

Concurrent Delay and the Critical Path: *Analyzing the Potential Impact of the AACE Protocol on How U.S. Courts Decide Delay Disputes*

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INTRODUCTION

AACE International ("AACE") Recommended Practice No. 29R-03 on Forensic Schedule Analysis ("Recommended Practice" or "RP No. 29R-03") offers a protocol to be utilized in applying the critical path method to assess liability for schedule delays. The Introduction to the Recommended Practice states that the goal of the AACE is to "minimize procedural subjectivity" in forensic schedule analysis in order to increase "transparency" and thereby "increase accountability and testability of an opinion."¹ The Recommended Practice states that it seeks to achieve this goal "by defining terminology, identifying the methodologies currently being used by forensic scheduling analysts, classifying them, and setting recommended procedural protocols for the use of these techniques."² The Introduction concludes by stating "[i]t is hoped that the implementation of this Recommended Practice will result in minimizing disagreements over technical implementation of accepted techniques and allow the providers and consumers of these services to concentrate on resolving disputes over substantive or legal issues."³

Practitioners and their clients should undoubtedly benefit from this effort to elevate substance over procedure. In addition, from the standpoint of the courts, any protocol that offers clarity and transparency will likely be applauded. It is uncertain, however, whether the AACE Recommended Practice will assist practitioners in overcoming many of the challenges presented by the existing body of case law related to concurrent delay. This body of law is both substantial and, in several respects, inconsistent, as the parties and judges involved in nearly every delay dispute seem to have differing views as to which delays are concurrent and how any such concurrent delays should impact the outcome of the dispute. While courts uniformly seem to agree upon the basic rules of concurrency, the uneven application of these rules to recurring fact patterns has given rise to inconsistent precedent and thus a lack of predictable guidance for parties seeking to avoid future disputes.

A review of the existing body of case law reveals that judges often tend to distill complex delay disputes into the fundamental elements required to prove a breach of contract claim: duty, breach, and causation of damages, with concurrency

1. RP No. 29R-03 at 8.

2. *Id.*

3. RP No. 29R-03 at 8.



mainly bearing on the last element. When complex delay disputes are distilled into these core elements, both the factual record and the proper methodology are susceptible to simplification—and often over-simplification—by judges seeking to conform their delay analysis to the existing rules of contract law developed over the past hundred-plus years.

Section II of this paper describes the AACE Recommended Practice, and Section III analyzes four specific challenges presented by the case law that analysts must confront in presenting a forensic schedule analysis to a judicial forum:

- » **Legal Challenge No. 1:** Cases Adopting a Global View of Concurrency;
- » **Legal Challenge No. 2:** Cases Finding that the Party Seeking to Apportion Delays Failed to Meet Its Burden of Proof;
- » **Legal Challenge No. 3:** Cases Adopting a Narrow View of the Critical Path in Relation to Concurrency;
- » **Legal Challenge No. 4:** Cases Questioning Whether “Hindsight” or “Blind-sight” Is the Proper Approach to Critical-Path Analysis.

In sum, practitioners are faced with the challenge of utilizing the detailed protocol set forth in the AACE Recommended Practice without sacrificing the clarity and simplicity sought by judges in deciding delay disputes. Schedule analysts should strive to ensure that judges understand all of the pertinent aspects of the project record pertaining to concurrent delay disputes and the proper methodologies to be used in analyzing the record. Therefore, the challenge for a practitioner seeking to employ the AACE's Recommended Practice is to tailor the presentation of the delay analysis in a manner that accounts for how judges distill and decide cases.

