



## Assessment of Contractor's Extension of Time Claim (Eot)

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### Abstract

Project Management tools and techniques are simply the process of coordinating the contractor's resources to achieve the Employer's Target. Each project has its own level of project management tailored to the project unique case. In project initiation stage, various inputs drive the main project key assumptions relevant to Project Scope, Duration, Cost and Stakeholders. Those same assumptions could impose a reason for the contractor not to meet project completion date and to be titled as causes of delay or Delay Events. Some of you might understand that since the topic is Time Extension Claim, so we focus on project timeline, this is correct, and within this, we will explain why the "Project Programme of Work (Baseline)" where assigned resources, cost, quantities, and sequence of work will drive Project Progress need to be agreed. Regardless the debate of whether or whether-not, the Baseline is a contractual document, and it requires approval or not, this paper assumes that; the contractor has signed the contract, secured approved programme, and managed to follow all contract clauses to submit a proper extension of time claim. Hence, he/she is concerned about the Contract Administrator action upon receiving this claim, methods of delay analysis, and determination report contents.

**Keywords:** Delay Events; Time Extension Claim; Project Programme of Work (Baseline); Methods of Analysis; Determination

### 1 Introduction

The relation between the Contractor and the Employer is defined through the signed contract that defines all contractor's obligations regarding scope, time cost quality, risk, deliverables...etc. However, the Employer in most cases assigns the administration of the contract to the Engineer/Supervision consultant or even to the Project Management consultant.

Both the contractual parties have the right to raise claims at any time of the contract, and it is the responsibility of the contract administrator to assess those claims and provide fair recommendation or determination to the Employer. Types of claims and reasoning can be detailed under a separate topic. But for this topic, we will focus on construction Extension of Time Claim raised by the contractor (claimant) for the Contract Administrator determination, Hence, we will adopt the Contract Administrator (C.A) view and proceed step by step in assessing the submitted claim. In this paper the author puts his 20 years of experience in the field in addition to his readings and reviews, the author here is intended to use simple words to simplify the industry expressions.

### 2 Objective of an Extension of Time Claim

The contractor submits extension of time claim to demonstrate that on the balance of the probability, the claimant is entitled to a compensation and to prove and substantiate the amount of such

compensation. In simple words, contractor in this claim is explaining why he is unable to comply with the contract completion date for all the work or section of work. Contractor also shows that this failure is out of his control. If this done successfully, then the completion date of the work/section of work will be revised, which will relief the contractor from any delay penalties and could be compensated for the added cost attributed to these delays.

### **3 What is Included in Contractor Submission?**

For a claim submission to be successful and ready for the Contract Administrator assessment, the contractor should fully understand the claim process as stated in the contract, maintain the time bar for his submission, fully understand the risk owner, and full understanding of each contract party's obligation under the conditions of the contract.

The Contract Administrator must be able to assess the claim, the contractor should prove contractual entitlement and provide enough exhibitions for each claim event. Contractor also needs to demonstrate that he has exerted all efforts to avoid/ reduce the impact of the delay. A successful EoT submission should include the following:

1. Full Narrative report.
2. Latest Approved Project Baseline: utilising agreed software.
3. Cause-and-effect matrix.
4. Delay Analysis: utilising agreed software.
5. Full set of substantiations related to each event.

An Explanation of each of the above will be listed below along with a hint of how the contract administrator will use every exhibit to produce the Claim Assessment Report.

#### **3.1 Narrative Report**

A successful narrative is measured as if it is read by a third party, it provides all the necessary information to understand the project. Narrative Report introduction should include brief of the project scope, list of contract documents arranged by priority, a project map or render photo is a good addition to the introduction. Baseline approval status and approval date should be part of the introduction, in next section of the report, the contractor lists the delay events and summarise the impact of each event and the overall impact. In this section contractor is encouraged to mention the duration, the revised date, and the cost he is claiming. Following section; the contractor is to include the contractual entitlement under the contract conditions, referring to each clause of the contract that could support his claim. Before last, comes the delay events section, for each delay event, contractor need to detail the cause, effect, circumstances and chronology of each delay event. The last section is the technical and delay analysis; contractor to explain the chosen delay analyse methodology and the reason of selecting this method. Finally, contractor is to conclude his claim with a table indicating the claimed duration, revised date and the related cost if applicable.

