

Resolving Delay, Extensions Of Time and Loss of Productivity

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Construction & Time

“It has been said that the only major construction project to finish on time and to budget was a church where, presumably, divine intervention played a role”

Dr. Julian Critchlow

The Evidentiary Burden

All the Crowd would shout back

“Yes, yes, we believe you.”

But as the trapdoor snapped open,
the Crowd would yell

*“But you ain’t got no proof...
and given that the burden of proof is on you,
you can hang”*

Standard Processes when any disruption occurs

- Consider Mitigating Steps as 1st Option
- Disruption Minimization
 - Labour Leveling
 - Rescheduling Work Activities
 - Float Absorption
- Disruption Assessment Handling

Mitigation

- Common Law Mitigation To Reduce Damages
 - Reasonable steps which are feasible
 - Does not cause serious financial impact
 - Question of Fact, Not Law
 - Onus is on other Party to Proof No Reasonable Mitigation
 - Cost Incurred in Mitigation Recoverable

Mitigation

- Contractual Obligation to Mitigate Delay
 - If could wholly Mitigate but did not = Contractor's Culpable Delay (RP Wallace Inc v The US)
- Best Endeavors
 - Steps that are within the power and ability but limited to those that are in self-interest to achieve endeavors
- Joint Effort Mitigation is Needed – NEC Contracts

Disruption Assessment Handling

- Determine Criticality of Disruption on Time
- Updated WP Impact Analysis (Prospective)
- If Completion Date not Impacted?
 - Determine Culpability
 - If Contractor Culpable : Step Up Mitigation Process
 - If Neutral Causes : Step Up Mitigation Process
 - If Employer Culpable : Productivity Claim

Delay Assessment Handling

- If Completion Date Impacted!
- Determine Whether Excusable?
- Excusable = EOT Reasons in Contract
- Non-Excusable Disruption
 - Determine whether Act of Prevention
 - Otherwise : Contractor Culpable Delay
 - Step Up the Mitigation Process

Non-Excusable Delay but Act of Prevention

- Time At Large : X Contract Mechanisms
- Determine Reasonable Time to Complete
- Appropriate Impact Analysis
- Common Law Damages Claim
 - All Reasonably Foreseeable Damages
 - Direct or Indirect
 - Hadley v Baxendale Principles
- Lodge Claims with Employer Directly
- Negotiate with Employer
- Otherwise Arbitrate

Excusable Delay Claim Handling

- Notice Requirement for EOT
- Prospective or Retrospective EOT Claim
- Early Warning Mitigation Processes
- WP Impact Analysis & Progress Reports
- Await Assessment on EOT?
- Assessment: Fixed Period or Reasonable Time
- Otherwise :
 - Time At Large
 - Common Law Damages

Notice Requirements

- Prospective Cost Impact?
 - Likely to Incur
- Retrospective of Delay Impact?
- Retrospective of Cost Impact?
- Condition Precedent?
- Stipulated Period or General Phrase?

Notice Requirements

- Condition Precedent = Must be clear
- Ambiguities = Contra Proferentum
- Time Frame Unreasonable or Impossible
- Matters known by the Parties/SO
- Prevention Principle Overrides the Notice Requirement (Gaymark Investments v Walter Construction Group)
- No prejudice to the Employer – No mitigation process
- Notice of Delay to Date of Completion or Progress ?
 - Disruptions & Productivity Loss Notifications
 - Mitigation?

The Work Program

- Impacted Work Program
- A Scientific & Reasonable Method of Proof!
- Best Evidence Rule
- The Standard of Proof = Burden of Proof
- Critical Path?
- What is the Legal View? - Commentaries

An Adequate As-Planned Work Program

- Is it Adequate to later substantiate an EOT Claim?
- What does Adequate mean?
- What standard of work program is required by the Contract?

An Adequate Work Program

- Henry Gantt's bar Charts w/o CPM?
- Software Program with CPM?
- Software Program with CPM & Float?
- Software Program with CPM & Float & Resource Allocation?
- How Detailed Should the Program be?

How Detailed?

- General Activities?
- Sub-activities & trades?
- Location Sequencing details?
- Co-ordination & Interface details?
- Information Requirement details?
- 3rd party or SO approval details?
- Supply lead time details?
- Free-Issue lead time details?
- Temporary Works detailing?