SUMMARY OF APPROACH TO CONCURRENCY IN AACE RECOMMENDED PRACTICE

Section 4 of the Recommended Practice outlines the AACE approach for practitioners to follow in interpreting the results of their forensic schedule analysis.⁴ Section 4.2 addresses the protocols for the identification and quantification of concurrent delay. The authors of the Recommended Practice acknowledge that the assessment of concurrent delay is “the most contentious technical subject in forensic schedule analysis.”⁵ While acknowledging that contractual variables may impact the identification of concurrent delay, the AACE identifies five factors that may affect this analysis: (i) whether concurrency is determined literally or functionally; (ii) whether concurrency is determined on the cause or the effect of the delay; (iii) the frequency, duration, and placement of the analysis interval; (iv) the order of delay insertion or extraction in a stepped implementation; and (v) whether the analysis is done using full hindsight or based on knowledge at the time, known as “blind-sight.”

These factors (in conjunction with any pertinent contractual scheduling provisions) are intended to provide further guidance in not only identifying but also apportioning concurrent delay. For instance, with respect to “literal versus functional” concurrency the Recommended Practice states that “[t]he difference here is whether delays have to be literally concurrent in time, as in ‘happening at the same time,’ or they need to be functionally concurrent so that only the separate network paths on which the delays reside be concurrently impacting the completion date.”⁶ As noted in the Recommended Practice, “the functional theory is more liberal in identifying and quantifying concurrency” because it assumes “that most delays have the potential of becoming co-critical, once float on the path it resides have been consumed.”⁷

4. RP No. 29R-03 at 76-99.

5. RP No. 29R-03 at 79.

6. RP No. 29R-03 at 80.

7. *Id.*



Similarly, the AACE attempts to further assist in apportioning concurrent delays by distinguishing between the cause of a delay event (e.g., days 1 and 2 when there is a 2-day late start to a five-day activity) and the effect of a delay (e.g., days 6 and 7 when there is a 2-day late start to a five-day activity).⁸ The discussion of the frequency, duration, and placement of the analysis and the order of insertion or extraction of delay events in the Recommended Practice is further intended to provide analysts with additional guidance to utilize in identifying and quantifying concurrent delays.⁹

Finally, the discussion of a “hindsight versus ‘blind-sight’” review of the project schedules highlights an additional potential area of divergence in analyzing concurrency. The “hindsight” approach is a retrospective mode of analysis that accounts for actual project events, while the “blind-sight” approach is a prospective mode of analysis that seeks to determine concurrency based upon the projected impact of a delay event at the time it first occurred.¹⁰ The AACE acknowledges that “there is no prevailing practice, let alone agreement” as to which approach should be utilized:

On one hand, the hindsight supporters maintain that it serves no purpose to ignore best available evidence and recreate updates, pretending that the as-built information does not exist. On the other hand, the ‘blind-sight’ supporters argue that the very purpose of reconstructing schedule updates is to replicate the state of mind of the project participants at the time of the update, because project decisions were made based on best available information at the time.¹¹

In summary, while the Recommended Practice acknowledges that certain existing methodological disagreements will continue to be the subject of opposing viewpoints in concurrent delay disputes, it seeks to implement a standardized protocol that will streamline the discussions pertaining to these areas of divergence in order to focus upon the substantive areas of disagreement

among the parties to delay disputes. As discussed in the following section, practitioners seeking to implement the AACE Recommended Practice should be mindful of certain challenges presented by the existing body of case law related to delay analysis.

POTENTIAL LEGAL CHALLENGES TO APPORTIONMENT OF CONCURRENT DELAY

The general rules of concurrency adopted by courts and boards are largely in accord with the goals of the AACE Recommended Practice on Forensic Schedule Analysis. As discussed below, most courts endeavor to identify and apportion the periods of delay caused by each party as well as those periods of concurrent delay. While the general rules applicable to concurrency are fairly straight-forward, courts have struggled to apply these rules to the complex fact patterns that they often face in cases involving concurrent delay.

First, certain courts have appeared unreceptive to engage in any detailed schedule analysis where it appears that both parties contributed in some way to project delays. Second, even when courts attempt to apportion concurrent delays, many judges have found that neither party was entitled to recover delay damages where the project record did not reveal a basis for clear apportionment of these delays. Third, certain courts have adopted a narrow view of concurrency and the critical path that does not account for the potential impact of delays to near-critical activities, delays occurring on co-critical paths, or concurrent delays occurring simultaneously on multiple paths. Fourth, the unsettled debate identified by the AACE between the “hindsight” and “blind-sight” approaches to critical path analysis is underscored by several decisions in which courts have themselves debated the wisdom of using contemporaneous schedules versus the as-built project schedule in assessing alleged delays.

