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CONSTRUCTION

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DISSECTING THE DOCTRINE OF CONCURRENT DELAY

Projects change. It's just that simple. Owners change their minds. Design engineers make mistakes. Contractors make substitutions. If change is inevitable, so is delay. Project delay is generally the result of multiple causes from multiple parties. Consequently, when projects are inexcusably extended, the participants routinely use concurrent delay as a global excuse for their failure to perform. After all, if multiple parties contributed to the problem, wouldn't it be fair that multiple parties contribute to the remedy? Enter the doctrine of concurrent delay. Be forewarned:

> "Popular opinion is the greatest lie in the world.[1]"
>
> THOMAS CARLYLE

While the concurrent delay defense is often raised, the defense does not have consistent meaning. Most practitioners don't understand the definition of the term, its intent, or its application. The adage, "time, no money," is just too simplistic and largely out of step with contemporary application of the theory. Through my research, I have come to the conclusion that the doctrine of concurrent delay is misunderstood because:

1. Contracts are prepared by attorneys and are relationship-based.
2. Critical Path Method (CPM) schedules are prepared by schedulers and are mathematically based.
3. Attorneys aren't schedulers, and relationships aren't mathematical.

While the problem is easily stated, it remains difficult to solve. Numerous articles have been written on concurrent delay, some by brilliant legal minds, some by expert schedulers. Few, however, have been written in a manner that is plainly accessible to both. Remember, most concurrent delay settlements are business decisions and not grounded in esoteric doctrine. Consider Ockham's Razor:

> "Don't multiply entities except by necessity.[2]"
>
> WILLIAM OF OCKHAM (1285–1349)

In other words, when presented with multiple theories, the simpler solution is likely the better solution. In pursuit of that notion, this paper will attempt to identify an optimal, yet simple application of the doctrine of concurrent delay.

1. Goodman, T. (Editor). *The Forbes Book of Business Quotations*. 1997, Black Dog & Leventhal Publishers.
2. http://www.csse.monash.edu.au/~lloyd/tildeMML/Notes/Ockham.html.

WHAT IS CONCURRENT DELAY?

While most project participants toss the term concurrent delay about freely, it is rare that any two individuals can agree on what it actually means. The following lack of consistency is characteristic of the systemic confusion within our industry.

"Concurrent delay is experienced on a construction project when two separate delay events occur during the same time period.[3]"

"It is important to note that to be considered concurrent delays, the delays need not actually take place at the same time.[4]"

"Concurrent delay is experienced on a project when two or more separate delay events occur during the same time period, and each independently affects the completion date.[5]"

"Concurrent delay occurs when the results of two separate delay events overlap[6]."

"The events are considered to result in concurrent . . . delays when it is clear that one of the events caused a delay in the schedule, but even if that event had not occurred, the schedule would have been delayed anyhow by the other event.[7]"

"Causes are 'concurrent' when they operate in conjunction simultaneously upon a single work element or phase of contract performance, causing an effect or effects (legal harm, injury), which would not occur in the absence of any one of the several causes.[8]"

WHAT IS DELAY?

Many contracts are similarly ambiguous with regard to delay categories. In the absence of a contractual definition, consider that:

All delay events fall into one of three categories. Excusable delay is caused by factors beyond the control and without the fault of either the project owner or the contractor. The contractor is entitled to an extension of time, but not an increase in the contract price. Nonexcusable delay is caused by the fault or performance deficiency of the contractor. The contractor is entitled to neither an extension of the schedule nor an increase in the contract price. Compensable delay is caused by the fault or shortcoming of the owner. The contractor is entitled to both an extension of time and an increase in the contract price to compensate for additional costs.[9]

3. Construction Claims Monthly October 1993, Volume 15, Number 10.
4. Ness, A. D. April 17, 2000. "When the Going Gets Tough—Analyzing Concurrent Delays."
5. Reynolds, R.B., and Revay, S.G. "Concurrent Delay: A Modest Proposal." The Revay Report, Volume 20, Number 2, June 2001.
6. "Mitigation of Risk in Construction: Strategies for Reducing Risk and Maximizing Profitability," McGraw Hill Construction Research & Analytics, Bedford, MA, 2011.
7. Ponce de Leon, G. "Theories of Concurrent Delays." 1987 AACE International Transactions, AACE International, Morgantown, WV.
8. James, D. W. "Concurrency and Apportioning Liability and Damages in Public Contract Adjudications." Public Contract Law Journal.
9. Construction Claims Monthly October 1993, Volume 15, Number 10.