How Detailed?

- Resource Sequencing details?
- Multi-level or multi-trade CPM?
- Logic Links
 - Physical Links (Start-Finish of Activity)
 - Resource Links (Start-Finish due to Resource)
 - Contractual Links (Start-Finish due to Approvals)
 - Strategic Links (Start-Finish with Floats)

Logic Checks & Approval

Manipulated As-Planned Program!

- As-Planned CPN Logic – Ensure it is logical?
- Hidden Floats
 - Sequential Works that can be carried out in Parallel
 - Unidentified Floats
 - Exaggerated late completions of activities
- Exaggerated early completion of activities

Logic Checks & Approval

- Omitted Free Issue delivery dates
 - danger of un-realized lead time
 - leaving it to implications
 - Star trek scheduling
- Unrealistically early Free Issue delivery dates
- Omitted Contractual Logic dates
 - Information
 - Approvals
 - Reviews

Approval of As-Planned Program

- Contractual Document – more weight
- Non-Contractual Document – still evidentiary tool but with less weight
- Approval only on logic!
- Approval but with mitigation obligation (re-scheduling non CPN works)!
- Cuts both ways - Contractor also bound by logic.

Float

- Does it affect the assessment of EOT?
- Date of Completion Critical Path Activities cannot have float unless:-
 - Contractor planned early completion
- Contractor Planned Early Completion
 - If delay to Contracted Date of Completion
 - No EOT, no loss & expense, Productivity Loss?

Float

- Free Float (Finish – Start Activity to Activity Float)
- Total Float (Activity to Date of Completion Float)
- Is there a distinction between critical floats and non-critical floats?

Float

- Critical Float
 - minimum planning time required
 - minimum procurement, fabrication & delivery time required
- Non-critical float
 - time safety factor
- Critical float should be identified differently
- Temporary Works Detailing with a critical path to the Permanent Works

Float & Ownership Belongs to Contractor

- EOT granted if float affected by delaying event?
- Only when the extent of the float used up results in the non-critical activity impacting the Completion Date because it caused a shift of the CP?
- But if it belongs to the Contractor, why show it in the as-planned work program?
- Silence on ownership but with float indicated in work program, should it not belong to Project by implication.

Float & Ownership Belongs to Project

- Either party may use the float period without liability for EOT
- First to use benefits
- Encourages the Contractor never to bother with early start
- Early start and delays occur : loss of productivity, efficiency & idling, not claimable?

Float & Ownership Belongs to Employer

- Contractor must progress by early start and early finish unless delayed by Employer culpable event
- Some Contracts gives right for Employer to instruct early start or otherwise, Contractor can use the float (Employer's option)
- If early start would have reduced effect of Employer culpable delay, it is to be taken into account


Updating the As-Planned WP

- When Contractor wishes?
- When Delay Event is perceived by SO?
- When progress is found to be in variance?
- When Contractor claims or notifies of EOT?
- Any time wished and instructed by the SO?
- Periodical?
- Monitored Updating & Logic Re-checking?

Monitored & Re-checking?

- Avoid Manipulation!
- Misleading Updates due to automatic update
- Failure to reflect actual mitigation
- Failure to reflect accurately any variation impact (omission or addition)
- Allows accurate impact assessments at the appropriate time
- Pro-Contractor because claim is certain
- Pro- Employer because extent of liability is also certain

Progress Reports

- Daily & Monthly Reports?
- But are the Contents Adequate?
- Are the Veracity of the Reports intact?
- Probative Value? 
- Minutes of Site Meetings?
- Correspondence?

Contents of the Progress Report

Apart from the Normal Information:-

- Affect of the Weather on the Work Condition?
- Works Performed – Cross Referred to WP?
- The Measure of the Works Done?
- Time Spent by Resources & Down/Idle Time?
- Reason for Down/Idle Time?
- Resource Transfers & Reasons?
- Mitigation Steps?