8. RP No. 29R-03 at 81.

9. *Id.* at 81-83.

10. RP No. 29R-03 at 83.

11. *Id.* at 83-84.



GENERAL RULES OF CONCURRENCY

Courts seeking to define “concurrent delay” have observed that the term includes both “temporal and causation aspects.”¹² The temporal aspect refers to delays impacting the same delay period while the causation aspect refers to delays that are “independently sufficient to cause the delay days attributed to that source of delay.”¹³ When there is a period of concurrent delay, a contractor is entitled to a non-compensable time extension for the delay period.¹⁴ Thus, the owner may not recover liquidated damages for the period of concurrent delay, and the contractor may not recover delay damages.¹⁵

The Essex court explained the rationale for this rule by stating that there is no “causal link” between the one party’s delay and the other party’s damages in the event of concurrent delay.¹⁶ One party cannot definitively prove that the other party extended the time period needed to perform the work through its delays if the project would have been extended by the first party’s own actions. Thus, a party seeking to recover on a project beset by concurrent delays must prove that the delays and expenses flowing therefrom can be clearly apportioned between the parties.¹⁷ While the consequences of concurrent delay as it relates to the parties’ entitlement to damages are clear, what constitutes concurrent delay in the eyes of the courts has been perhaps most aptly described by one court as “at best murky and confusing.”¹⁸

Legal Challenge No. 1: Cases Adopting Global View of Concurrency

One challenge facing a practitioner advancing a delay analysis is the tendency by some courts and board to adopt a broad view of concurrency that could be at odds with

the comprehensive, step-by-step approach of the AACE to defining, identifying, and quantifying potential concurrent delays. In several decisions, a few representative examples of which are discussed below, judges have analyzed concurrency from a global perspective. In these cases, delays were not apportioned, even where the delays clearly seemed to be sequential rather than concurrent. Instead, the parties were held jointly responsible for concurrently delaying the project as a whole—and neither party recovered delay damages—in circumstances where each party independently delayed separate activities that contributed to the extended completion date. While many of these decisions do not indicate whether apportionment of delays was even theoretically possible, such cases are important to study because they demonstrate the preference that some judges may have toward viewing causation from a macro perspective.

A recent example of this broad formulation of concurrency is *Coffey Construction Company, Inc.*¹⁹ The project in *Coffey* involved demolition of existing structures and construction of new buildings and utilities at a VA Medical Center. The project finished 241 days late, and the VA withheld liquidated damages while the contractor sought a compensable time extension. Before assessing the merits of the delay dispute, the board in *Coffey* noted that the contemporaneous schedule analyses performed by the parties were unreliable. The board eschewed these analyses and instead resorted to comparing planned versus actual durations of performance, with specific focus on three significantly delayed elements of the work that finished well after the original completion date: (i) boiler testing at Building 52; (ii) electrical service at Buildings 55 and 59; and (iii) paving at Buildings 52 and 53.

12. *George Sollitt Constr. Co. v. United States*, 64 Fed. Cl. 229, 238 n. 8 (2005).

13. *Id.*

14. *Id.*

15. *E.g., Essex Electro Eng’rs., Inc. v. Danzig*, 224 F.3d 1283, 1296 (Fed. Cir. 2000).

16. *Id.*

17. *Id.* at 1292.

18. *Sterling Millwrights, Inc. v. United States*, 26 Cl. Ct. 49, 77 (1992).

