties agree that by entering into the Contract, the Contractor shall pay to the Employer the said amount, if the same becomes due without the need for the Employer to prove his loss and/or damage unless the contrary is proven by the Contractor.
<b>Certificate of Non-Completion revoked by subsequent Certificate of Extension of Time</b>	22.3	In the event the Architect issues a Certificate of Extension of Time under Clauses 23.4, 23.9 and 23.10 which has the effect of fixing a Completion Date which is later than the date stated in a Certificate of Non-Completion previously issued, such certificate shall have the effect of revoking the Certificate of Non-Completion earlier issued. The Employer shall then revise the amount of Liquidated Damages he is entitled to retain. In the event the amount of Liquidated Damages retained exceeds the amount the Employer is entitled to retain, he shall repay the surplus amount to the Contractor within the Period of Honouring Certificates from the date of the latest Certificate of Extension of Time. If the Works is not completed by the Completion Date stated in such Certificate of Extension of Time, the Architect shall issue a further Certificate of Non-Completion.
	23.0	<b>Extension Of Time</b>
<b>Submission of notice and particulars for extension of time</b>	23.1	If the Contractor is of the opinion that the completion of the Works is or will be delayed beyond the Completion Date by any of the Relevant Events stated in Clause 23.8, he may apply for an extension of time provided always that:

- 23.1(a) the Contractor shall give written notice to the Architect his intention to claim for such extension of time together with an initial estimate of the extension of time he may require supported with all particulars of the cause of delay. Such notice must be given within twenty eight (28) Days from the date of the AI, CAI or the commencement of the Relevant Event, whichever is earlier. The giving of such written notice shall be a condition precedent to an entitlement of extension of time; and
- 23.1(b) within twenty eight (28) Days of the end of the cause of delay, the Contractor shall send to the Architect his final claim for extension of time duly supported with all particulars to enable the Architect to assess any extension of time to be granted. If the Contractor fails to submit such particulars within the stated time (or within such longer period as may be agreed in writing by the Architect), it shall be deemed that the Contractor has assessed that such Relevant Event will not delay the completion of the Works beyond the Completion Date.
- Delay by Nominated Sub-Contractor** 23.2 Where the particulars of the written notice given under Clause 23.1 include references to Nominated Sub-Contractors, the Contractor shall forthwith send a copy of such written notice and particulars to the Nominated Sub-Contractor concerned.
- Insufficient information** 23.3 If the Architect is of the opinion that the particulars submitted by the Contractor are insufficient to enable him to decide on the application for extension of time, the Architect shall within twenty eight (28) Days from receipt of the Contractor's particulars under Clause 23.1(b), inform him of any deficiency in his submission and may require the Contractor to provide such further particulars within a further twenty eight (28) Days or within such period of time as may be stated by the Architect in writing.
- Certificate of Extension of Time** 23.4 When the Contractor has submitted sufficient particulars for the Architect's consideration, the Architect shall subject to Clauses 23.5, 23.6 and 23.8, consider the Contractor's submission and shall either reject the Contractor's application or issue a Certificate of Extension of Time within six (6) Weeks from the receipt of sufficient particulars. The Architect may issue the written notice of rejection or the Certificate of Extension of Time before or after the Completion Date.
- Other consideration for extension of time** 23.5 In assessing the extension of time, the Architect may take into account the following:
- 23.5(a) the effect or extent of any work omitted under the Contract, provided always that the Architect shall not fix a Completion Date earlier than the Completion Date stated in the Appendix; and
- 23.5(b) any other Relevant Events which in the Architect's opinion will have an effect on the Contractor's entitlement to an extension of time.
- Contractor to prevent delay** 23.6 The Contractor shall constantly use his best endeavour to prevent or reduce delay in the progress of the Works, and to do all that may reasonably be required to the satisfaction of the Architect to prevent and reduce delay or further delay in the completion of the Works beyond the Completion Date.
- Notification to Nominated Sub-Contractors** 23.7 The Architect shall notify every Nominated Sub-Contractor in writing of each decision of the Architect when fixing a later Completion Date.
- Relevant Events** 23.8 The following are the Relevant Events referred to in Clause 23.0:
- 23.8(a) Force Majeure;
- 23.8(b) exceptionally inclement weather;
- 23.8(c) loss and/or damage occasioned by one or more of the contingencies referred to in Clause 20.A, 20.B or 20.C as the case may be, provided always that the same is not due to any negligence, omission, default and/or breach of contract by the Contractor and/or Nominated Sub-Contractors;
- 23.8(d) civil commotion, strike or lockout affecting any of the trades employed upon the Works or any of the trades engaged in the preparation, manufacture or transportation of any materials and goods required for the Works;

