

REFERENCES

- Abeynayake, M., & Weddikara, C. (2013).** Special Features and Experiences of The Full- Term Dispute Adjudication Board As An Alternative Dispute Resolution Method In The Construction Industry Of Sri Lanka. Retrieved from <http://www.buildresilience.org/2013/p-roceedings/files/papers/375.pdf>
- Alnaas, K.A.A., Khalil, A.H.H., Nassar, G.E.,(2014)** *Guideline for preparing comprehensive extension of time (EoT) claim.* HBRC Journal (2014) 10, 308–316
- Alsendi, M. A. U. (2015).** *Studing the effect of decision making on delayed construction projects.* (Msc Research), George Washington University. Retrieved from <http://www.policemc.gov.bh/>
- Arcadis. (2015).** Global construction disputes report 2015. Retrieved from <https://www.arcadis.com/media/2/8/9/%7B289321DCB2664A1382FACCB54B6F535%7DArcadis%20Construction%20Disputes%20Report%202015.pdf>
- Assaf, S. A., & Al-Hejji, S. (2006).** Causes of delay in large construction projects. *International Journal of Project Management*, 24(4), 349-357
- Beisler, S. A., & Collins, S. (2015).** Early Completion Schedules & Early Completion Delay Claims “The Contactor’s Right to Finish Early”. Retrieved from
- Bell, R. (2011).** Project Delay Economics. *The Appraisal Journal*, 79(4). 292-300. <https://scholar.google.com/>
- Bellhouse, J., & Cowan, P. (2007).** Common Law “Time at Large” Arguments in a Civil Law Context. Retrieved from <http://www.4newsquare.com/content/Publications/197.pdf>
- Bennett, J. and Grice, A. (1990)** Procurement systems for building, Quantity Surveying Techniques — New Directions, Brandon, P.S.(ed.). BSP Professional Books, Oxford

- Bowen, P. A., Cattell, K.S., Hall, K.A., Edwards, P.J., and Pearl, R.G (2000)** Perceptions Of Time, Cost And Quality Management On Building Projects, *The Australian Journal Of Construction Economics And Building* Vol.2 No.2
- Brawn, D. (2012).** Extensions of time and liquidated damages in construction contracts in England and Wales. *International Journal of Law in the Built Environment*, 4(1), 75-90. doi: 10.1108/17561451211211750
- Carmichael, S., Murray, M. (2004)** *Record keeping for contemporaneous delay analysis: a model for effective event management*. Retrieved from <http://www.tandf.co.uk/journals>
- Central Bank of Sri Lanka. (2015).** *ANNUAL REPORT 2015*. Retrieved from http://www.cbsl.gov.lk/pics_n_docs/10_pub/_docs/efr/annual_report/AR2015/English/6_Chapter_02.pdf
- Cheung, S.O., Pang, H.Y., (2014)** *Conceptualizing Construction Disputes* retrieved from www.springer.com/cda/content/.../cda.../9783319044286-c2.pdf
- Chong, H., & Leong, Y. (2012).** Legal approach on assessment of contractors' entitlement to extension of time. *African Journal of Business Management*, 6(14), 4815-4823. Doi: 10.5897/AJBM11.1405
- Davison, R.P., Mullen, J., (2009)** *Evaluating Contract Claims*. A John Wiley & Sons, Ltd., UK
- Diab, G., Sharma, S., (2007)** *Managing Delay and Extension of Time Claims* retrieved from <http://www.bluevisions.com.au/~media/7FD9FE4E5477467388442B338E4C7036.ashx>
- Doyle, J. (2014).** Concurrent Delays in Contracts. Retrieved from https://www.mosaicprojects.com.au/PDF_Papers/P011_Concurrent_Delays-5.pdf
- Finnegan, T. E., & Rider, R. J. (2005).** Pacing – an excuse for concurrent delay. Retrieved from <http://search.proquest.com/>