19. VABCA No. 3361, 93-2 BCA ¶ 25,788 (1993).



The contractor in *Coffey* argued that the delays to these three activities were attributable to VA delays, but the board concluded that the contractor was responsible for the boiler testing delays and that the VA was responsible for the electrical service and paving delays. While the VA admitted responsibility for these delays, the Government noted that both activities had float in the schedule and that the critical path ran through the contractor's boiler-related delays. Nevertheless, the board concluded that all three delay events were concurrent, thereby rejecting both the VA's claim for liquidated damages and the contractor's compensable delay claim.²⁰

The board in *Coffey* acknowledged, as the VA had argued, that the boiler delays extended "a month or so" beyond any of the VA's delays.²¹ The board, however, refused to find that "one or the other delays was solely on some mythical critical path and, therefore, was the sole cause of delay."²² The board further reasoned that "[w]hile each of those [three] components may have been delayed individually by one party or the other, the fact is that, in the broader view, delays to the project as a whole were inextricably intertwined and were caused jointly and concurrently by both parties. It is evident that substantial completion of the project as a whole could not have occurred without the completion of all three of those activities."²³

One might dismiss the importance of *Coffey* as an anomalous decision in which the lack of sufficiently reliable scheduling data left the board without an appropriate basis to apportion delays. There are, however, numerous other recent decisions in which courts and boards analyzed concurrency from a global perspective of joint causation for overall project delay.²⁴

The reasoning in *Coffey* and other recent decisions is also consistent with the rationale most often utilized by courts and boards dating back to the early twentieth century. For example, the board in *Tobe Deutschmann Laboratories*, a 1966 decision, overturned a default termination where it found that both the Government and the contractor had caused sequential delays. The board stated that "[t]here is no satisfactory way to apportion the degree to which each [party's] delay contributed to the failure to meet the delivery deadline." The court concluded that "[i]n such a case, we believe neither party is logically entitled to blame the other for the slippage, and accordingly the Government's default action should not stand."²⁵

The *Tobe Deutschmann* decision was not the first of its kind. The board drew support from *The Tuller Constr. Co. v. United States*,²⁶ another example of a decision in which a court concluded that delays to separate activities were concurrent without attempting to quantify and apportion these delays. In *Tuller*, the Government was two months late in supplying shop drawings for owner-furnished equipment. The contractor experienced further excusable delay when the War Production Board failed to issue timely approvals required for its supplier to begin manufacturing certain other required materials. The court found that the contractor, however, also bore responsibility for project delay because it had to devise an alternate method for building an intake pipe in a river bed after its original method had proved to be impracticable.

Although the delays occurred at different times and could have been apportioned, the *Tuller* court denied the contractor's claim for extended project costs. In reaching this conclusion, the court in *Tuller* cited two early decisions in

20. 93-2 BCA ¶ 25,788.

21. 93-2 BCA ¶ 25,788.

22. *Id.*

23. *Id.*

24. See, e.g., *Kirk Bros. Mech. Contractors, Inc.*, ASBCA No. 40172 92-3 BCA ¶ 25144 (1992), *aff'd Kelso v. Kirk Bros. Mech. Contractors, Inc.*, 16 F.3d 1173 (Fed. Cir. 1994); *Tobe Deutschmann Labs.*, NASA BCA No. 73, 66-1 BCA ¶ 5413, at 25,418 (1966).

25. *Id.*

26. 118 Ct. Cl. 509 (1951)



which the Court of Claims found concurrency where both parties had contributed in some respect for the delayed completion date without attempting to segregate individual delays, *Irwin and Leighton v. United States*²⁷, and *Newport News Shipbuilding & Dry Dock Co. v. United States*.²⁸ Relying partly upon *Irwin* and *Newport News*, the court in *Tuller* analyzed concurrency from a global perspective and found that “the evidence show[ed] that there would have been substantially the same delay in the completion of the job, if the government had been prompt in supplying the materials and drawings.”²⁹

The Court of Claims opinion in *Newport News*, decided in 1934, seems to reflect that early courts appear to have been either unwilling or unable to parse the detailed evidence pertaining to delays that “operated more or less concurrently” and contributed to the extended completion date. *Newport News*.³⁰ In such instances, courts seemed to view concurrency as a doctrine that would allow them to inject basic fairness into delay disputes by not assigning liability to either party when both parties contributed in some way to the extended completion date.

