

Comparative study of Extension of Time Claims with case studies.

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Abstract – In present scenario on an average 80% of the construction projects are delayed due to numerous reasons like change in design by client, increase in contract scope of work. Hence, contractor submits his request for “Time Extension Claims.”

This time extension claims runs in to billions of rupees in India annually. So, it becomes immense important for construction professionals to study these Extension Of Time Claims. The purpose of this paper is to study the professional ways in which EOT claims should be prepare in the way though which disputes between contractor and employer (Client) can be minimize.

Keywords: Delay reasons, Extension of Time Claims.

1. INTRODUCTION:

An Extension Of time Claim is the evidence of documents put forward by contractor in order to substitute the reasons for the delays to the project, claiming for an additional time for completion of the project.

Extension of Time claim is broadly divided in two groups-

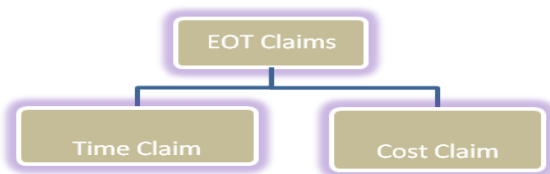


Fig -1: Types of EOT claims.

The claims for additional time related costs associated with the delays caused by the employer it is the “Time Claim of Delay claims”.

The claim for the additional cost related with extra expenses by delay caused the employer it is ckaim for “Cost Claim or Expenses Claim”.

Before moving towards Extension of Time claims, it’s important to understand reasons behind arising of EOT claims.

Mainly argument between contractor and client is arising on following three points –

- a) Critical Path
- b) Question arise regarding “Who owns the float?”.

c) Concurrent Delays

“Critical path is defined as “Longest sequence activities in a project plan which must be completed on time for the project to complete on due date.”

An Argument regarding “who owns the float” have three attributes-

- a) Contractor owns the float – As contractor develops the programme.
- b) The client owns the float – As client pays for the project and program is one of the tool of monitoring progress.
- c) The project owns the float- According to modern forms of contract “Float is not for the exclusive use of any of the parties as it serves whoever need its first.

“Concurrent delay is circumference where different causes of delay overlap during the period of time.”

2. LITERATURE REVIEW:

In present scenario construction industry plays vital role in housing and infrastructural development of nation. In any project in Construction industry “Time” and “Cost” goes hand-in-hand. Time and Cost are the two main elements which are behind arising of disputes in evolved parties in construction activities I.e. employer and contractor.

In research on reasons behind delays of project “**Factor influencing Decisions on delays claims in construction contracts for Indian scenario by Chaphalkar and Iyyar (AJCEB,2014)**”¹ factors influencing the decision i.e. late handling over of site, late issues of drawings, late supply of materials, equipments and utilities like water and electricity, changes in order, release of payments, subcontractors work. According to “**FIDIC-Conditions of Contracts for Construction-2005**”² the contractor shall give further notice to the engineer and shall be entitled subject to sub clause 20.1 contractor claims to an extension of time for any such delays if completion is or will be delayed under sub clause. Payments of such cost plus profit , shall be included in contract price. “**An overview of construction claims, How they arises and How to avoid them?**” by Samantha I P³, discussed about rise of claims According to author Claims arise from delays. Author talks on various delays reasons with dividing them in three group, with respect of employer, with respect of contractor,

none of the party behind delays. **“The assessment of applications for Extension of Time Claims in Malaysian Construction Industry by Lwe Yoke-Lian, S Hassim, R Munaidy”**, this paper Identified and discussed methods of EOT claims. Global Impact Technique, Net Impact Techniques, Adjusted as-Built CPM technique, But for Technique, Time Impact Technique, Snapshot Technique.

“Society of Construction laws, delays and disruption protocol-UK⁵, discussed mainly about concurrency and float.