- 23.8(e) the Contractor not having received in due time the necessary AI (including those for or in regard to the expenditure of P.C. Sums and Provisional Sums, further drawings, details, levels and any other information) for which he had specifically applied in writing to the Architect. The Contractor's application must be submitted to the Architect in sufficient time before the commencement of construction of the affected works, to enable the Architect to issue the necessary AI within a period which would not materially affect the progress of the affected works, having regard to the Completion Date. Provided always that the AI was not required as a result of any negligence, omission, default and/or breach of contract by the Contractor and/or Nominated Sub-Contractors;
- 23.8(f) delay by the Employer in giving possession of the Site or any section of the Site in accordance with Clauses 21.1 and 21.2;
- 23.8(g) compliance with AI issued by the Architect under Clauses 1.4, 11.2 and 21.4;
- 23.8(h) delay on the part of Nominated Sub-Contractors for the reasons set out in Clauses 21.4(a) to 21.4(w) of the PAM Sub-Contract 2006;
- 23.8(i) re-nomination of Nominated Sub-Contractors as set out in Clause 27.11;
- 23.8(j) delay on the part of craftsmen, tradesmen or other contractors employed or engaged by the Employer in executing work not forming part of the Contract or the failure to execute such work;
- 23.8(k) delay or failure in the supply of materials and goods which the Employer had agreed to supply for the Works;
- 23.8(l) the opening up for inspection of any work covered up, testing any materials, goods or executed work in accordance with Clause 6.3, unless the inspection or test:
- 23.8(l)(i) is provided for in the Contract Bills;
  - 23.8(l)(ii) shows that the works, materials and goods were not in accordance with the Contract; or
  - 23.8(l)(iii) is required by the Architect in consequence of some prior negligence, omission, default and/or breach of contract by the Contractor;
- 23.8(m) any act of prevention or breach of contract by the Employer;
- 23.8(n) war damage under Clause 32.1;
- 23.8(o) compliance with AI issued in connection with the discovery of antiquities under Clause 33.1;
- 23.8(p) compliance with any changes to any law, regulations, by-law or terms and conditions of any Appropriate Authority and Service Provider;
- 23.8(q) delay caused by any Appropriate Authority and Service Provider in carrying out, or failure to carry out their work which affects the Contractor's work progress, provided always that such delay is not due to any negligence, omission, default and/or breach of contract by the Contractor and/or Nominated Sub-Contractors;
- 23.8(r) appointment of a replacement Person under Articles 3, 4, 5 and 6;
- 23.8(s) compliance with AI issued in connection with disputes with neighbouring property owners provided always that such dispute is not caused by negligence, omission, default and/or breach of contract by the Contractor and/or Nominated Sub-Contractors;
- 23.8(t) delay as a result of the execution of work for which a Provisional Quantity is included in the Contract Bills which in the opinion of the Architect is not a reasonably accurate forecast of the quantity of work required;