It could be argued that each of the above cases represent unique factual circumstances that do not present any potential theoretical conflict with the AACE Recommended Practice. *Tuller* and other older cases could be explained away because they pre-date the development of most modern scheduling techniques, including the use of computer software in critical path analysis. The result in *Coffey* may be explained as a case in which the parties failed to utilize the available tools in their scheduling of the project. Practitioners should be mindful, however, that these cases are representative of a larger body of case law in which courts and boards tend to simplify the delay issues by

viewing concurrency from a global perspective rather than attempting to parse the detailed project record and assign a specific number of days to discrete delay events.

Legal Challenge No. 2: Cases Finding that the Party Seeking to Apportion Delays Failed to Meet its Burden of Proof.

A second challenge facing practitioners is that many judges will require the party seeking delay damages to meet a high standard of proof before they will apportion delays. While judges often parse the details of delay disputes and attempt to apportion concurrent delays, many of these decisions result in no award of delay damages because the courts found that the party asserting delay damages could not meet its burden of clearly apportioning concurrent delays.

For much of the twentieth century, courts and boards had utilized a “rule against apportionment” to prohibit either party from recovering delay damages where both parties caused any project delay³¹ (liquidated damages provision was annulled because delays were attributable to both parties). More recent decisions, however, have criticized the “rule against apportionment” as harsh and outdated.³² Thus, many courts have moved toward an approach that permits the award of liquidated damages to owners, or delay costs to contractors, where the party seeking recovery can clearly apportion responsibility for delays to the critical path.³³ This rule is often referred to as the “clear apportionment rule.”³⁴ (applying the “clear apportionment rule” to award the Government liquidated damages for entire delay on project, less the two days of delay apportioned to government acts and omissions).³⁵

Even with a clear apportionment rule, many courts and boards have found it difficult to attribute responsibility for delays to either the contractor or the owner. There are

27. 65 F. Supp. 794, 796 (Ct. Cl. 1946)

28. 79 Ct. Cl. 25 (1934)

29. *Id.*

30. 79 Ct. Cl. At 25

31. See *Schmoll v. United States*, 91 Ct. Cl. 1, 16 (1940)

32. *PCL Constr. Servs., Inc. v. United States*, 53 Fed. Cl. 479, 485 (2002).

33. *Id.*

34. See *Sauer Inc. v. Danzig*, 224 F.3d 1340 (Fed. Cir. 2000)

35. Although the modern trend in the courts and boards is towards the apportionment of delay damages, the rule against apportionment appears to remain viable in the Federal Circuit, even after *Sauer*. See *PCL*, 53 Fed. Cl. at 487.



numerous recent cases from different courts that have held that the party seeking to recover delay damages failed to meet its burden of proving which periods of delay were solely caused by the other party.³⁶

The facts in *Young* demonstrate the practical difficulties often encountered in apportioning concurrent delays. In *Young*, the board held that the delays claimed by the parties were intertwined even though they related to separate activities. The government's delays were attributable to deficient specifications and plans and additional asbestos abatement work, which disrupted the contractor's plan to perform other work. During the same time period, the board found that *Young* generally caused delays to separate activities through poor management of its staff and subcontractors and other failures to properly coordinate and sequence the work.

The board in *Young* denied the contractor's claims for recovery of delay costs, concluding that the contractor did not present sufficient evidence to apportion responsibility between itself and the GSA for delays that extended the completion date. *Young* and the other cases cited above evince a tendency by many courts and boards to decline to apportion concurrent delays where causation for the extended completion date is not absolutely clear from the project record. As with the cases addressed in the prior section, courts that fail to apportion delays seem to be basing their decision upon the familiar legal principle that a party seeking to recover delay damages must prove that the other party caused those damages.