- Glover, J. (2007).** Managing disputes is adjudication the best or only way. Retrieved from <http://www.fenwickelliott.com/files/Self%20Help%204%20%20Managing%20Disputes.pdf>
- Golnaraghi, S. (2011).** *Development of Delays Claims Assessment Model.* (MSc Thesis), Concordia University. Retrieved from <https://scholar.google.com/>
- Gould, N. (2007).** NEC3: Early Warning and Compensation Events. Retrieved from <http://www.fenwickelliott.com/files/Contract%2012%20%20NEC3%20%20Early%20Warning%20and%20Compensation%20Events.pdf>
- Gould, N., (2004)** *Scheduling and Executing the Project: Delay, Disruption and Change Management.* Retrieved from <http://www.fenwickelliott.com/files/Contract20320-20Scheduling20and20Executing20The20Project.pdf>
- Grenier, G. (2010).** Evaluating concurrent delay: Unscrambling the egg. Retrieved from http://www.mcmillan.ca/Files/174678_123205_Evaluating%20Concurrent%20Delay,%20Unscrambling%20the%20Egg,%20CCL%20July%20August%202010.pdf
- Gunasekera, M.P. (2005)** Managing Projects. Professional management handbook series, Academy of management sciences – Sri Lanka.
- Haq, S., Rashid, Y., & Aslam, M. S. (2014).** Effects of Delay in construction Projects of Punjab-Pakistan: An Empirical Study. *Journal of Basic and Applied Scientific Research*, 4(4). 98-104. Retrieved from <http://www.textroad.com/>
- Jaffe, M. E., & McHugh, R. J. (2009).** International Construction Disputes in Today's Economy. Retrieved from <http://fidic.org/sites/default/files/2%20jaffe09.pdf>
- Jayasena, H.S., Seram, G.G., Johnson, J., (2013)** *Frequently Challenged Determinations Of The Engineer In Sri Lankan Construction Contracts* retrieved from http://www.suranga.net/publications/2013_engineers_determination.pdf

- Jayawardene, A. K. W., Panditha, H. G. W.**, “Understanding and Mitigating the Factors Affecting Construction Delay”, Engineer-Journal of Institution of Engineers Sri Lanka, XXXV1 (02), 2003, 07-14
- Kikwasi, G. J. (2013).** Causes and Effects of Delays and Disruptions in Construction Projects in Tanzania. Retrieved from <https://epress.lib.uts.edu.au/journals/index.php/AJCEBConferenceSeries/article/view/3166>
- Longbottom, D. S. (2010).** Concurrent Delays - Apportioning the Blame. Retrieved from http://www.adrpartnership.com/media/pdfs/ADR_Digest_Summer_10.pdf
- Majid, M. (1997).** *Non-excusable delays in construction*. (PhD thesis), Loughborough University. Retrieved from <https://scholar.google.com>
- Marrin, J. (2013).** Concurrent delay revisited. Retrieved from <https://www.scribd.com>
- Murtaja, A. (2007).** *Investigation of FIDIC Clauses Dealing with Construction Project Performance*. (MSc Thesis). The Islamic University. Retrieved from <https://scholar.google.com>
- Nardin, M., (2014)** *Programme, Delay and Extension of Time: a Practical Approach*. Thomson Reuters, UK
- Newcombe, R., Langford, D. and Fellows, R. (1990)** *Construction Management 2*. Mitchell, London.
- Odeh, A. M., & Battaineh, H. T. (2002).** Causes of construction delay: traditional contracts. *International journal of Project Management*, 20. 67-73. Retrieved from <https://scholar.google.com>
- Papworth, J. (n.d.).** Claims under the new fidic conditions of contract. Retrieved from http://fidic.org/sites/default/files/papworth_claims.pdf