A consistent application of the doctrine of concurrent delay requires an assessment of the net excusability or compensability of various combinations of excusable, nonexcusable, and compensable delay events. Note the following divergence of opinions on this point in Figure 1.

Figure 1.

	EXCUSABLE CONCURRENT WITH NON-EXCUSABLE	EXCUSABLE CONCURRENT WITH COMPENSABLE	COMPENSABLE CONCURRENT WITH NON EXCUSABLE
Theories of Concurrent Delays Gui Ponce de Leon, P.E., 1987 AACE Transactions	Excusable	Compensable	Excusable
Delay Analysis: A Systematic Approach Joseph S. Reams, Cost Engineering, Vol. 31, No. 2, February, 1989	Non excusable	Excusable	N/A
Construction Claims Monthly October 1993, Volume 15, Number 10	Excusable	Excusable	Non excusable
A Cost-Effective Delay Analysis Technique Mireille Battikha and Sabah Alkass , P.E., 1994 AACE Transactions	Excusable	Excusable	N/A
Concurrent Delays in Construction Litigation Dr. David Arditi & Mark A. Robinson, P.E., Cost Engineering, Vol. 37, No. 7, July 1995	Non excusable	Excusable	N/A
The Five Commandments of Construction Project Delay Analysis Hamed A. Al-Saggaf, CCE, Cost Engineering, Vol. 40, No. 4, April 1998	Non excusable	Excusable	N/A
Concurrent Delays — What Are They and How to Deal With Them? George E. Baram, P.E., CCE, 2000 AACE International Transactions	Non excusable	Excusable	Non excusable
Concurrent Delay: A Modest Proposal R.B. Reynolds and S.G. Revay, The Revay Report, Vol. 20, Number 2, June, 2001	Excusable	Excusable	Excusable
Construction Claims Monthly March 2002, Volume 24, Number 3	Non excusable	Excusable	Non excusable

If these basic delay categories are not addressed in the contract documents it is certain that discussions regarding concurrent combinations of these categories will be both heated and protracted.

CONCURRENT DELAY, CONTRACTS, AND THE CPM

The concept of concurrent delay is merely an observance that at least two parties defaulted on an obligation to perform. The magnitude of the default, however, is difficult to measure. CPM alone was only intended to calculate the network's longest path:

> CPM: a network analysis technique used to predict project duration by analyzing which sequence of activities (which path) has the least amount of scheduling flexibility (the least amount of float). . .[10]

While CPM succeeds as an objective determinant of a network's longest path, it fails to provide viable solutions to questions regarding apportionment of delay. This is largely because the concept of apportionment is subjective and often affected by the varied interests of the parties. Beyond the schedule, contractual considerations often bear on the resolution of a concurrent delay issue. Therefore, the answer to the concurrent delay riddle is rooted in both sound legal and mathematical principles.

WHAT IS CRITICAL?

While CPM is a valid technique for determining the longest path through a network, it fails to address certain practical considerations inherent in most time impact analysis techniques. Namely, which longest path governs? Is it the longest path on the baseline schedule? Is it the longest path on the schedule update? Is it the as-built critical path? If it is the as-built critical path, how will it be calculated? The use of total float as a measure for assigning activities to their representative paths can become problematic when analyzing as-built schedules. CPM is unable to calculate total float on an as-built schedule in which estimated dates have been replaced by actual dates.