Figure 1 is a sample of the Report Content of the narrative report – Construction Claims & Responses Effective Writing & Presentation edition.

**CONTENTS**

Section		Page
Section 1	Executive Summary	: 3
Section 2	Statement of Claim	: 5
Section 3	Definitions, Abbreviations and Clarifications	: 8
Section 4	The Contract Particulars	: 10
Section 5	The Method of Delay Analysis	: 15
Section 6	Details of the Claim for an Extension of the Time for Completion	: 20

**Fig. 1: Report Content**

### 3.2 Latest Approved Project Baseline and Progress Update

Contractor upon signing the contract is requested to develop a fully detailed cost loaded work schedule which will demonstrate all the activities need to be executed to deliver the project deliverables. It presents the activities arranged in logical sequence and linked in proper relationships (FS, SS & FF), it also demonstrates the resources, the durations, and the quantities required for the contractor to submit the programme for the Engineer/Supervision consultant review. Once accepted/agreed, it is saved as The Project Baseline and should not be changed unless instructed. Contractor, on agreed periodic interval reports the updates of the programme which is known as progress update, it presents the actual status of work at site, those updates are to be compared against the planned baseline. In case of critical delay, the updated programme will forecast a finish date of activities/work/section of work that is shifted from the signed agreement- this indicates that contractor is unable to deliver project as committed-contractor then need to do analysis of the updated programme to figure out the cause of the delay. Most common method is analysis of the critical path.

### 3.3 Cause-and-effect Matrix

This is the main output of the Updated Programme Analysis. The contractor in this matrix lists the delay events, defines the root cause, the start and finish date and the impact of each event. This matrix is important for the Contract Administrator for better understanding of the Delay Event, and he uses it to develop the Delay Event Register Summary, where he will summarise the contractor submission and his final determination in one spreadsheet.

Cause & Effect analysis - EOT assessment												
Contractor Calim #xx cut off date dd/mm/yy												
ID	Title	Description	Cause	Effect	Start of Delay Event	Finish of Delay Event	Delay Event Status	Selected Host	Host Finish Date	Impact Finish Date	Status of the effect resulting from the Delay Event (*)	Delta Δ
12	Delay in the Road Bridges	Approval requirements to use existing connectors for the PWN, TSE & FSN networks. Also bridges	Long lead time for material. Average 18 weeks to be delivered	1. TSE: complete the pressure testing & retest 2. TSE: complete the pressure testing & retest 3. TSE: complete the pressure testing & retest	22-Dec-21	13-Oct-22	Closed	Approved revised program baseline	30-Sep-22	13-Dec-22	Closed	80.00
12.1	Delay in the Landscape Signage for the IP	Approval of the signage on the landscape signage IP	Engineering review delay Technical queries Drawing approvals	Manufacturing of the signage Erection of the Landscape signage	06-Aug-20	23-Nov-22	Closed	Approved revised program baseline	30-Sep-22	15-Jul-23	Active	288.00
13	DE13 - Promenade Granite wall	Repeating the Mock-up approval process many	Changing the approved pattern multiple times	Granite Installation for the promenade wall								

**Fig. 2: Cause and Effect Matrix**

### 3.4 Delay Analysis

Contractor is to submit the Delay Analysis as per the agreed software and a PDF copy. It is preferable for the contractor to run the assessment for each Delay Event separately, however this depends on the utilised method such as window analysis when events occurred in same period are all combined in same window slice. In case the contractor is claiming for multiple delay events, global analysis should be strongly avoided. Contract Administrators do check the submission to ensure the contractor has used each of the following correctly:

1. **Delay Analysis Methodology:** C.A to check if the utilised methodology is the most suitable for analysing this Delay Event and the method is applied correctly. C.A if he finds the method is unsuitable, he may run his assessment utilising different a method, however, this change must be explained in the assessment report.
2. **Updated Programme:** Contractor in his selected analysis method, might need to refer to a specific updated programme's date, then the C.A needs to ensure this is the correct programme update for this event. C.A might use different data date, and to report this within his report.
3. **The Delay Event is Effective:** D.E is impacting a critical path activity, so it would delay the completion date of the work/section of the work.
4. **Delay Fragnet and Sub-fragnet:** Should be logically linked with the dependent activities, proper relationship, duration, resources, and quantities assigned are factual or as per the baseline. Again C.A has the right to do changes on all those items if necessary.

### 3.5 Full Set of Substantiations

*"The Three Most important aspects to successful claim are Good Records, Good Records and Good Record"- Roger Knowles.*

I can say no more! Many potential good claims were returned by the C.A. for the lack of substantiations. Consultant/supervision Consultant might have records to help, however it is the contractor's responsibility to keep and submit detailed records. Contract Administrator refers to those record to be able to understand and run proper assessment of the claim

## 4 Methods of Delay Analysis

*"Many extensions of time claim flounder on the method of delay analysis that should be used to demonstrate the effect of delays. The contractor often wishes to perform one method of delay analysis and the engineer considers that another method is more appropriate. Such disagreements will only serve to prolong the resolution of a claim" - Andy Hewitt.*

Choosing the correct Delay Analysis methodology is critical for demonstrating the impacted duration. Some contracts impose the methodology to avoid the conflict between the claimant and the C.A, however this might be unfair for the contractor as the selection of method of analysis depends on availability of records, nature of event, and the submission date.

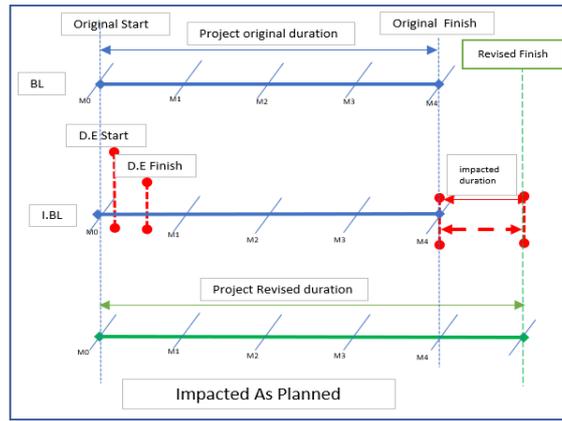
The following table illustrates some of the most common methods of Delay Analysis—basically modelled methods either additive or subtractive modelling- and minimum requirement to be able to utilise. Please note that the BL is for Approved Baseline, UBL is Updated Programme and the IMP is Impacted Programme.