- Perera, N. A., & Sutrisna, M. (2014).** The Theory of Criticality in Concurrent Delays. Retrieved from <http://www.slqsuae.org/wp-content/uploads/2014/12/NIHAL-Anada-2013.pdf>
- Pinsent Masons. (2014).** Korean Contractors' Legal Guidance Note: FIDIC Book Claims Procedure. Retrieved from <http://www.pinsentmasons.com/PDF/Korean-Contractors-Legal-Guidance-Note-Summer-Edition-2014.pdf>
- Ramachandra, C., Rotimi, J.O., Gunaratne, S. (2014)** *Reasons For Contractors' Delay Claims Failures In Sri Lanka* retrieved from www.ncaslsouth.com/PAYMENTS.pdf
- Knowles, R. (2005).** 150 Contractual Problems and Their Solutions by Blackwell publishing ltd
- Saeed, S. A. A. (2009).** *Delay to projects – Cause, effect and measures to reduce / eliminate delay by Mitigation / Acceleration.* The British University in Dubai. Retrieved from <https://scholar.google.com>
- Salunkhe, A. A., & Patil, R. S. (2014).** Effect of construction delays on project time overrun: Indian Scenario. *International Journal of Research in Engineering and Technology*, 3(1). Retrieved from <https://scholar.google.com>
- Sambasivan, M., & Soon, Y. W. (2007).** Causes and effects of delays in Malaysian construction industry. *International Journal of Project Management*, 25(5). 517–526, Retrieved from <http://www.sciencedirect.com/>
- Silver, R., & Furlong, G. (2004).** Alternative dispute resolution: Complex construction disputes can be hammered out. Retrieved from <http://www.agreeinc.com/articles/complex-construction-dispute-article.pdf>
- Skene, M., Shaban, R.,(2002)** *Strategies to Avoid and Resolve Construction Disputes* retrieved from www.apeg.bc.ca/getmedia/cfb23a7c-8639-4fea-a601-2012056b3df8/BLG-Strategies-to-Avoid-Disputes.pdf.aspx

- Waldron, M. (2014).** Delay and Disruption claims Contractors' Compensation Entitlements. Retrieved from <http://www.cba-ireland.com/wp-content/uploads/2014/03/Delay-and-Disruption-Claims-Martin-Waldron-BL-March-2014.pdf>
- Wei, S.K. (2010).** *Causes, effects and methods of minimizing delays in construction projects.* (Master's thesis, University of Teknologi, Malaysia) Retrieved from <http://www.efka.utm.my/thesis/IMAGES/3PSM/2010/JSB3/kangsikweiaa060080d10ttp.pdf>
- Wickwire, J. M., & Groff, M. J. (2004).** Update on CPM proof of delay claims and schedule update. *Journal of project management scheduling*, 1(3), 3-9. Retrieved from <http://heinonline.org/HOL/LandingPage?collection=journals&handle=hein.journals/pubclj18&div=22&id=&page=>
- Wickwire, J. M., Driscoll, T. J., & Hurlbut, S. B. (1991).** *Construction scheduling: Preparation, liability, and claim* [Adobe Digital Editions version]. Retrieved from http://www.google.lk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=8&cad=rja&sqi=2&ved=0CGAQFjAH&url=http%3A%2F%2Fwww.aspenpublishers.com%2FHighLights%2Fnewhifi%2FH07355299492007-C.pdf&ei=D1qLUb-YKIPYrQeT5oC4CQ&usg=AFQjCNEBZA5qlGhkH39LAD_VaKfr9tmE9A&sig2=Gq-ENIfd-OUncSxCUAUMcw
- Wu, S., Lee, A., Tah, J.H.M., & Aouad, G. (2007).** The use of a multi-attribute tool for evaluating accessibility in buildings: the AHP approach, *Facilities*, 25(9), 375-389. doi:10.1108/02632770710772478
- Yates, D., (2007)** *Conflict and Disputes In The Development Process A Transaction Cost Economics Perspective* retrieved from <http://www.prres.net/proceedings/proceedings1998/Papers/Yates3Ai.PDF>
- Yang, J. B., Kao, C.K., & Lee, Y.Y. (2006).** System requirement analysis of a construction delay analysis system. In *Proceeding of 23rd International symposium on automation and robotics in construction*, (pp. 102-106). Retrieved from http://www.iaarc.org/publications/fulltext/isarc200600019_200606010050.pdf

Yang, J.B., & Kao, C.K. (2009). Review of delay analysis methods: A process-based comparison. *Journal of the open construction and building technology*, 3, 81-89. Retrieved from <http://www.benthamscience.com/open/tobctj/articles/V003/81TOBCTJ.pdf>

Yang, J.B., & Kao, C.K. (2012). Critical path effect based delay analysis method for construction projects. *International journal of project management*, 30(3), 385-397. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0263786311000767>

Zack, J. G. (2012). Trends in construction claims &. Retrieved from <http://www.fplotnick.com/constructioncpm/2014Presentations/THU41paper%20TRENDS%20IN%20CONSTRUCTION%20CLAIMS%20&%20DISPUTES%20%20Published%20NCF%20Version.pdf>