Consider also that the critical path routinely changes as a project evolves. Note the evolution of the schedule (Figure 2). On the baseline schedule, path No. 1 represents the longest path and is projected to be complete on time. The first update, however, predicts a delay on path No. 1. Float on path No. 1 is now negative.

The second update reflects a delay on path No. 2. Note that while the float on path No. 2 is negative, it is less negative than the float on path No. 1. The as-built analysis, however, ultimately indicates that path No. 2 became the longest path. Courts have long recognized the dynamic nature of the critical path:

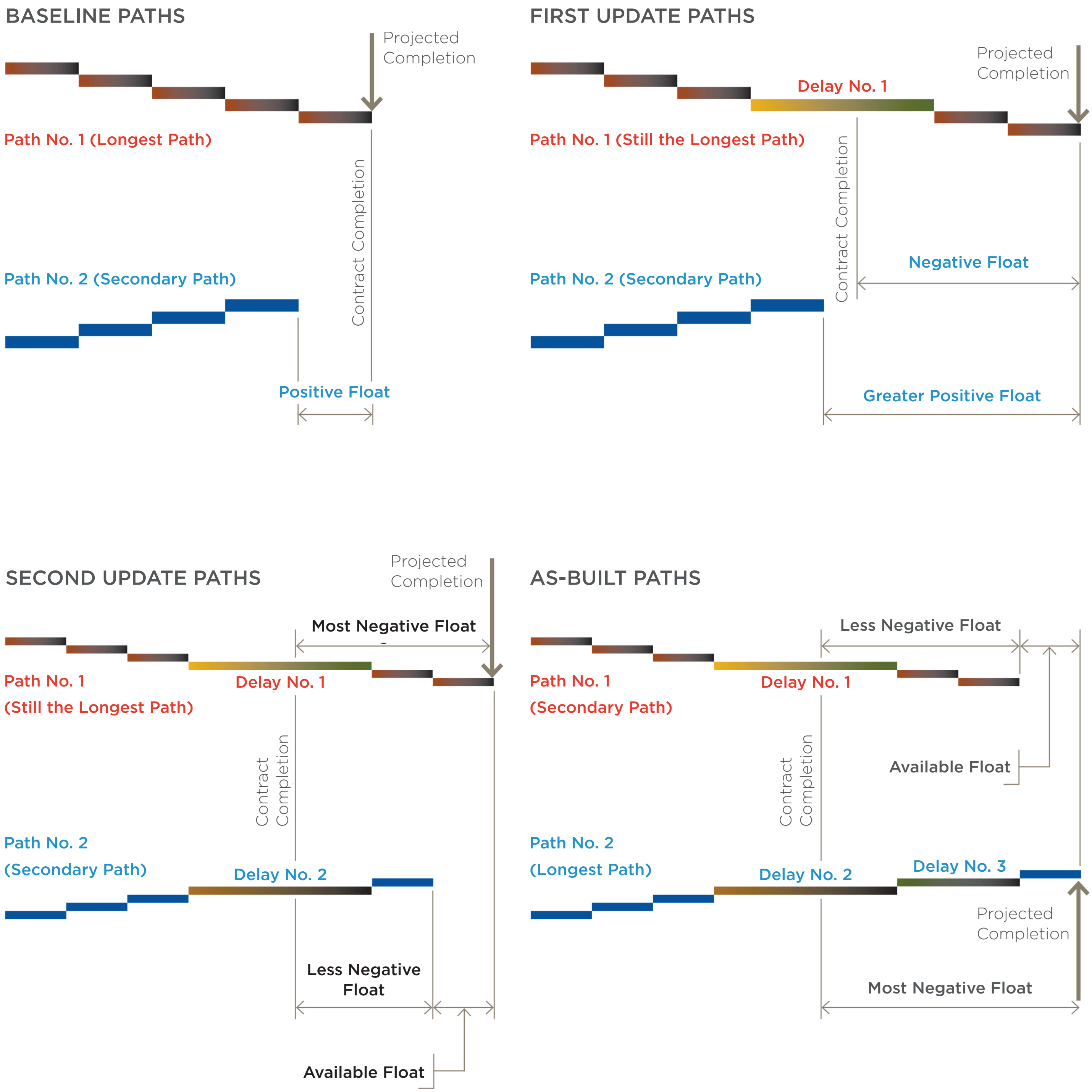
> There are numerous side paths for subordinate tasks which normally can be performed that affecting the critical path. However, these subordinate tasks, if improperly scheduled or unduly delayed in performance, can on occasion become critical and thus change the critical path for the entire project.[11]

Ultimately, the answer to "What is critical?" is a function of what you subscribe to.