The lesson arising from these cases seems to be that courts emphasize the "clear" aspect of the "clear apportionment rule." This may be particularly so because of the substantial body of case law, discussed in the prior subsection, in which courts adopted a more global view of causation in assessing

concurrent delay. Thus, practitioners seeking to employ the AACE Recommended Practice should be mindful that many courts are seeking clarity from the delay analyses presented by parties and their dueling experts.

Legal Challenge No. 3: Cases Adopting a Narrow View of the Critical Path in Relation to Concurrency.

There are other principles espoused in recent decisions that may present further challenges to practitioners seeking to employ the Recommended Practice. In particular, practitioners may encounter resistance from courts when analyzing "co-critical" or "near-critical" delays, particularly when utilizing the "zero float" analysis identified by the AACE. In addressing the theory of "functional concurrency," the Recommended Practice states that "most delays have the potential of becoming co-critical, once float on the path it resides have been consumed. In other words, delays are assumed guilty of concurrency until proven innocent by float analysis."³⁷

Similarly, the AACE suggests that "near-critical" paths must be analyzed for delay because these delays "have the greatest potential of becoming concurrent delays" in the event that they become critical after "relative float against the critical path delay" has been consumed.³⁸ This "near-critical" analysis would seem to be even more important to adherents to the "zero-float school," which "maintains that all activities with negative float are, by definition, critical."³⁹

There are several decisions, however, that would seem to indicate an aversion by certain judges to analyze "near-critical" delays or multiple paths with negative float for potential concurrency. In one such example, the court asserted that there can be only one critical path at a time and that only one activity can be on "the critical path" at any point in time.⁴⁰ This approach rejects the notion that

36. See, e.g., *U.S. ex. Rel. Belt Con Constr., Inc. v. Metric Constr. Co.*, 2008 WL 458795 at *6-8 (10th Cir. 2009); *George Sollitt Constr. Co. v. United States*, 64 Fed. Cl. 229, 259-60 (2005); *Lovering-Johnson, Inc.*, ASBCA No. 53902, 05-2 BCA ¶ 33,126 (2005); *Young Enter. of Ga., Inc. v. Gen. Serv. Admin.*, GSBICA No. 14437 00-2 BCA ¶ 31,148 (2000); *Active Fire Sprinkler Corp.*, GSBICA No. 5461, 85-1 BCA ¶ 17,868 (1985).

37. RP No. 29R-03 at 80.

38. RP No. 29R-03 at 88.

39. *Id.* at 87.

40. E.g., *Mega Constr. Co. v. United States*, 29 Fed. Cl. 396 (1993).



concurrent delay can occur when two separate activities are delayed at the same time.

In *Mega*, the court discredited the contractor's delay claim because the critical path model advanced by the contractor's consultant identified several instances where there were concurrent delays on the critical path:

*[Contractor's consultant] also "identified" several instances where there were two concurrent delays on the critical path thereby invalidating much of his analysis. The suggestion of two concurrent delays on the critical path flies in the face of the critical path concept. Logically there cannot be two concurrent delays on the critical path because there is but one critical path at any one point in time, running in sequence from one critical activity to another. ...There is a sequence of work to be done through the project, and on that sequence work must be followed every day. The critical path may change during performance, but still remains the only critical path at any one time.*⁴¹

This limited view of concurrency within the concept of "one" critical path seems to be at odds with the AACE Recommended Practice and with the approach advocated by many practitioners.

As with several of the prior cases addressed in this paper, *Mega* may be characterized as a case in which bad facts made bad law. The court in *Mega* criticized the methodology employed by the contractor's consultant for failing to employ proper critical path scheduling techniques.⁴² Others might argue, however, that *Mega* is consistent with the cases cited in prior subsections in which courts dealt with complex scheduling questions by distilling the disputes into discrete, straight-forward questions that were dispositive of the overall result.

Legal Challenge No. 4: Cases Questioning Whether "Hindsight" or "Blind-sight" Is the Proper Approach to Critical-Path Analysis

Another challenge facing delay practitioners seeking to employ the AACE Recommended Practice is that the AACE fails to take a position on whether "hindsight" or "blind-sight" should be utilized where the as-built data contradicts the contemporaneous schedule data utilized by the parties in managing the work. The discussion of a "hindsight versus 'blind-sight'" review in the Recommended Practice highlights an additional potential area of divergence in analyzing concurrency and critical path analysis.