Zaghloul, R., & Hartman, F. (2002). Construction Contracts and Risk Allocation. Retrieved from http://www.risksig.com/members/2002_papers/dpc08.pdf

APPENDIX A: INTERVIEW GUIDE FOR PRELIMINARY INTERVIEWS

PERSONAL INFORMATION

- a. Name of the Company:
- b. Name of the Interviewer:
- c. Designation:
- d. Experience:
- e. Date:

GENERAL INTRODUCTION

A). Research Title

Dispute avoidance of delay claims by improving delay notification process of contractors of Sri Lanka

B). Research Objectives

- f) Review contractual procedures used to analyse construction delays.
- g) Identify contract provisions, legal requirement in delay notifications
- h) Identify the problems due to delay notification in construction projects
- i) Identify the causes of problems due to delay notifications in construction projects
- j) To develop a framework to improve the process of delay notifications in construction projects

C). Interview Questions

Q.1. under FIDIC 1999 conditions of contract delays has to be notified within the stipulated time period, otherwise contractors will lose his entitled for an Extension of time or Cost. Following questions were intended to be discussed during the interview process,

- 01. Clauses which are frequently used to request for an extension of time
- 02. Notice practice relevant to each clause giving entitlement for an EOT
- 03. Effective date of the Time bar
- 04. Improvements for the delay notification process

Q.2. the following criteria were identified as important in selecting proper delay notification system. Would you like to suggest any other criteria which are important for the same?

1. Identification of the event
2. Identification of the delay due to the event identified in the above
3. Method of the notification – i.e. electronic email, Minute of meeting, Verbal, Letter
4. Notify Party
5. Format of the notice whether clauses to be mentioned in the notice
6. Time period – when to notify
7. How many notices

Q.3. what were the problems you have faced by following the notices provisions in FIDIC 1999.

APPENDIX B: DETAILED QUESTIONNAIRE

Dispute avoidance of delay claims by improving delay notification process of contractors of Sri Lanka

Dear Sir / Madam,

Dissertation – M.Sc in Construction Law and Dispute Resolution

I am following a M.Sc. course on Construction Law and Dispute Resolution at the Department of Building Economics at University of Moratuwa. In order to fulfil the requirements of this degree program, I am required to undertake a research and produce a dissertation. The topic I have chosen is “**Dispute avoidance of delay claims by improving delay notification process of contractors of Sri Lanka**”

I would be grateful if you could complete the attached questionnaire within your busy work schedule. **The information provided by you will be treated with strict confidence, it will be used only for the purpose of fulfilling requirement for module dissertation in the above course and there would not be specific references to any individual or an organization.**

Thank you.

Yours faithfully,

P.J.A. Goonawardana
M.Sc. Student
Department of Building Economics
Telephone: 0779559812
Email: jeromepicasso@gmail.com

Supervisor
Ch. QS (Mrs) B.A.K.S. Perera
Senior Lecturer
Department of Building Economics
Faculty of Architecture
University of Moratuwa

This information given by you will be used only for the academic purposes.

Please marks "X" to your answer.

1. Which of the followings best describe your present employment

a. Employer

b. Consultant

c. Contractor

d. Freelance

2. Number of experience in years

3. What is your current Designation,

Director

Planning Engineer

GM

QS/ Cost Engineer

PM

Contract Administrator / Manager

Architect

Engineer

Commercial Manager

Other

4. Details of the projects which you have involved in during last 10 years

project	Contract value (SL Rs. Mn)	Whether the project delayed		Did contractor requested for EOT		Did Contractor served sufficient notices		Was EOT granted		Was EOT granted within the stipulated time period		Any disputes due to EOT	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P1													
P2													
P3													
P4													
P5													
P6													
P7													

Delay notifications practice

5. If you are working for a contractor, please answer for following question. If not please leave

Reasons for lack of notices by the contractor	Your answer	
	Yes	No
Do you think that contractor's failure to notify is because they think that they can catch up the delay?		
Do you think that contractor's failure to notify is because they think that they can blame someone else for the delay?		
Do you feel that Sri Lankan consultants get upset on contractors notification?		
Do you feel that Sri Lankan clients get upset on contractors notification?		
If the contractor has notified a delay of the consultants, do you feel that, Contractors are penalized by the consultant when request for a test or drawing approval?		
Higher management of your company encourages you to notify delays?		
Do you believe delay notice as contractual obligation?		