“Delays analysis methods as explained by Mr. David Berry in a paper presented to SCL-UK, January 2009⁶” discussed about five commonly used delay analysis techniques Following are delay analysis methods–

- a) Impacted as-planned method
- b) Time impact analysis method.
- c) Collapsed as-built or “but-for” analysis method
- d) Snapshot/windows/ time slice analysis method
- e) As planned vs. as-Built windows analysis method.

a) Impacted as-planned method – It create hypothetical impact of delay events on the baseline schedule. The delay events are introduced into the approved baseline program to check the impact. For this method approved baseline schedule is required, also that should be achievable. Contractor needs to demonstrate that the schedule is suitable for EOT simulation. Contractor must establish the relation of the delay events within schedule.

b) Time impact analysis method. – Society of construction law, UK has recommended this method. As it has more practical and realistic result. This method takes into account the actual progress and timing of delay events. This method required more accurate data with regular updates. This method is quite similar to Impacted as Planned Analysis in some points like, the baseline schedule is accurately updated. The delay event is then actually introduced into the updated baseline schedule with valid relationship. The schedule is then recalculated to access the overall impact of the delay event.

c) Collapsed as-built or “but-for” analysis method: This method also required network schedule. The relationship within the baseline schedule changes in the as built schedule. However the logic between as-built activities can be developed appropriately, then it is required to identify the incidence of delay within the activities on the as-built schedule.

d) Snapshot/windows/ time slice analysis method: This method requires a good network of schedule and built data. In this method baseline schedule is updated on regular basis. Each update provides a “snapshot” of status at that point in time. Because of this conclusion comes as, sequence of activities on critical path for completion at that date. The extent of actual delay incurred to completion as at that date. This method gives, most reliable results

e) As planned vs. as-Built windows analysis method: This method gives focus on to establish the incidence, extent and causes of actual delay to completion. The main focus is on delay must be found on critical path. Before using this method detailed understanding of project is required.

3. CASE STUDIES:

In this paper two case studies are referred. On the basis on Construction companies demand, here not referred original names of Construction companies.

3.1 CASE STUDY 01:

Project: Construction of Hospital Unit.

Employer: Public work Authority

Brief Scope of Work: Substation, Construction of Hospital Building, Underground water tank, All Civil, Electro Mechanical work, wall, floors & Ceiling finishes, Lifts, External works.

Project Value: Riyal 80890949.13

Commencement Date: 12-10-2012

Completion Date: 25-10-2014

Contract Duration: 743 days.

3.1.1 CAUSES BEHIND DELAY OF PROJECT:

1. Changes in designs.-

- Receipt of site instruction - 05 June 2013
- Submission of quotation – 24 June 2013
- Formal Confirmation for the approval of the quotation - 21 July 2013
- Submission of new design – 29th Aug. 2013
- Design kick-off – 2 Sep 2013
- Approval of first package- 29th Oct 2013
- Approval of second package – 22 January 2014
- Instruction for commencement of work – 06th Feb 2014

2. Delay in approval of external wall-

- After changes in first package it was required to contractor to get approval for external wall cladding.
- On the submission of request for selection of pattern and colour , client took 5 months , then this was not contractors mistake.

3.1.2 ESTBLISHMENT OF ENTITLEMENT:

Extended contract duration has resulted from additional works requested by the employer which are events for which

The contract specifically provides an entitlement for the contractor. Therefore, in accordance with conditions of contract by this submission hereby sets out his Entitlement to Reimbursement of Additional Costs incurred and loss and expenses suffered due to Contract Prolongation. Hence contractor submitted following financial summary-