The "hindsight" approach is a retrospective mode of analysis that accounts for actual project events while the "blind-sight" approach is a prospective mode of analysis that seeks to determine concurrency based upon the projected impact of a delay event at the time it first occurred.⁴³ The AACE acknowledges that "there is no prevailing practice, let alone agreement" as to which approach should be utilized:

*On one hand, the hindsight supporters maintain that it serves no purpose to ignore best available evidence and recreate updates, pretending that the as-built information does not exist. On the other hand, the 'blind-sight' supporters argue that the very purpose of reconstructing schedule updates is to replicate the state of mind of the project participants at the time of the update, because project decisions were made based on best available information at the time.*⁴⁴

The tension between these two approaches is evident in several recent decisions. For instance, the court in *George Sollitt* observed that a project's original critical path may shift when changes to the work are added to the schedule.⁴⁵ The court also indicated a preference for the usage of contemporaneous schedule data in resolving delay disputes, stating that "[a]ccurate CPM schedule updates produced during actual construction are better evidence of the critical

41. 29 Fed. Cl. at 427 (citing *Sterling Millwrights, Inc. v. United States*, 26 Cl. Ct. 49, 75 (1992)).

42. It appears that the practices employed by the contractor's consultant may have contributed to the court's conclusion in *Mega*. According to the court's opinion, the contractor's consultant presented a delay analysis based upon bar chart diagrams, not a critical path scheduled, and failed to present any credible evidence to show the interdependence between delayed and non-delayed activities.

43. RP No. 29R-03 at 83.

44. *Id.* at 83-84.

45. 64 Fed. Cl. at 240.



path than the baseline CPM schedule provided at the beginning of the project."⁴⁶

Two board decisions, however, have extended this concept of the evolving critical path to the extreme, finding that the final, as-built schedule should be relied upon as the ultimate critical path that dictates which delays were, in fact, critical.⁴⁷ In both of these cases, the Government was exculpated from responsibility for delay events that the boards acknowledged had been critical at one time before these delays were overcome by other project delays.

In *Santa Fe*, the Veteran's Administration Board of Contract Appeals denied a contractor's claim seeking time extensions and a remission of liquidated damages for various change orders issued by the government during construction of a veterans' hospital. Because the contract was completed 101 days late, the government withheld \$242,400 in liquidated damages from the contractor. The contractor argued that the government should have been prevented from assessing liquidated damages because the government's delays to the project ran concurrently with those of the contractor, albeit on a separate path, and thus, the government was jointly responsible for the delay.

The board rejected the contractor's argument in holding that the government was entitled to withhold liquidated damages as its delays did not affect the project's ultimate critical path. The board's critical path analysis was premised on the contract's schedule provision governing the allocation of non-critical delays. This somewhat typical scheduling provision stated that "[a]ctual delays in activities which ... 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."⁴⁸

The board in *Santa Fe* discussed the rationale behind the use of the "ultimate critical path" when analyzing the right of the government to assess liquidated damages against a

contractor who has not met its completion deadline. Citing *Blackhawk Heating & Plumbing Co.*,⁴⁹ the board reasoned that where the matter before the board is the assessment of liquidated damages, only those project delays that ultimately affect the project completion date should be analyzed. Specifically, the board held, "[s]ince 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 completed."⁵⁰

The board in *Sante Fe* further explained its reliance on the "ultimate critical path" theory in assessing liquidated damages, stating, "[i]f the [Government's] concurrent delays affected only work that was not on the critical path...they are not delays within the meaning of the rule since timely completion of the contract was not thereby prevented."⁵¹ The board flatly denied the contractor's argument that any concurrent Government delay should decrease the assessed liquidated damages, even if the delay was not on the ultimate critical path.

