

CAA Final Proposal Support



Turner & Townsend

Time Related Project Costs

Version 1.0

making the difference



Introduction

As part of Turner & Townsend's commission we have been requested to provide some reach back support in the Heathrow response to the regulator's Final Proposal, focussing on the following 3 areas:

1. Evidence to support the position that an ex-ante approach will lead to higher investment decision prices.
2. Supporting the inflation position around the construction price index or any other view and the CPI.
3. Evidence to support the position that if a project over runs in time it is inevitable the cost will go up.

The purpose of this presentation is to cover point 3 above, the other 2 points will be responded to under separate cover.

Delay - Prolongation and Ancillary Costs

Evidence to support the argument that if a project over runs in time it is inevitable the cost will go up.

In construction, cost overruns occur when the when the costs being incurred are in excess of the amounts budgeted for, these are risks which clients have to manage and try to mitigate exposure.

The **RICS** identifies that "If a project is delayed, it is likely that both the employer and the contractor will incur additional costs.". These additional costs extend beyond the remit of any direct variation to the works that might result in additional costs.

The '**ICE** report on reducing the gap between cost estimates and out-turns for major infrastructure projects and programmes' identified that the increase in cost at the later stage of project is "largely due to time" and "Whenever new demands are made after a contract is agreed and underway the result is almost always additional cost and delay"

Based on our reviews there is a direct correlation between time delays and cost over-runs, the following slides identify the potential cost heads impacted and high level benchmarking of 'time related' costs across different sectors including aviation. The analysis indicates that the proportion of time related costs at Heathrow is broadly in line with other sectors. Also, given that a large proportion of the EAC (avg. 33%-42% / HAL 30%-45%) is attributable to time related costs, the potential cost impacts due to any delays being incurred during a project's lifecycle could be significant.

1. RICS, Extensions of time, 1st Edition, Page 4

2. ICE, 'ice-report-reducing-the-gap-between-cost-estimates-and-outturns-for-major-infrastructure-projects-and-programmes', Page 6

Delay - Prolongation and Ancillary Costs

Delayed projects generally have increased prolongation and ancillary costs. Typical prolongation costs arising from delays are listed below:

Ref	Prolongation Delay Costs
1	Costs that are directly affected by delay on the project include:
a)	Construction Site Facilities
b)	Management and supervisor staff salaries plus their associated costs
c)	Extension of the construction bonds, sureties and insurances
d)	Equipment such as cranes which might be covered in their overhead costs
e)	Project security costs
f)	HAL Logistics (which cover provision of all construction related logistics - includes security screening (materials & people), delivery to site, accommodation, utilities).
g)	HAL Central Charges (which cover accommodation, utilities, control posts, staff costs from Development, IT and other areas plus insurance charges)

In addition to prolongation delay costs, there are also various ancillary costs which are associated with project delay that result in project costs rising. A list of this typical ancillary delay costs can be found on the next slide:

Delay - Prolongation and Ancillary Costs

Ref	Ancillary Delay Costs
2	Costs arising from inefficient personnel and equipment arising from delay of particular activities that must be 'paced':
a)	They cannot be used while waiting for access or information
b)	They are only part-utilised due to limited access work area or information
3	Delay leads to sections of work moving in to different weather conditions resulting in the need to 'accelerate' the works in order to mitigate reduced effective working time.
4	Increase in material prices and quotations interim delay period. Contractors are reducing the period upon which their quotations can be relied upon due to rising inflation. Delays impact upon this.
5	Change in programme sequence reduces pre-construction efficiencies developed in the procurement strategy:
a)	access and logistics impacted due to other work around it being completed
b)	Impact on local supply chain that cannot upscale economically and costs impact result
c)	Re-mobilisation costs for subcontractors, personnel and equipment. Remobilisation of specialist equipment can at times not be tenable due to market demands resulting in further delays.
6	Materials exposed to the elements in an incomplete state may require replacement and/or additional costs to protect during the unanticipated delay.
7	Off-site storage costs if site-logistics do not allow for on-site storage.
8	Constructive acceleration is often utilised to mitigate damages arising in delayed projects. These costs reflect accelerated procurement, weekend workings, thickening etc.

Time Related Project Costs Analysis

We have undertaken an analysis across sectors to ascertain the average percentage proportion of the EAC which could be attributed as being time related costs, the findings are presented below:

Sector	Project Sample	Low	High
1. Aviation (Heathrow)	10	30%	45%
2. Utilities	1	40%	50%
3. Rail	4	22%	31%
4. Rail*	4	17%	25%
5. Nuclear Decommissioning	1	45%	55%
6. Highways	2	41%	47%
Cross Sector Average (2-6)	10	33%	42%

Notes:

1. Figures shown are time-related costs as a % of Estimate At Completion (EAC)
2. 4. Rail* relates to Rail Sector figures minus time-related cost of access to Railway (Schedule 4 costs)
3. Excludes Risk
4. Excludes Inflation

The analysis indicates that the proportion of time related costs at Heathrow is broadly in line with other sectors. Also, given that a large proportion of the EAC (avg. 33%-42% / HAL 30%-45%) is attributable to time related costs, the potential cost impacts due to any delays being incurred during a project's lifecycle could be significant.