10. Guide to the Project Management Body of Knowledge. 2000 Edition.

11. Wickwire, J.M., Driscoll, T.J., and Hurlbut, S.B. Continental Consolidated Corp., ENGBCA No.s 2743, 67-2 BCA. 6624 (1967). Construction Scheduling, Preparation, Liability and Claims, 1991, The Construction Law Library.

Figure 2.


BASELINE PATHS
Projected Completion
Path No. 1 (Longest Path)
Contract Completion
Path No. 2 (Secondary Path)
Positive Float
FIRST UPDATE PATHS
Projected Completion
Delay No. 1
Path No. 1 (Still the Longest Path)
Contract Completion
Negative Float
Path No. 2 (Secondary Path)
Greater Positive Float
SECOND UPDATE PATHS
Projected Completion
Most Negative Float
Path No. 1
(Still the Longest Path)
Delay No. 1
Contract Completion
Path No. 2
(Secondary Path)
Delay No. 2
Less Negative Float
Available Float
AS-BUILT PATHS
Less Negative Float
Path No. 1
(Secondary Path)
Delay No. 1
Available Float
Contract Completion
Path No. 2
(Longest Path)
Delay No. 2
Delay No. 3
Projected Completion
Most Negative Float

The Longest Path Theory

Under the longest path theory, if an activity has float, with respect to the longest path, in excess of a given delay, it can absorb that delay and, thus, no time extension will be required. The mere fact that an activity has negative float will not be determinative of its criticality.[12]

The Total Float Theory

"Under the negative float theory . . . all activities that have negative float are critical."[13] The definition of criticality is imperative in analyzing concurrent delay and should appear conspicuously within the contract documents. If your contract does not address criticality (most don't), bring the management teams together early in the project and decide for yourselves. Draft a project delay charter and adhere to it for the life of the project.

CONCURRENT PATHS

Why should you be concerned with any path shorter than the longest path? Since the fundamental function of a CPM schedule is to calculate the network's longest path, it would seem counterintuitive to calculate and analyze shorter paths that by definition contain excess total float. Consider the observation:

> "The only thing constant in life is change."[14]
>
> – FRANCOIS DE LA ROCHEFOUCAULD

If your project has not yet started or is incomplete, it is unlikely that your current perception of the longest path will remain constant as the project progresses. Remember, the critical path is a dynamic phenomenon. Criticality will vary with status. If your project is complete, it will take significant effort to establish the as-built critical path. This process is highly subjective and largely based on the varied interests of the practitioners. Actual durations and logic are a function of the integrity and completeness of the practitioner's database and will likely be disputed. Subordinate paths can quickly become the subject of heated debate.

Setting aside more obvious discussions associated with discrete, sequential delays along the network's longest path, consider the effect of changes generated by multiple parties. These parties often generate secondary and tertiary path delays that have the capacity to become concurrent, if not critical. If you are unaware of these subordinate paths and concentrate only on the longest path, it is likely that the lesser paths will overtake the longest path. Even if they don't, disputes regarding concurrent delay will likely follow.

Many definitions of concurrent delay provide that concurrent delays must occur simultaneously on the network's critical (longest) path; this simply is not plausible. Under what bizarre set of circumstances would discrete, concurrent, multiparty delay events be exactly the same duration? Even if the durations were identical, keep in mind that forward scheduling techniques involve significant guesswork. A wild guess analyzed to three decimal places is simply not good business practice.