Fig No. 02- Financial Summary

Sr. No.	Head of Claims	Claimed Amount (Riyal)
1) PROLONGATION COSTS		
1.1	ONSITE OVERHEAD COSTS-	
01.	Staff and supervision cost – Net salary excluding miscellaneous expenses.	2,012,801.00
02.	Staff & Supervision Cost – Miscellaneous expenses (Gratuity, Airfare, Yearly paid leaves & Medical Insurance.)	238,501.34
03.	Direct Labour Cost based on Daily Progress Reports	3,340,621.03
04.	Plant & Equipment Cost	358,266.74
05.	Site Services & Facilities (including power, water, air, telephone, stationary, Pantry consumptions etc.	377,620.32
06.	Expenses incurred in photocopying & producing new Shop Drawings	186,172.00
07.	Up gradation of Primavera Software as per latest requirements	33,452.00
08.	Dust Control on Site / Temporary Controls.	40,800.00
Total Expenses under On Site Overhead Costs		6,358,399.52
2) PROLONGATION COSTS (cont'd)		
2.1.	FIXED FINANCE COST – CONTRACTUAL	
01.	Clause 10: Extension of Performance Bond	39,738.00
03.	Appendix A : Extension to Advance Payment Bond	44,690.00
05.	Clause 60.2.2.a : Extension to Retention Bond	19,929.00
06.	Clause 21: Extension to Insurance of Works (CAR Policy)	11,219.00
07.	Head Office Contribution in respect of extended support	1,601,871.72
2.2 Direct Expenses Incurred Under Fixed Finance Cost		
01.	Extension of Warranty Period pursuant to Clause 49: Definition of Period of Maintenance, etc.	1,082,059.48
09.	MEP Sub Contractor's Claim: Clause	1,388,101.32

	34 Conditions of Employment, etc.	
Direct Expenses Incurred Under Fixed Finance Cost		4,344,997.30
3) VARIABLE FINANCE COST :		
01.	Losses due to Unutilized Financing Loans & Unutilized Letter of Guarantees	566,775.02
02.	Loss of Trade (No any claim has been raised)	0.00
2) INFLATION & ESCALATION COSTS		
Inflation and Escalation Costs		1,295,398.97
TOTAL CLAIMED COST		12,565,570.81

3.1.3 METHODOLOGY USED IN CASE STUDY 01:

- Contractor used the Time Impact Analysis method and was successful in getting a time extension of 235 days.
- The concurrent delays were deducted by consultants from contractor's claim. Concurrent delays are those delays, wherein contractor delayed the part of the project without any fault by client.
- Consultants used the As Impacted Baseline Program method to find out the concurrent delays from contractor.
- Contractor was unsuccessfully in demonstrating about how he incurred additional expenses due to inflation, escalation and finance cost.

3.2 CASE STUDY 02:

Project: Construction of Pergolas and Walk ways.
 Brief Scope of Work: Design and Built of GRC, Pergola to form roof panels, and 6 nos. of Courtyards Including MEP services, Provisional sum works, MEP works into Water Features
 Project Value: Riyal 80890949.13
 Commencement Date: 12-10-2012

Completion Date: 25-10-2014

Contract Duration: 743 days.

The entire Extension of Time claim divided in to two parts. Part 1 is for establishing a claim for Time and Part 2 is for establishing a claim for additional cost.

3.2.1 CAUSES BEHIND DELAY OF PROJECT:

- Delay in review of pre qualification documents for contractors design consultant.

- Delay due to ongoing design conflicts/design conflicts impacting the progress on planned sequence of works.
- Design in issue of Hoarding Permits.
- Works on HOLD for site investigation.
- Delay in issue of building permit.
- Delay in review of the pre-qualification documents for major sub contractor.
- Delay in review of the materials.

Because of the delay in activities , critical activities has been impacted due to design conflicts and is delaying the overall project by 45 days , contractor requested an EOT of 45 days. **Prolongation Cost:** As a result of prolonged events the contractor has been forced to maintain a commitment to the Contract and extended presence on Site Management, supervisors etc. for longer than envisaged. The contractor has exposed to substantial additional cost and claims for its sub contractors, entitlement to compensation arise under the contract.

Heads of Cost:

- Contractual Obligations Extending of Advance Payment / Performance Bonds and Guarantees Extending Insurances Policies, PI Insurances etc.
- Contractor Site Facilities Maintaining offices, stores, latrines etc. including utilities.
- Maintaining Site Management and relevant supervision, inspectors etc.
- Maintaining vehicles
- Maintaining Plant & Equipment
- Head Office Contribution in respect of extended support Disruption
- Out of sequence and inefficient working financing of extended fixed costs incurred
- Financing of retention for the additional period withheld Loss of Opportunity
- Inability to earn profit upon recourses employed under a subsequent contract Sub-contractor Claims
- Claims arising out of Nominated Sub Contractors
- Claims arising out of Domestic Sub Contractors.