Contents of the Progress Report

- Materials Received?
- Variation, Rectification, Inspection, Re-opening Works Identified?
- Works affected by RFI (Information & Inspection) Identified?
- Delays & Disruptions Identified & Reasons
- Resources affected by Delays & Disruptions Identified?
- Accidents & Site Visits?
- Corroboration = Progress Photographs or Videos

Veracity of the Reports

- Approved/Agreed? – COW/ PM/Consultants?
- Contemporaneity? – daily & prepared daily?
- Neutrality? – Favourable & Adverse
- Formal & Consistent – Format & Process?
- First Hand Recorder – Not hearsay? Weight?
- Security? Multiple Copies?
- Distributed & Unchallenged?
- Consistency with other Documents? External & Internal

Veracity of the Reports

- Legible Handwriting?
- Information within contradictory?
- Photographs not labeled?
- Photograph location not identified?
- Date & time of photograph not identified?
- Sub-contracted Works : no records?

Prospective or Retrospective Assessment of EOT

- Truly Prospective – Likely/Probable Delay
 - Does not consider Mitigation Effects
 - Unless Recovery/Catch-Up Program Issued
 - Without prejudice recovery/catch-up programs and constructive acceleration
- Prospective in relation to the Completion Date but Retrospective in relation to actual impact of Delay to Progress
- Truly Retrospective – towards end of Project
- Arbitrator – to follow requirement of Contract

Method of Impact Analysis

- Impacted As-planned Method
- As-Planned v As-Built Method
- Snapshot Time Impact Method
- Collapsed As-Built Method
- Windows or Slicing Method

Impacted As-Planned

- Treats the As-Planned Non-Updated Program as written in stone
- Critical Path never changes
- Can be based upon updated as-planned programs although it could reveal delays by Contractor
- Ignores the actual happenings in the site except for the delay events claimed
- Assumption that Contractor has been perfect with zero problems and exactly on schedule but for the claimed event
- Even so, why not updated? If not obliged? Some factual evidence of Contract inefficiency will destroy the method

As Planned v As-Built

- Comparison of As-Planned & As-Built with some identification of what caused the delay
- Superficial method
- Fails to consider knock-on effects
- Concurrent delays are ignored

Time Impact Method

- Can be manipulated!
- Danger if it ignores some actual facts
- Need to be aware of actual progress when relevant delaying event actual impact being considered
- Prior delays could have been recovered
- Prior delays could have actually had lesser impact than projected on program

Concurrent Delays

“Can’t separate the wheat from the chaff”

- True Concurrent Delay
 - Contractor culpable and Employer culpable events commence at the same time to the same critical item of work and has the same delaying effect
- Concurrent Delaying Effect
 - Distinct Delays to distinct items of works but both result in the same critical delay period
- Strict Prospective Time Slice Delay Assessment
 - Chances of concurrent delays slim

What are Global Claims

- No nexus between specific causes to specific effects to specific loss.
- Total costs claim
 - one lump sum claim for all causes to effects
 - actual costs minus planned costs
- Rolled up claims
 - many causes to one effect
 - many causes to many effects

Why Global Claims

- How the Courts were won at pleading stage
 - construction claims are highly complicated
 - many overlapping causes causing overlapping effects
 - impracticable or impossible to accurately apportion damage to particular causes/effects
 - impracticable or impossible to link causes to effects
 - perhaps influenced by the belief that at the hearing experts will crystallize the nexus
 - evidence of the facts will support the nexus

Global Claims

- Courts insist on evidence of nexus
- Warned that if one cause fails or one effect fails – all fails (causes, effects & sums)
- Many causes to one effect, one cause proven is sufficient for the total costs claimed

Global Claim Fails Unless

Boyajian v US principle:

- Nature of Delays & Costs: Impossible / Impractical to Determine Accurately
- Contractor's bid or estimate realistic
- Actual Cost is reasonable
- Contractor in no way responsible for added cost
- Modified Bid Estimate & Actual Cost?
 - (Great Lakes Dredge & Dock v US)

Excusable Delay Claim Handling

- Determine Compensable Under Contract?
- Contract Silent = Common Law Damages Claim
- Total Exclusion of Claims for Prolongation!
- Is it a Fundamental Breach?
- Fundamental Breach = Act of Prevention
- Malaysian Law : Cannot be Excluded
- English Law : Can be Excluded (Unless Consumer)
- US Law : Total Exclusion Not Applicable where
 - Not in Contemplation of Parties, Caused by Active Interference by Employer, Fraud or Bad Faith, Willful conduct of Employer, Duration of Delay Unreasonable

Excusable Delay Claim Handling

- Limited Excuses Compensable?
- Effective Limitation providing not Act of Prevention
- Common Law Damages = Contractual Limitation
- Common Law Damages Excluded?
- Loss & Expense Claim Handling

Record Keeping & Verification

- Substantiation with Claim
- Access to Records
- Mitigation Requirements
- Must assist the SO to ascertain the Actual Loss & Expense
- Impossible to Ascertain – Use Best Evidence Rule
 - providing certain that loss or damage is incurred

EOT Refused?