Protect yourself! Know the location of your subordinate paths. Track and trend movement along your subordinate paths. Mitigate your delays on subordinate paths and flag other party delay to subordinate paths. Know the total float calculation on each of your subordinate paths. If you can't accurately place a specific activity on a specific path, you certainly can't present a valid case that someone else's path was concurrent with your own.

WHAT DO THE COURTS SAY?

Application of concurrent delay theory is inextricably linked to one's definition of criticality. It is important therefore to determine whether courts generally advocate the longest path or the total float theory of criticality. This is not as simple as one would hope.

Example 1: Santa Fe, Inc., VABCA No's. 1943–1946

Santa Fe, Inc. was awarded a contract for the construction of a hospital at a Veterans Administration (VA) medical center. Substantial completion was 101 days late. The contract contained a liquidated damages provision. As a result of the delay, the V.A. withheld $242,400 in liquidated damages. The contractor appealed and sought time extensions and a remission of the liquidated damage assessment.

The section of the contract entitled "Adjustment of Contract Completion Time" stated:

12. Jentzen, G.H., Spittler, P., and Ponce de Leon, G. "Responsibility for Delays After the Expiration of the Contract Time." 1994 AACE International Transactions. AACE International. Morgantown, WV.
13. *Ibid.*
14. *Ibid.*

> Actual delays in activities that according to the computer-produced calendar-dated schedule, do not affect the extended and predicted contract completion dates shown by the critical path in the network will not be the basis for a change to the contract completion date [paragraph A of NAS-13].

Despite the foregoing contract language, which appears to be consistent with the longest path approach to criticality, the contractor argued that the total float approach applied. Santa Fe reasoned that but for longest path delays incurred by their team, subordinate delays incurred by the government would nevertheless have delayed the project. Santa Fe maintained that:

> ". . . the impact of changes on the unchanged work cannot be demonstrated by the CPM rules we must use and the government's reliance on rules is not applicable or just because All uncompleted work becomes negative and therefore critical once the scheduled completion date has been reached.

Santa Fe also asserted that:

> . . . any work sequence or CPM path that runs past its contractually required completion date to be critical and any delays on those work sequences to be on the critical path."

In response, the government relied upon the plain language of the contract in espousing the longest path theory. The court resolved the dispute in favor of the government, stating:

> "Since liquidated damages are only imposed for delays in project completion, it is manifest that only those delays should be considered which actually affect project completion. By their nature the delayed activities involved must necessarily lie on the critical path of the project as it was actually completed. In terms of the concurrent delay rule then, the concurrent delay must pertain to activities whose completion was critical to completion of the project itself. Appellant cannot successfully urge, as it apparently seeks to do, that because critical contractor-caused delays. . . were concurrent with noncritical government delays . . . the imposition of liquidated damages may be avoided. Relief from the imposition of liquidated damages must depend upon showing concurrent delay in respect to activities on the critical path.
>
> DECISION: for the foregoing reasons all of the appeals herein are denied.

In support of its finding, the board cited *Blackhawk Heating & Plumbing Co.,* Inc., GSBCA No. 2432, 75-1 BCA 11,261, motion for recon. den., 76-1 BCA 11,649. The *Santa Fe* decision is a clear affirmation of the longest path theory of criticality.

Example 2: Toombs & Co., Inc. v. United States, 4 Cl. Ct. 535 (1984)

The Federal Aviation Administration contracted with Toombs & Co., Inc., for the construction of an air traffic control tower in Fairbanks, Alaska. The notice to proceed date was April 15, 1977. The original beneficial occupancy date was Jan. 10, 1978, 270 days later. The contract stipulated liquidated damages in the amount of $1,000 per day.

During the course of construction, metal siding panel fasteners failed. It was also discovered that grouting (required by specification) had not been installed in masonry block work. Deficiencies in reinforcing steel installations were discovered, and block walls were constructed out of plumb.