**Table 1: Methods of Delay Analysis**

Method of Analysis	Delay Impact Determined	Requirements	Implantation Steps
Impacted as Planned (IAP) (Fig. 3)	Prospective	<ul style="list-style-type: none"> <li>Requires approved BL</li> <li>When the event starts in early stage of the project or before the first update of the approved baseline</li> </ul>	<ul style="list-style-type: none"> <li>Add the fragnet to the approved BL. Schedule the program</li> <li>The resultant deliverable dates are the revised dates</li> </ul>
Time Impact Analysis (TIA) (Fig. 4)	Prospective	<ul style="list-style-type: none"> <li>Approved BL</li> <li>Nearest update just before the D.E starts UBL (record the completion date UBL completion Date)</li> </ul>	<ul style="list-style-type: none"> <li>Add the fragnet to the UBL, link logical - this program is now called IMP. Schedule the IMP</li> <li>Record the resultant deliverable date: IMP completion date</li> <li>Impacted duration= UBL completion date- IMP Completion date = X days</li> <li>Revised Completion date = BL date + X days</li> </ul>
Collapsed as Built	Retrospective	As Built program logically linked	<ul style="list-style-type: none"> <li>Extract the delay event of the program and run</li> <li>The resulted date is the date that contractor could have finished the project on if the event did not occur</li> </ul>
Time Slice Analysis with Time Impact Analysis (Fig. 5)	Retrospective	<ul style="list-style-type: none"> <li>Approved BL</li> <li>Periodic update of the program</li> <li>Identification of Critical and near critical path</li> <li>Time Slice Window of selected Updated Program – all windows to be equal time frame</li> </ul>	<ul style="list-style-type: none"> <li>Record the BL completion date</li> <li>Utilize the Window Start Date program to add the fragnet (IMP)</li> <li>Utilize the Window finish Date program as the UBL</li> <li>Compare the longest Path from IMP and UBL and the completion dates</li> <li>(IMP completion date Later than (UBL) = duration is Employer Delay</li> </ul>

#### 4.1 Impacted as Planned

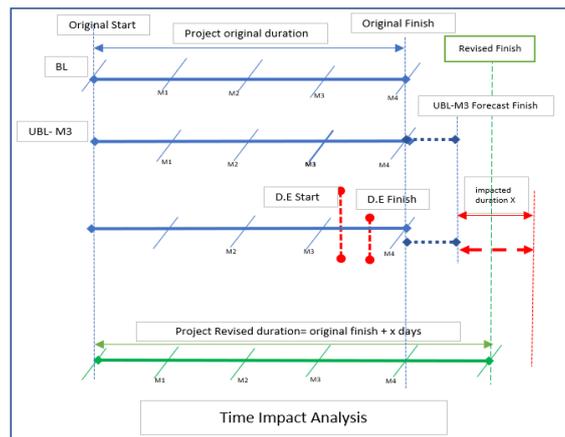
- Most straightforward way.
- Ignores actual progress on site.
- Depends on logical links, duration as demonstrated in the approved programme.
- Unless contractor has float, or other dependency linked to the critical path, the impact is straight forward and predictable.



**Fig. 3: Impacted as Planned**

**4.2 Time Impact Analysis**

- Uses the nearest programme update just before the event occurs to clearly understand the project progress and the change in the critical path from the baseline.
- Better to use one delay event (including sub-events) at the time, but also can include same period near event.
- Critical path analysis is mandatory.



**Fig. 4: Time Impact Analysis**

**4.3 Time Slice Analysis with Time Impact Analysis**

- Most accurate method to define the entitlement and the concurrency.
- This method is basically implementation of TIA but on selected slice of time of the claim duration.
- Time and effort consuming method for both claimant and C.A.
- Considers both longest path and completion date changes.

Window No	Input Programme	Input Programme DD	Progress Cut off	Window Duration	Base Prog Finish	Impacted Finish (Step 1)	Updated Finish (Step 2)	Entitled Duration	Entitlement up to
1									
2									
3									
4									
5									
6									

**Fig. 5: Time Slice Analysis with Time Impact Analysis**

## 5 Time Entitlement Calculation

Depends on the Delay Event scenarios. Example given below:

Scenario 1: Possession of site/suspension of work: contractor is directly entitled for the time he was disrupted to proceed with work.

Scenario 2: Employer delay event occurs during the contractual duration Fig. (6).

Scenario 3: Employer delay event occurs beyond the contract completion date and before issuance of completion certificate Fig. (7).