- Mitigate Delay Effect under Protest
 - Instructed to Catch-Up/Recover Delay
 - Constructive Instruction by Threat of LAD
- All Cost Incurred in Mitigating Delay
 - Reasonably Incurred
 - Regardless of total success or partial success
 - Constructive Acceleration Claim
- Constructive Acceleration
 - Discounted by Non-Compensable Excusable Delays
 - US Law : Non-Compensable provision fails if no EOT

Claim & Assessment

- Purely Prospective?
- Retrospective Delay Event?
- Retrospective of All Cost Impact?
- Time to Time Retrospective of any Cost Impact?
- Time Limitation on Claim?
 - 90 days before practical completion!
- Partially Retrospective & Partially Prospective

Delay Event Retrospective

- Idling Labour or Unproductive Labour
- Idling or Unproductive Plant & Machinery
 - Actual Lease & Hire Rates
 - Self-owned: Wear & Tear/Maintenance
 - Self-owned Project Specific : Depreciation
- Idling or Unproductive Site Management
 - Specific Delayed Work Activity Supervision
- Idling or Unproductive use of Temporary Works
 - Fabrication Facility, Scaffolding Rental, Formwork etc
- Abortive Works
- Learning Curve Productivity Impact
- If Total Suspension = all Direct & Indirect Cost

Prolongation Period Retrospective

- Recurring Preliminaries
 - Actual Cost
 - Extrapolated Formula Based Claims?
- Turn-over related Fixed Expense Preliminaries
 - Performance Bond
 - Insurance Extension
- Fixed Expense Re-Usable Preliminaries
 - Contractor owned Site Cabin, Toilet Facilities etc
 - Wear & tear and maintenance cost

Prolongation Period Retrospective

- Site Management
 - Overall Project Supervision
 - Project Dedicated
 - Multi-Project Dedicated : Pro-Rata
- Incremental Cost
 - Material Price Increases
 - Only if Early Procurement & Storage not Reasonable
 - Contracts that do not pay for materials at site which are brought prematurely to site
 - Labour Increased Rates
 - Forced by Market Forces/Climatic Working
 - Not Volunteered Additional Rates

Prolongation Period Retrospective

- Material Claims
 - Expired or Deteriorated Shelf Life Consumables
 - Unproductive Double Handling & Wastage
 - Loss of Bulk Discounts
 - Storage Cost
- Financing Cost
 - Increased Bank Charges
 - Additional Funding + Interest
 - Actual Financing Cost unless Exorbitant due to Lack of Creditworthiness
 - Burden of Proof (difficult if packaged financing)

The Claim Tactics

- The Solomon Syndrome
 - Exaggerate the Claim so that the Middle Figure is Agreed
 - Causes the SO to take the complete opposite view
- The Clandestine Cost Plus
 - Actual Cost v Estimated Cost
 - Was the Estimate Perfect?
 - Was the Planned & Reasonable Productivity Achieved?

The Claim Tactics

- The Veneer of Precision
 - Hidden Claims Rolled Up
 - The figures are always in decimals
- Double Bubble
 - Hidden overlapping claims
 - Variations with profit & HQ v Loss & Expense with Profit & HQ
- Throw Enough Something will Stick

Issues that Reduce Cost Claimed

- Contractor Culpable Cost Increments
 - Lack of Efficiency & Productivity
 - Failure to Mitigate
- Variation Work Double Recovery
 - Rationalized Schedule of Rates
 - Market Rates = + HQ cost + preliminaries
 - Discounting Factor must be Assessed
- Unproductive Plant & Machinery
 - Reduced Wear & Tear or Maintenance
 - Discounting Factor must be Assessed