The contracting officer issued a stop work order to prevent work on all activities that could have an impact on the correction of panel deficiencies. The stop work order also addressed necessary remedial work associated with deficient block wall construction. The government assessed liquidated damages in the amount of $181,000 for a 181-day delay to the beneficial occupancy date.

Toombs instituted a lawsuit against the government, seeking (amongst other things) a remission of liquidated damages. The government asserted a counterclaim for the cost of test reports associated with deficient workmanship.

Although the court found that the government bore responsibility for the panel connection failure, the court also determined that ". . . plaintiff's exceptionally shoddy work warranted concurrent suspensions." Further, the court held:

> "Plaintiff seeks remission of the entire . . . (liquidated damage) assessment on the ground that when both parties are at fault and are responsible for the delay, liquidated damages cannot be recovered from the contractor. Plaintiff paints with too broad a brush. When it is reasonably possible to apportion the delay among the various causes, liquidated damages may be assessed, notwithstanding concurrent causes attributable to both parties. "plaintiff is entitled to . . . additional days . . . These adjustments, which total 55 days, apportion the delays between the parties according to fault and is a reasonable allocation of their respective deficiencies. Plaintiff is entitled to a remission of $55,000; and liquidated damages assessed against plaintiff, accordingly, will be reduced to $126,000."

In stark contrast to the longest path findings in *Santa Fe,* the *Toombs* decision affirmed the total float theory of criticality. In *Toombs,* the court recognized that contractor delays were on the critical path to completion, and the government's delays were not. Nevertheless, the court held that Toombs & Co., Inc., was entitled to a remission of liquidated damages for the concurrent delay period. Based on the foregoing, it would appear that the concept of equitable adjustment is highly subjective.

WHAT IS EQUITABLE?

It is difficult to draw any consistent conclusions from the case law analyzing concurrent delay. Consistent outcomes amongst litigants claiming concurrent delay have been elusive. Despite these sometimes-inconsistent judicial holdings, most contract dispute resolution language (at least tangentially) addresses the notion of equitable adjustment.

> The theory of equitable adjustment basically states that when a contract is changed, the contractor is entitled to be put back in the same position it would have been had it not been for the change. This means that the contractor is neither entitled to improve its position nor expected to be put in a worse position. Thus, a contractor that was

making a profit on the job is entitled to maintain that position, while a contractor that was losing money is not entitled to be made whole by the change.[15]

How does the longest path theory stand up relative to the theory of equitable adjustment?

Scenario No. 1

The project's longest path delay is through an owner-caused compensable delay. Here it would be permissible for the contractor to consume negative float (thereby causing a nonexcusable delay) on a subordinate path by pacing the work to the longer, more driving compensable delay. For example, a contractor could recognize that his subordinate path is late (as signaled by negative total float), reallocate labor to other projects, and still not suffer economic injury as long as the contractor's subordinate path finished earlier than the owner's longest path.

Here, the contractor could make a legitimate claim for extended overhead for the entire delay period despite concurrent offset. Is this solution equitable? Is the contractor being usurious? Perhaps. Perhaps not. One could argue that the owner (owning the longest path delay) caused the contractor to be on-site anyway. A court could reasonably determine that causation could never be shown between the contractor's delay to the secondary path and the ultimate project completion date (recall that the intent of CPM scheduling is to calculate the longest path through the network).

In Scenario 1 the owner's condition remains unchanged and the contractor's condition is improved. Why? Because the owner's delay would have driven the longest path regardless of the existence of a lesser delay by the contractor. Conversely, the contractor is improved not only because he is not penalized for being late relative to the project completion date, but also because he is able to seek recovery of extended overhead expenses for the entire length of the longest path delay.

Scenario No. 2

The project's longest path delay is through a contractor-caused nonexcusable delay. Here, it would be permissible for the owner to consume negative float (thereby causing a compensable delay) on a subordinate path as long as the owner's total delay were less than the longest path nonexcusable contractor delay. An owner could recognize that the subordinate path was late (as signaled by negative total float), issue change orders to that path, and still not suffer economic injury as long as the owner's subordinate path finished earlier than the contractor's longest path.