Contractual Obligations :

A. Extending of Advance Payment / Performance Bonds and Guarantees

The contractor needs to extend the Performance Bond and insurance of the works for an additional period of 53 days and incurs additional expenses in doing so.

B. Extending Work Insurances & PI Insurances :

The contractor is obliged to extend his liabilities and needs to extend all the insurances that have been submitted under the contract like CAR Policies, PI Insurances etc.

1. Contractor’s Site Facilities

A. Maintaining of Contractor’s Facilities on Site :

The contractor needs to maintain the site facilities for the additional period of 53 days. This includes maintaining

offices, generators, office stationary, PPE equipment, site safety etc.

B. Maintaining Site Management and relevant supervision, inspectors etc :

Contractor needs to extend his Site Management and relevant supervision, inspectors etc. for the additional period of 53 days.

Maintaining Vehicles, Plant & Equipment:

The expenses to be incurred in maintaining the Vehicles, Plant & Equipment’s for the additional period.

Head Office Contribution in respect of extended support :

Head Office provides the Project Management Expertise including Logistic, Procurement, Design and financial support to the project. To calculate the HO expenses Hudson’s Formula is used widely in the construction industry, which states that

$$\begin{aligned}
 \text{HO Expenses} &= \frac{\text{HO Profit \%}}{100} \times \frac{\text{Contract sum}}{\text{Contract Period}} \times \text{Period of Prolongation (weeks)} \\
 &= \frac{15\%}{100} \times \frac{32,800,00}{39} \times 7.5 \\
 &= \text{Riyal } 92,947.10
 \end{aligned}$$

Financing : Contractor is unable to earn the profit on the Retention amount that will be withheld by client for an additional period of 53 days. Although contractor will incur an additional expenses under this, but has no intention to claim for such expenses for the good faith of client.

Sub contractor’s Claims: Due to the delay, we are forced to pay for additional costs to our sub contractors. Almost all of the approved sub contractor have mobilized and have allocated the sit supervision for the project. As per the Project Preliminaries and based on pro rata basis, Contractor believes that he is eligible for a Prolongation Cost of **594,991.44 and 92,947.10** Hence, the claim on Total Prolongation Cost is Riyal 687,938.54

The Contractor considers that the matters identified above are factual and are due for consideration. Therefore, the contractor is entitled to an extension of time to the completion of works for the matters identified within of not less than **53 days** and a Prolongation Cost of **Riyal 617,283.62** and seeks a fair review and approval of such entitlement from the Engineer and the Employer.

Fig No. 03- Comparative Study of EOT claims

Sr.No.	Description	Case Study 01	Case study 02
01.	Name of the project	Construction of Hospital unit	Construction of Pergolas & walkways
02.	Type of the project	Public building	Public building

03.	Project duration (in days)	743	396
04.	Contract value (in riyal)	8,48,94,959.13	3,28,00,000
05.	Claimed duration (in days)	235	53
06.	Claimed cost (in riyal)	12,565,570	6,17,283.60
07.	Method used for time claim	As Impact Baseline method	As Impact Baseline Method
08.	Method used for cost claim	Actual Cost & Evidences	Pro rata basis from contract prices
09.	Remark	Client deducted concurrent delay under as Impact Baseline method. Associated cost paid only on net delays. Contractor was succesful as Impact method gives better or more Contractual result	Claim mainly based on delays of pre construction activities Instead of pro rata basis actual cost gives more accurate value

4. CONCLUSIONS:

- 1) The EOT claims should be based on the agreed contract terms & conditions and more concrete evidences should be provided within the claims.
- 2) The methodology used for drafting the claims should be as per the contract clauses; if the methodology is not expressly mentioned within the contract, then it is observed that there is a great amount of dispute between Contractor & Employer while choosing any particular methodology.
- 3) The major dispute within the critical path, can be resolved by referring to the definition of Critical Path as defined by Society Of Construction Law, UK. Since SCL, UK is not any statutory authority hence most of the time the parties disputes the definition.

5. REFERENCES:

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