Overheads Unabsorbed During Prolongation

- Loss of Opportunity to Absorb Overheads in other Projects
 - Limited Resources v Infinite Resources
 - Other Projects Available v Recession
 - Otherwise, overheads maintained & lost in any event
- Cost is Incurred but not Practical to ascertain Actual Allocated Cost
- Best Evidence Rule – Formula based Claim

Overhead Claims

- Hudson Formula : Criticized
 - Uses the Allocated Overhead Cost & Profit in Contract Sum
 - Presumes sum allocated at tender is what was actually expended and achieved
 - Profit would have been earned from the prolonged works : Opportunity Loss
- Emden Formula : Less Criticized
 - Profit Lost : Opportunity Loss
 - Average Profit : Not Actual Project Profit

Overhead Claims

- Eichleay Formula: Most Acceptable
 - No Profit Element : No Uncertainty
 - Uses Actual Overheads
 - Pro-rates to Value of all Projects to Value of this Project during the Contract Period
 - Uses same factor : Revenue from the Projects
 - Apple for Apple Comparison
- What happens when no total Apple for Apple Comparison on Revenue? Some PFI Projects?
 - Use other apple to apple comparisons
 - Cost of all Projects v Cost of this Project
 - Lilly Ames Co v US

SCL Protocol Loss & Expense

- Entitlement to EOT not Automatic Compensable
- Non-Compensable Neutral Excusable Events
 - shared pain (EOT but no compensation)
- Retrospective Assessments of Loss and Expenses
 - exposes overcompensated prospective EOT
- Actual Additional Cost Incurred
- LAD for Prolongation Loss & Expense Encouraged

SCL Protocol Loss & Expenses

- Prolongation due to Variations
 - agree or assess loss and expense soon after completion of the variation
- Tender allowances of limited relevance due to “actual incurred”
- No tender allowance can still claim actual incurred loss and expense
- Tender allowances only for assessing cost of prolongation or disruption caused by variations performed in different conditions or circumstances

SCL Protocol

Loss & Expenses

- Concurrent Delays = X Loss & Expense
- Unless additional Cost caused by the Excusable Event from the Non-Excusable Event can be separated
 - affected duration of the Excusable Event is longer
 - Excusable Event Impacted Activity has special prolongation cost impact (ie. seasonal impacted work)
- As-Built v As-Planned Method of Assessing is Required
- Assessment to focus of Delaying Period & not Prolongation Period
- General Duty to Mitigate Applies

SCL Protocol

Unabsorbed Overheads

- Dedicated Overheads to the Project with thorough Records
- Unabsorbed Overheads claimable unless Excluded by Contract
- Evidence of Loss of Opportunity to Recover Unabsorbed Overheads Required
- When Actual Proof Unfeasible = Use Formula
- X Hudson formula
 - presumes that the tender costing was adequate,
 - includes elements of profit
 - includes elements of other cost that are being recovered under the direct loss and expense claim
- Emden or Eichleay formula Preferred

SCL Protocol

Unabsorbed Overheads

- Discount value of variations (except for materials) that contribute to delay
 - if the variations are more than 10% of the entire contract valuation
- Can agree to use Tender or Contract Price Allowance for Overheads as Basis for Claim
- X Loss of Profit as an Opportunity Loss
- If the Contract allows Recovery of Opportunity Loss
 - Discount for risk involved in earning that profit
 - Loss of Profit extrapolated from the previous 3 years audited accounts

Malaysian Protocol?

Loss & Expenses

- Assessment based on cost incurred when the effect of the delaying event occurred rather than prolonged period
- Except for the actual recurring site overhead cost and the unabsorbed HQ overhead cost & other incremental cost
- Common law damages deemed excluded if specific provisions exist for Prolongation claims
- Even if Common Law Rights are maintained expressly in the Contract, Common Law Damages cannot cover expressed Non-Compensable Excusable Events

Productivity Loss

- Total Cost Method v Estimated Cost
- Relaxing the Boyajian v US principles
- Modified : Bid & Actual Expense to Avoid Pitfall
- Generally accepted as impossible / impracticable to prove otherwise
 - (Sovereign Construction Co v US)

Productivity Claims

- The Measured Mile
 - Actual productivity of un-disrupted period v productivity of disrupted period
 - Actual productivity measure v estimated or planned productivity
 - Agreed planned productivity factor? Was it achieved?
- Using Industry Standards