		23.8(u)	failure of the Employer to give in due time entry to or exit from the Site or any part through or over any land, by way of passage adjoining or connected to the Site and in possession or control of the Employer;
		23.8(v)	suspension by the Contractor of his obligations under Clauses 30.7 and 30.8;
		23.8(w)	suspension of the whole or part of the Works by order of an Appropriate Authority provided the same is not due to any negligence, omission, default and/or breach of contract by the Contractor and/or Nominated Sub-Contractors; and
		23.8(x)	any other ground for extension of time expressly stated in the Contract.
<b>Extension of time after the issuance of Certificate of Non-Completion</b>	23.9		Where a Relevant Event occurs after the issuance of the Certificate of Non-Completion, the Architect shall grant an extension of time. The extension of time granted shall be added to the Completion Date of the Works or any section of the Works.
<b>Architect's review of extension of time after Practical Completion</b>	23.10		The Architect may (but not obliged to) within twelve (12) Weeks after the date of Practical Completion review and fix a Completion Date later than that previously fixed, if in his opinion the fixing of such later Completion Date is fair and reasonable having regard to any of the Relevant Events, whether upon reviewing a previous decision or otherwise and whether or not a Relevant Event has been specifically notified by the Contractor under Clause 23.1. No such final review of extension of time shall result in a decrease in any extension of time already granted by the Architect. In the event the fixing of such later Completion Date affects the amount of Liquidated Damages the Employer is entitled to retain, he shall repay any surplus amount to the Contractor within the Period of Honouring Certificates.
	24.0		<b>Loss And/Or Expense Caused By Matters Affecting The Regular Progress Of The Works</b>
<b>Loss and/or expense caused by matters affecting the regular progress of the Works</b>	24.1		Where the regular progress of the Works or any section of the Works has been or is likely to be materially affected by any of the matters expressly referred to in Clause 24.3, and the Contractor has incurred or is likely to incur loss and/or expense which could not be reimbursed by a payment made under any other provision in the Contract, the Contractor may make a claim for such loss and/or expense provided always that:
		24.1(a)	the Contractor shall give written notice to the Architect of his intention to claim for such loss and/or expense together with an initial estimate of his claim duly supported with all necessary calculations. Such notice must be given within twenty eight (28) Days from the date of the AI, CAI or the start of the occurrence of the matters referred to in Clause 24.3, whichever is the earlier. The giving of such written notice shall be a condition precedent to any entitlement to loss and/or expense that the Contractor may have under the Contract and/or Common Law; and
		24.1(b)	within twenty eight (28) Days after the matters referred to in Clause 24.3 have ended, the Contractor shall send to the Architect and Quantity Surveyor, complete particulars of his claim for loss and/or expense together with all necessary calculations to substantiate his claims. If the Contractor fails to submit the required particulars within the stated time (or within such longer period as may be agreed in writing by the Architect), it shall be deemed that the Contractor has waived his rights for loss and/or expense.
<b>Access to Contractor's books and documents</b>	24.2		The Contractor shall keep contemporaneous records of all his claims for loss and/or expense and shall submit all particulars to the Architect. The Architect and Quantity Surveyor shall have access to all books, documents, reports, papers or records in the possession, custody or control of the Contractor that are material to the claim and the Contractor shall provide free of charge, a copy each to the Architect and Quantity Surveyor when requested. All such documents shall remain available in accordance with this clause until all claims have been resolved. The Contractor shall use his best endeavour to ensure that all such documents in the possession, custody or control of sub-contractors and/or suppliers that are material to the claim are similarly available.