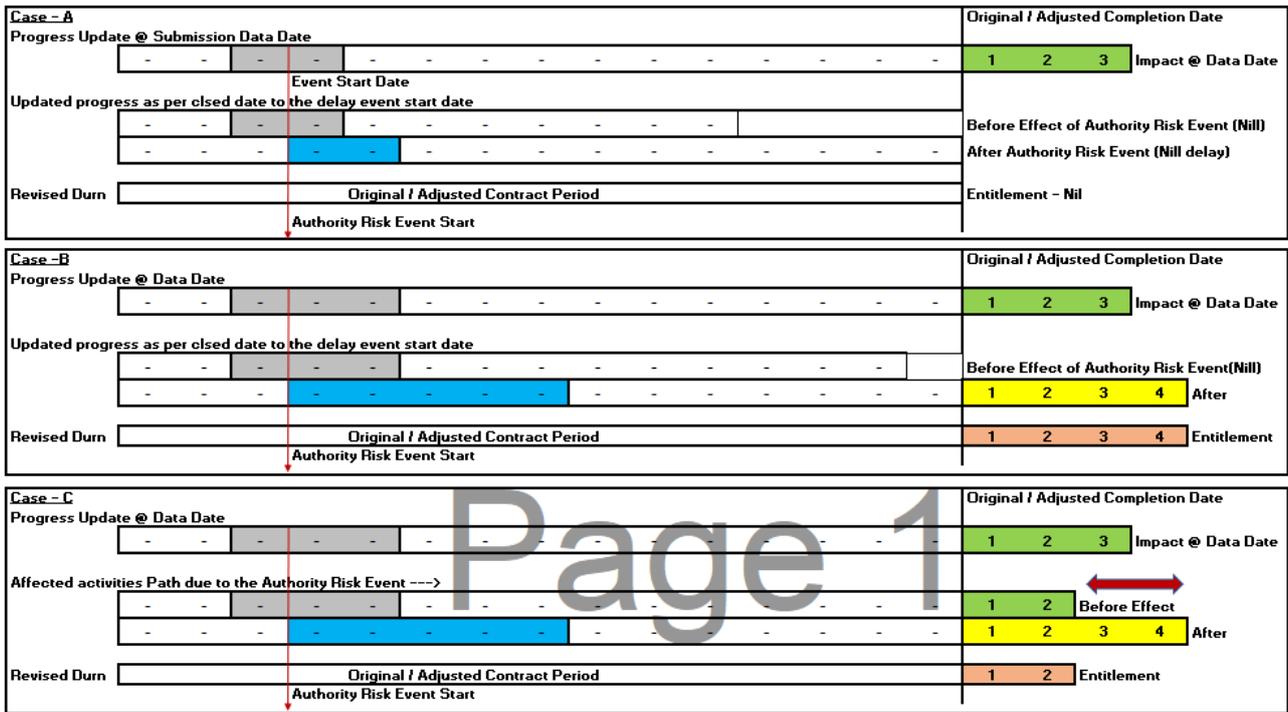


Fig. 6: Scenario 2 -Delay Event occurs during the contractual period

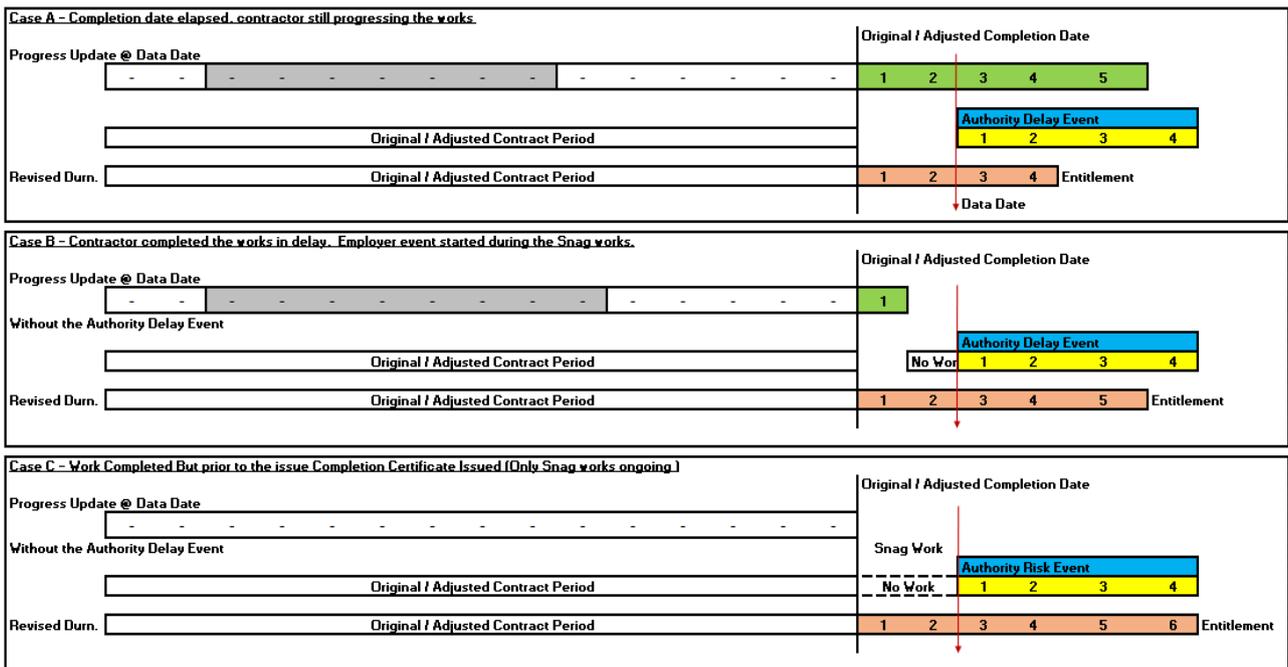


Fig. 7: Scenario 3 -Delay Event occurs beyond the Contractual Period

Presenting the data in the report:

**Table 2: Determination Table**

<b>Delay Event</b>	<b>Impacted Period</b>	<b>Impacted duration</b>
D.E #03	10 Feb 2021 to 10 March 2021	28 days
D.E #07 (suspension of work in zone 2)	29 Jan 2021 to 15 Feb 2021	17 days
D.E #012	25 Feb 2021 to 3 <sup>rd</sup> April 2021	36 days
Excusable delays	29 Jan 2021 to 3 April 2021	64 days
Original contract duration date	254 days	
Revised contract duration	254 days + 64 days = 318 days	
Revised contract completion date	Commencement date + revised duration	

## 6 Concurrent Delay Events

Under the signed contract conditions, when 2 or more effective Delay Events have occurred in the same period of which one is caused by the employer and one caused by the contractor, where both are impacting the completion of deliverables. In this case the contractor is entitled for time compensation only and not for cost compensation.

**Table 3: Concurrency Table**

	<b>D.E Description</b>	<b>D.E Start</b>	<b>D.E Finish</b>	<b>Duration</b>
Contractor D. E	Delay in S.D Submittals	01 Jan 2020	10 Feb 2020	41 days
Employer D. E	DC2 Approval	28 Dec 2019	15 Feb 2020	48 Days
<b>Compensation duration</b>				<b>7 days</b>

## 7 Determination

Concluding section in the claim determination report that includes all the above details. A final table to demonstrate the revised deliverable dates and the attributed compensation cost if applicable.

**Table 4: Determination Table**

<b>Description</b>		<b>Date / Duration</b>
<b>1</b>	Commencement	Date as per signed Contract
<b>2</b>	Project Duration	1037 Calendar Days
<b>3</b>	Project Completion (Original Contract)	Date as per signed Contract
<b>4</b>	Revised Project Completion (EOT-1 award)	If applicable

## 8 Conclusion

Claim assessment basically depends on the contractor submission, mainly records and the delay analysis methodology. Contract Administrator determination is only a first step contract modification. Both contractor and employer have the right to accept/disagree the determination, in this case the signed contract should recommend the next step once disagreement is raised.

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