In this scenario, the owner could also assess liquidated damages for the entire period despite concurrent offset. Is this solution equitable? Is the owner being usurious? Once again: perhaps, perhaps not. One could argue that the contractor would have had to be on-site anyway. A court could reasonably determine that causation could never be shown between the owner's delay to the subordinate path and the ultimate project completion date.

In Scenario 2, the contractor's position remains unchanged, and the owner's position is improved. The contractor's delay would have driven the longest path regardless of the lesser delay by the owner. Conversely, the owner is improved not only because she is not penalized for being late relative to the project completion date, but also because she is able to assess liquidated damages for the entire duration of the longest path delay.

Consider the total float theory relative to the theory of equitable adjustment.

Scenario No. 3

The project's longest path delay is through an owner-caused compensable delay. A subordinate path exists representing a nonexcusable contractor-caused delay. By definition, the subordinate path also is late, but not as late as the owner's longest path.

Here, concurrent delay is observed, and the contractor is granted time only for the duration of that delay. No money exchanges hands (that is to say, the owner loses the right to assess liquidated damages and the contractor waives the right to extended overhead). The contractor, however, is granted both time and money (in the form of extended overhead) for the remaining nonconcurrent period.

In Scenario 3, the contractor's condition remains unchanged, and the owner's situation is improved. Why? Because the contractor was responsible for a theoretical delay to the project completion date. Accordingly, the contractor's settlement reflects economic damage (in the form of lost extended overhead for the concurrent period). Conversely, the owner receives the benefit of an offset for the concurrent portion of the total delay period. This solution does not require the owner to compensate the contractor for extended overhead costs for the entire longest path delay period even though the owner's delay governed.

15. *Ibid.*

Scenario No. 4

The project's longest path delay is through a contractor-caused nonexcusable delay. A subordinate path exists, representing a compensable owner-caused delay. By definition, the subordinate path is late also, but not as late as the contractor's longest path.

Here, concurrent delay is observed, and for the concurrent period, the contractor is granted time only. No money changes hands (that is to say, the owner loses the right to assess liquidated damages and the contractor waives the right to extended overhead). The owner, however, is entitled to assess liquidated damages for the remaining nonconcurrent period.

Figure 3.

CONTRACTOR DELAY ON THE LONGEST PATH	OWNER IMPROVED	CONTRACTOR IMPROVED	OWNER UNCHANGED (EQUITABLE)	CONTRACTOR UNCHANGED (EQUITABLE)
Longest Path Delay	^			^
Negative Float Theory		^	^	

OWNER DELAY ON THE LONGEST PATH	OWNER IMPROVED	CONTRACTOR IMPROVED	OWNER UNCHANGED (EQUITABLE)	CONTRACTOR UNCHANGED (EQUITABLE)
Longest Path Delay		^	^	
Negative Float Theory	^			^

In Scenario 4, the owner's condition remains unchanged and the contractor's condition improves. The owner is responsible for a theoretical delay to the project completion date. Accordingly, the owner's settlement reflects economic damage (in the form of lost liquidated damages for the concurrent period). Conversely, the contractor receives the benefit of an offset for the concurrent portion of the total delay period. This solution does not allow the owner to assess liquidated damages for the entire longest path delay period, even though the contractor's delay governed.

It appears as though each of the foregoing four scenarios would result in inequitable adjustments. In each case, the condition of one of the parties is improved, while the other's remains unchanged. Therefore, these results are inconsistent with the theory of equitable adjustment (Figure 3).

Consider an alternative metric, the notion of Pareto optimality: " . . . a Pareto optimization is a solution which, when it's applied, leaves nobody any worse off."[16] While intuitively it may seem difficult to achieve Pareto optimality, a closer look at Scenarios 1 through 4 indicates that if one party's position is improved and the other's remains unchanged, the Pareto optimal standard has been met.

FLOAT OWNERSHIP AND CONCURRENT DELAY

The float ownership concept is fundamental to the analysis of project delay. Typically, the intent of the float ownership clause is to clarify the use of positive total float relative to the current contract completion date.