**Matters  
materially  
affecting the  
regular progress  
of the Works**

- 24.3 The following are the matters referred to in Clause 24.1:
- 24.3(a) the Contractor not having received in due time the necessary AI (including those for or in regard to the expenditure of P.C. Sums and Provisional Sums, further drawings, details, levels and any other information) for which he had specifically applied in writing to the Architect. The Contractor's application must be submitted to the Architect in sufficient time before the commencement of construction of the affected works, to enable the Architect to issue the necessary AI within a period which would not materially affect the progress of the affected works, having regard to the Completion Date. Provided always that the AI was not required as a result of any negligence, omission, default and/or breach of contract by the Contractor and/or Nominated Sub-Contractors;
  - 24.3(b) delay by the Employer in giving possession of the Site or any section of the Site in accordance with Clauses 21.1 and 21.2;
  - 24.3(c) compliance with a written instruction issued by the Architect in regard to the postponement or suspension of all or any part of the Works to be executed under Clause 21.4;
  - 24.3(d) delay on the part of craftsmen, tradesmen or other contractors employed or engaged by the Employer in executing work not forming part of the Contract or the failure to execute such work;
  - 24.3(e) delay or failure in the supply of materials and goods which the Employer had agreed to supply for the Works;
  - 24.3(f) the opening up for inspection of any work covered up, testing any materials and goods or executed work in accordance with Clause 6.3, unless the inspection or test showed that the works, materials and goods were not in accordance with the Contract or was in the opinion of the Architect required in consequence of some prior negligence, omission, default and/or breach of contract by the Contractor;
  - 24.3(g) any act of prevention or breach of contract by the Employer;
  - 24.3(h) delay as a result of a compliance with AI issued in connection with the discovery of antiquities under Clause 33.1;
  - 24.3(i) appointment of a replacement Person under Articles 3, 4, 5 and 6;
  - 24.3(j) compliance with a written instruction issued by the Architect in connection with disputes with neighbouring property owners provided always that the same is not caused by negligence, omission, default and/or breach of contract by the Contractor and/or Nominated Sub-Contractors;
  - 24.3(k) by reason of the execution of work for which a Provisional Quantity is included in the Contract Bills which in the opinion of the Architect is not a reasonably accurate forecast of the quantity of work required;
  - 24.3(l) failure of the Employer to give in due time entry to or exit from the Site or any part through or over any land, by way of passage adjoining or connected to the Site and in the possession or control of the Employer;
  - 24.3(m) suspension by the Contractor of his obligations under Clauses 30.7 and 30.8; and
  - 24.3(n) suspension of the whole or part of the Works by order of an Appropriate Authority provided always that the same is due to negligence or omission on the part of the Employer, Architect or Consultant.

**Loss and/or  
expense to be  
included in  
certificate**

- 24.4 Subject to the Contractor complying with Clause 24.1, the Architect or Quantity Surveyor shall ascertain the amount of such loss and/or expense. Any amount so ascertained from time to time for such loss and/or expense shall be added to the Contract Sum, and if an Interim Certificate is issued after the date of ascertainment, such amount shall be included in the certificate.

**APPENDIX D**

**Record of Supervision/Meeting**

**UNIVERSITI TUNKU ABDUL RAHMAN****FACULTY OF ENGINEERING AND SCIENCE****DEPARTMENT OF BUILT ENVIRONMENT****BACHELOR OF SCIENCE (HONS) QUANTITY SURVEYING**Student's Name : LIAW KOK CHENG ID Number: 09UEB06436Supervisor's Name : MS. FELICIA YONG YAN YAN**RECORD OF SUPERVISION/MEETING**

	Date	Time		Student's Initials	Lecturer's Initial	Subject of Discussion
		Start	End			
1.	14/06/11	11.00am	1230pm			Method to do the FYP
2.	13/07/11	10.30am	11.00am			Submit Chapter 1
3.	26/07/11	11.15am	11.45am			Submit Chapter 2
4.	09/08/11	11.10am	11.15am			Submit FYP Part 1
5.	14/11/11	14.00pm	15.00pm			Discussion on FYP Part 1
6.	17/01/12	11.00am	12.00pm			Revision of Questionnaires
7.	02/02/12	11.00am	11.30am			Submit Chapter 3
8.	09/02/12	11.00am	11.00am			Method for data analysing
9.	27/03/12	08.30am	09.00am			Submit Chapter 4 and 5
10.						
11.						
12.						
13.						
14.						
15.						