In *Blackhawk Heating & Plumbing Co.*, the board analyzed one instance where the contractor was delayed a total of 137 days in one aspect of the project because the Government failed to make the area of the building available. Nevertheless, the board concluded that the critical path did not include this activity because there were 121 days of float time remaining and this delay did not constrain the start of any critical project activity. The board applied a similar analysis to several other delayed activities.

The board in *Blackhawk Heating & Plumbing Co.* recognized that the time period from which a delay is analyzed is a significant factor in whether or not a contractor will be granted a time extension. Upon the contractor's motion for reconsideration, the board conceded as follows:

46. *Id.* at 241.

47. See *Sante Fe, Inc.*, VABCA No. 1943 – 1946, 84-2 BCA ¶ 17,341 (1984); *Blackhawk Heating & Plumbing Co.*, GSBICA No. 2432, 75-1 BCA ¶ 11,261 (1975)

48. *Id.*

49. GSBICA No. 2432, 75-1 BCA ¶ 11,261.

50. *Id.* (quoting *Blackhawk*)

51. *Sante Fe, Inc.*, VABCA No. 1943 – 1946, 84-2 BCA ¶ 17,341.



the amount of delay granted can well depend on the point in time which the delay claim is analyzed and acted upon ... A contractor could be granted a time extension because of delay in an apparently critical activity when later evidence might show the activity noncritical and the time extension therefore unwarranted."⁵²

As Santa Fe and Blackhawk Heating & Plumbing Co. demonstrate, apportioning responsibility for delays will depend on when the delay analysis is performed. When the as-built and as-planned critical paths are compared, a single delay, or a series of delays may appear as if they were not critical to the project's completion because the cumulative period of delay is less than or equal to the total available float. Both Santa Fe and Blackhawk Heating & Plumbing Co. involved concurrent delays, yet the respective boards found that the delays caused by the Government did not delay the contracts' completion dates because the critical path models showed available float time at the end of the project.

CONCLUSION

Courts will likely applaud the effort to standardize terminology, increase transparency, and minimize technical disagreements through its comprehensive, step-by-step approach to the identification and quantification of concurrent delays. Even with uniformity in delay analysis protocols, disputes over concurrency may still be unavoidable due to the challenges presented by the existing body of case law addressing concurrent delay. Practitioners must be aware of these challenges in order to tailor their delay analyses to address, to the extent possible, the concerns raised by many judges with respect to the identification and apportionment of concurrent delays.

In some instances, courts have seemed disinclined to engage in a detailed delay analysis where the project record generally indicates that both parties contributed to the extended completion date. Similarly, practitioners must be mindful of the "clear apportionment rule" when analyzing

complex delay disputes for potential concurrent delays. These cases seem to underscore the importance of having skilled practitioners perform delay analyses.

Other cases may continue to test the theoretical bases relied upon by practitioners seeking to employ the AACE Recommended Practice. For instance, those practitioners advancing a "zero-float" analysis or accounting for co-critical paths or "near-critical" delays in assessing "functional concurrency" may find resistance by courts that have adopted the narrow view that only one activity can be critical at any point in time. Similarly, the lack of agreement among AACE practitioners as to whether "hindsight" or "blind-sight" is most appropriate in delay analysis will continue to be reflected in decisions in which courts struggle over whether to rely upon the contemporaneous schedule updates or the as-built schedule. While it is certainly possible that concurrency will remain an inescapably difficult concept for courts to grasp, this should not deter practitioners from utilizing the AACE Recommended Practice to strive for clarity in resolving delay disputes.

ABOUT THE AUTHORS

Chris Brasco's experience includes all facets of the construction process from contract formation through administration and the disputes process. His legal credentials are complemented by hands-on experience that includes the job site administration of a U.S. Corps of Engineer housing project in Germany, which was rescued from imminent default and successfully managed through final completion and large claim recovery.

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⁵² Blackhawk Heating & Plumbing Co., GSBCA No. 2432, 75-1 BCA ¶ 11,261.