6. If you are not working for contractor, please answer for following question.

What is your perception on delay notifications by the contractor	Your answer	
	Yes	No
Do you feel that Contractor notify delay unnecessarily to get claims?		
Do you expect delay notifications from the contractors to mitigate any delay of your obligations under the contract		
Do you encourage contractors to notify any delay events		
In your past projects, Once contractor notify any delay, have you certify EOT within the time stipulated in the contract		
In your previous projects will you get upset when a contractor notify any delay		
In your previous projects, did you have any concerns of the format of the notice?		
Do you encourage early warning notices from the contractor?		

7. Please rank followings as per your opinion

1- Low 3 – Average 5 - High

Criteria	Relative importance				
	1	2	3	4	5
How do you rank Sri Lankan contractors knowledge on delay notices					
How do you rank Sri Lankan consultants knowledge on delay notices					
How you rank Sri Lankan clients knowledge on delay notices					
In your perception do you feel that consultants get upset when a contractor notify a delay					
In your perception do you feel that clients get upset when a contractor notify a delay					
Do you consider notice requirement under FIDIC 1999 as complex					
Do you feel that lack of notices will omit contractors entitlement for EOT					
Do you consider notice as must					
Do you think 28 day period is counting from the date of the commencement of the event					
Do you think it is must to notify within the time period specified in the contract					
Do you encourage mutual agreement between client and contractor for EOT without following contractual procedure					
Do you feel that format of the delay notice is important					

8. How you rank the importance of the following criteria when creating a delay notification system

Criteria	Relative importance				
	1	2	3	4	5
Identification of the event					
Identification of the delay due to the event identified in the above					
Method of the notification – i.e. electronic email, Minute of meeting, Verbal, Letter					
Notify Party - to whom the notice is served					
Format of the notice whether clauses to be mentioned in the notice or not					
Time period – when to notify					
Improve knowledge of the contractors staff					
Improve knowledge of the clients/ consultant staff					

9. If you were asked to amend notice provision in FIDIC 1999 what you propose?

Criteria	Relative importance				
	1	2	3	4	5
Reduce time gap for notices					
Make all notices condition precedence					
Make it compulsory to copy all the notices to client					
Allow minutes of meetings to constitute a valid notice					
Remove notice provision from minor contracts and encourage mutual agreement for EOT					
Remove notice provision from all the clauses except for clause 20.1 (claims) – i.e. remain only 28day notice from the commencement of the delay relates to any clause of the contract					

APPENDIX C: Early warning notice format

Early Warning Notice

Notified to – Engineers name and the address

Copy to - Employers name and the address

Notifying party – Contractors name and the address

Our reference – EWN/01

Date of the notice –
19th February, 2017

Dear Sir,

In compliance with sub clause 1.9 and 8.4 of the General Conditions of Contract, we hereby notify you of the following circumstances that, in our opinion, could potentially result in a delay to the time for completion of the works,

Description of the Drawing or the Instruction required	Required date to prevent any Delays to the Project Completion date	Nature of the Delay or Disruption in the event these details are not available

This also serves as notification in terms of clause 20.1 that any resultant delay occurred due to delay of the information requested above could result in us requiring extension of time and reimbursement for additional time related costs incurred with reasonable profit. We request that necessary action be taken to issue requested details in order to avoid or mitigate any delays.

Singed by the contractor

APPENDIX D: Delay notice format

Delay Notice

Notified to – Engineers name and the address

Copy to - Employers name and the address

Notifying party – Contractors name and the address

Our reference – DN/01
Date of the notice – 19 th February, 2017

Dear Sir,

Due to following circumstances it has become apparent that delaying our work and we therefore give notice of commencement of delay and additional cost pursuant to Clause 20.1 [Contractor’s Claim] of the conditions of contract.

Description of the Drawing or the Instruction required	Required date to prevent any Delays to the Project Completion date	Nature of the Delay or Disruption in the event these details are not available

It is considered that an extension of time also is required and we therefore give notice of our request for this pursuant to Clause 8.4 [Extension of Time for Completion] of the Conditions of Contract. We shall in support of the above keep contemporary records as may reasonably be necessary to support our claims pursuant to Clause 20.1 of the Conditions of Contract.

Singed by the contractor