A typical float ownership clause might state:

> Total float belongs to the project and is not for the exclusive benefit of any party. Total float is the number of days an activity may be delayed from its early dates without extending the contract period. Total float shall be available to any party and is intended to accommodate changes in the work or to mitigate the effect of events, which may delay completion.

Who owns total float? The general rule under such a provision is simple: "Whoever gets to it first." That is to say, any party is permitted to delay a positive total float activity with impunity, provided that:

- Their delay duration does not exceed the total float calculation for that activity
- Their claim for total float was made prior to anyone else's

The float ownership concept becomes more complex when the project is late and the total float calculation becomes negative. While it may seem intuitive to concentrate on the path with the least available float, consider that a preponderance of concurrent delay scenarios involve delays that are on multiple paths, each of which are characterized by negative total float. Concurrent delay debates will ensue despite the definition of a longest path. Consider the following scenarios:

At issue is a party's right to extend a project beyond its contract completion date as long as their delay is not on the longest path. Consider the court's findings in *John Driggs Company, Inc.,* ENGBCA No. 4926.

In *Driggs* the contractor sought additional compensation and extensions in contract time for multiple events that occurred early in the contract. The board stated:

> A common thread running through all of these alleged "delays" is that Driggs did not complete these particular tasks on the originally-planned and scheduled date. From this, [the government] concludes that they represent concurrent, contractor-caused delays . . . We disagree. More proof is required to establish (the government's) defense of concurrent delay. When a significant owner-caused, construction delay . . . occurs, the contractor is not necessarily required to conduct all of his other construction activities exactly

16. Pareto, Vilfredo (1848–1923). www://www.bbc.co.uk/dna/h2g2/A240661.

according to his predelay schedule, and without regard to the changed circumstances resulting from the delay.

The occurrence of a significant delay generally will affect related work, as the contractor's attention turns to overcoming the delay rather than slavishly following its now meaningless schedule. (The government) is required to demonstrate that, but for the delay caused by (the government), the contractor could not have performed the project in less time, and would necessarily have been delayed to the same extent in any case. Respondent has failed to meet this burden.

The *Driggs* decision is an affirmation of a pacing defense (reallocation of resources in observance of another, more critical delay) and the contractual right to utilize float (even if it is negative) made available by another party's critical path delay.

While a purely equitable adjustment may be difficult to attain, Pareto optimal use of the doctrine of concurrent delay is wholly within the power of the contracting parties. The solution lies hidden within the float ownership clause of the contract. Root it out. Clarify it. If necessary, renegotiate it. Specifically,

. . . if the contract provides that either party may absorb all the available float in an activity with complete impunity, it should be construed to create a contractual privilege . . . thus if protected by such a contractual privilege, a party whose delay exhausts the float should not forfeit any rights to recover for a compensable delay by the other party that is a concurrent cause of actual project delay. Conversely, contracting parties intending to observe the rule that concurrent causes of project delay cancel out the compensability of one another should not adopt contract language allowing either party to freely exhaust all available float.[17]

The solution is simply this:

- If you subscribe to the longest path theory of criticality, negotiate a contract (or project delay charter) that assigns total responsibility for compensable delay to the party on the longest path. This approach all but eliminates disputes associated with concurrent delay.
- If you subscribe to the total float theory of criticality, negotiate a contract (or project delay charter) in which the net effect of concurrent delay is excusable, not compensable.

No matter which side you are on, you are likely to have an implicit responsibility to negotiate concurrent delay to your commercial advantage. If you remain uninformed and don't participate in a clarification effort, dispute resolution boards, mediators, arbitrators, judges, and juries will define the concept for you. Unfortunately, those definitions will likely be as erratic tomorrow as they have been in the past. Anticipate. Mitigate. Proactive management of concurrent delay conflict is your best weapon against an inequitable adjustment.

17. Wiezel, J.P. "Refining the Concept of Concurrent Delay." Public Contract Law Journal.